CITY OF FORT LAUDERDALE
CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT made and entered into this 30th day of January, 2024, by and between the City of Fort Lauderdale, a Florida municipal corporation ("City") and Southern Underground Industries, Inc., a Florida corporation ("Contractor"), ("Party" or collectively "Parties").

WHEREAS the City desires to retain a contractor for the Project as expressed in its Invitation to Bid No. 154, Project Number 12849, which was opened on September 15, 2023, and

WHEREAS, the Contractor has expressed its willingness and capability to perform the necessary work to accomplish the Project.

NOW, THEREFORE, the City and the Contractor, in consideration of the mutual covenants and conditions contained herein and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, agree as follows:

ARTICLE 1 – DEFINITIONS

Whenever used in this Agreement or in other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural forms:

1.1 Agreement – This written Agreement between the City and the Contractor covering the work to be performed including other Contract Documents that are attached to or incorporated in the Agreement.

1.2 Application for Payment – The form accepted by the City which is to be used by the Contractor in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

1.3 Approve – The word approve is defined to mean review of the material, equipment or methods for general compliance with design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the City to verify in every detail conformance with plans and specifications.

1.4 Bid – The offer or Bid of the Contractor submitted on the prescribed form setting forth the total prices for the Work to be performed.

1.5 Bid Documents – Advertisement for Invitation to Bids, the Instructions to Bidders, the Bid Form (with supplemental affidavits and sample agreements), the Contract Forms, General Conditions, the Supplementary Conditions, the Specifications, and the Plans, which documents all become an integral part of the Contract Documents.

1.6 Certificate of Substantial Completion – Certificate provided by the City certifying that all Work, excluding the punch list items, has been completed, inspected, and accepted by the City.

1.7 Change Order – A written order to the Contractor approved by the City authorizing a revision of this Agreement between the City and Contractor that is directly related to the

original Scope of Work or an adjustment in the original contract price or the contract time directly related to the original Scope of Work, executed on or after the effective date of this Agreement.

1.8 City – The City of Fort Lauderdale, Florida, including but not limited to its employees, agents, officials, representatives, and volunteers, with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.

1.9 Contract Documents – The Contract Documents shall consist of this Agreement, Exhibits to this Agreement, Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance, Notice of Award and Notice to Proceed, Task Orders, General Conditions, Special Conditions, Technical Specifications, Plans/Drawings, Addenda, Bid Form and supplement Affidavits and Agreements, all applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement, Invitation to Bid, Instructions to Bidders and Bid Bond, Contractor's response to the City's Invitation to Bid, Schedule of Completion, Schedule of Values, all amendments, modifications and supplements, work directive changes issued on or after the Effective Date of the Agreement, as well as any additional documents that are required to be submitted under the Agreement.

Permits on file with the City and/or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement. A copy of all permits shall be given to the City for inclusion in the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

1.10 Contract Price – The amount established in the bid submittal and award by the City, as may be amended by a written and fully executed Change Order.

1.11 Contract Time – The number of calendar days stated in the Agreement for the completion of the Work. The dates on which the Work shall be started and shall be completed as stated in the Notice to Proceed and each subsequent Task Order.

1.12 Contractor – The corporation with whom the City has entered into the Agreement, including but not limited to its employees, agents, representatives, contractors, subcontractors, and their subcontractors.

1.13 Day – A calendar day of twenty-four (24) hours ending at midnight.

1.14 Defective – 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, test or approval referred to in the Contract Documents, or has been damaged prior to the Project Manager's recommendation of final payment.

1.15 Effective Date of the Agreement – The effective date of the Agreement shall be the date the City Commission approves the Agreement.

1.16 Final Completion Date – The date the Task Order Work is completed, including completion of the final punch list, and delivered along with those items specified in the Contract Documents and is accepted by the City.

1.17 Hazardous Materials (HAZMAT) – Any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive, or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment defined in Section 101(14) of Comprehensive Environmental Response, Compensation and Liability Act of 1980 and in 40 CFR 300.6. Also defined by 49 CFR 171.8 as a substance or material designated by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

1.18 Hazardous Substance – As defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act; any substance designated pursuant to Section 311(b) (2) (A) of the Clean Water Act; any element, compound, mixture, solution or substance designated pursuant to Section 102 identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act {but not including any waste listed under Section 307[a] of the Clean Water Act}; any hazardous air pollutant listed under Section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture pursuant to Section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

1.19 Hazardous Waste – Those solid wastes designated by OSHA in accordance with 40 CFR 261 due to the properties of ignitability, corrosivity, reactivity, or toxicity. Any material that is subject to the Hazardous Waste Manifest requirements of the EPA specified in 40 CFR Part 262.

1.20 Holidays – Those designated non-workdays as established by the City Commission of the City of Fort Lauderdale.

1.21 Inspection – The term "inspection" and the act of inspecting as used in this Agreement is defined to mean the examination of construction to ensure that it conforms to the design concept expressed in the plans and specifications. This term shall not be construed to mean supervision, superintending and/or overseeing.

1.22 Notice of Award – The written notice by City to the Contractor stating that upon compliance by the Contractor with the condition's precedent enumerated therein, within the time specified that the City will sign and deliver this Agreement.

1.23 Notice to Proceed – A written notice given by the City authorizing the commencement of the activities identified in the notice or as described in the Contract Documents. Task Orders executed under this Agreement will contain set timeframes in which the Task Order work shall be started and completed.

1.24 Plans – The official graphic representations of this Project that are a part of the Contract Documents and/or are referred to in the Contract Documents and/or Task Orders.

1.25 Premises (otherwise known as Site or Work Site) – means the land, buildings, facilities, etc. upon which the Work is to be performed.

1.26 Project – The construction project described in the Contract Documents, including the Work described therein, and each executed Task Order.

1.27 Project Manager – The employee of the City, or other designated individual who is herein referred to as the Project Manager, will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement. The Project Manager, or designee, shall be the authorized agent for the City unless otherwise specified.

1.28 Punch List – The City's list of Work yet to be done or be corrected by the Contractor, before the Final Completion date can be determined by the City.

1.29 Record Documents – A complete set of all specifications, drawings, addenda, modifications, shop drawings, submittals and samples annotated to show all changes made during the construction process.

1.30 Record Drawings or "As-Builts" – A set of drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the Contractor. These documents will be signed and sealed by a Professional Engineer, or a Professional Land Surveyor licensed in the State of Florida and employed by the Contractor at no cost to the City.

1.31 Substantial Completion – That date, as certified in writing by Contractor and as finally determined by Contract Administrator in its sole discretion, on which the Work, or a portion thereof, is at a level of completion in substantial compliance with the Contract Documents such that all conditions of permits and regulatory agencies have been satisfied and Municipality or its designee can enjoy use or occupancy and can use or operate it in all respects for its intended purpose. A Certificate of Occupancy (or a Temporary Certificate of Occupancy or other alternate municipal/county authorization for limited or conditional occupancy acceptable to the Contract Administrator) must be issued for Substantial Completion to be achieved; however, the issuance of a Certificate of Occupancy will not, by itself, constitute the achievement or date of Substantial Completion.

1.32 Task Order – A written agreement between the City and Contractor defining the particular scope of work to be performed under this Agreement. When necessary, plans, permits and specifications may be provided by the City to clarify the requirements of the Task Order work. Each Task Order will contain a timeframe in which the Work shall be completed in order for the Contractor to avoid being subjected to liquidated damages.

1.33 Work – The construction and services required by the Contract Documents required to be furnished under the Contract Documents and/or Task Order, whether completed or partially completed, and includes all labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.

ARTICLE 2 – SCOPE OF WORK

2.1 The Contractor shall complete all Work as specified or indicated in the Contract Documents. The Project for which the Work under the Contract Documents may be the whole or only part is generally described as follows:

ANNUAL SEWER REPAIR AND REPLACEMENT
ITB #154 PROJECT #P12849

2.2 All Work for the Project shall be constructed in accordance with the approved plans and Specifications. The Work generally involves:

PROJECT DESCRIPTION

This Project is located City-wide, in the City of Fort Lauderdale. The Work to be accomplished under this Agreement includes, but is not limited to, water and sewer construction, stormwater construction, and various restoration services associated with that construction.

2.3 Within ten (10) days of the Notice to Proceed given by the City, the Contractor shall submit a Construction Schedule, Schedule of Values and a listing of all personnel employed. The general sequence of the Work shall be submitted by the Contractor and approved by the City before any work commences. The City reserves the right to issue construction directives necessary to facilitate the Work or to minimize any conflict with operations.

ARTICLE 3 – PROJECT MANAGER

3.1 The Project Manager is hereby designated by the City as **Herb Stanley**, whose address is **949 N.W. 38th Street, Fort Lauderdale, FL 33309**, telephone number: **(954) 828-6801**, and email address is **HStanley@fortlauderdale.gov**. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

ARTICLE 4 – CONTRACT DOCUMENTS

The Contract Documents, which comprise the entire Agreement between the City and Contractor, are incorporated herein and attached to this Agreement, and consist of the following:

4.1 This Agreement.

4.2 Exhibits to this Agreement:

4.3 Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance.

4.4 Notice of Award and Notice to Proceed.

4.5 General Conditions and Special Conditions.

4.6 Technical Specifications.

4.7 Plans/Drawings.

4.8 Addenda number 3, inclusive.

4.9 Bid Form and supplement Affidavits and Agreements.

4.10 All applicable provisions of State and Federal Law.

4.11 Invitation to Bid No. 154, Instructions to Bidders, and Bid Bond.

4.12 Contractor's response to the City's Invitation to Bid No. 154, dated September 15, 2023.

4.13 Schedule of Completion.

4.14 All amendments, modifications and supplements, Task Orders, change orders and work directive changes, issued on or after the Effective Date of the Agreement.

4.15 Any additional documents that are required to be submitted under the Agreement.

4.16 Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement.

In the event of any conflict between the documents or any ambiguity or missing specification or instruction, the following priority is established:

a. Approved and fully executed change orders, addenda or amendments.

b. Specifications and Drawings.

c. Special Conditions.

d. General Conditions.

e. This Agreement dated January 30, 2024 and any attachments.

f. Invitation to Bid No.154, and the specifications prepared by the City.

g. Contractor's response to the City's Invitation to Bid No. 154, dated September 15, 2023.

h. Schedule of Values.

i. Schedule of Completion.

If during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to the Project Manager, in writing, within five

(5) calendar days, and before proceeding with the Work affected shall obtain a written interpretation or clarification from the City.

Any Work that may reasonably be inferred from the specifications or plans as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such works shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or associations, or to the code of any governmental authority whether such reference be specific or implied, shall mean the latest standard specification, manual or code in effect as of the Effective Date of this Agreement, 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 change the duties and responsibilities of the City, the Contractor, or any of their agents or employees from those set forth in the Contract Documents.

ARTICLE 5 – CONTRACT TIME

5.1 The initial contract term shall commence upon date specified in the Notice To Proceed given by the City and shall expire **Two (2)** years from that date. The City reserves the right to extend the contract for **Two (2)** additional **One (1)** year terms, providing all terms, conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

5.2 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work on each Task Order shall commence immediately upon the Contractor's receipt of an executed Task Order.

5.3 The Contractor shall mobilize to the project site and begin construction activities immediately upon receipt of the executed Task Order or by the specific date noted within the Task Order (whichever applies).

5.4 The Work on each Task Order shall be substantially completed within the timeframe agreed upon and noted in each executed Task Order

5.5 The Work on each Task Order shall be finally completed on or before the Final Completion Date and ready for final payment in accordance with Final Completion Date agreed upon and noted in each executed Task Order.

ARTICLE 6 – CONTRACT PRICE

6.1 City shall pay Contractor for performance of the Work in accordance with Article 7, based on the value of the executed Task Order issued for this Agreement.

6.2 The Parties expressly agree that the Contract Price, is a unit price contract, in accordance with those line items' unit price in the Contractor's ITB response and incorporated by referencing herein. The quantities of work in the Proposal are a rough approximation only. The total quantities of work to be included in this Agreement and actually performed may vary widely depending upon the Work that will be authorized by the City through Task Orders during the period of this Agreement.

6.3 The Contract Price constitutes the compensation payable to Contractor for performing the cumulative value of each executed Task Order. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at the Contractor's expense without change in the Contract Price.

ARTICLE 7 – PAYMENT

7.1 Contractor shall submit Applications for Payment for each executed Task Order, in accordance with the Contract Documents. Applications for Payment will be processed by City as provided for in the General Conditions.

7.2 Progress Payments. City shall make progress payments on account of the Contract Price on the basis of Contractor's executed Task Order and corresponding Application for Payment, which shall be submitted by the Contractor between the first (1st) and the tenth (10th) day after the end of each calendar month for which payment is requested or upon completion of the work of the executed Task Order. All progress payments will be made on the basis of the progress of the Work completed on the executed Task Order.

7.3 Prior to Final Completion of each Task Order, progress payments will be made in an amount equal to ninety-five percent (95%) of the value of Work completed less in each case the aggregate of payments previously made.

7.4 Final Payment. Upon final completion of the Work under each Task Order, the City shall pay Contractor an amount sufficient to increase total payments to one hundred percent (100%) of the Contract Price. However, not less than five percent (5%) of the Contract Price shall be retained until Record Drawings (as-builts), specifications, addenda, modifications, and shop drawings, including all manufacturers' instructional and parts manuals are delivered to and accepted by the City.

7.5 City may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

- 7.5.1 Defective work not remedied.
- 7.5.2 Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or City because of Contractor's performance.
- 7.5.3 Failure of Contractor to make payments properly to subcontractors or for material or labor.
- 7.5.4 Damage to another contractor not remedied.
- 7.5.5 Liquidated damages and costs incurred by Contractor for extended construction administration, if applicable.
- 7.5.6 Failure of Contractor to provide any and all documents required by the Contract Documents.

When the above grounds are removed or resolved satisfactory to the Project Manager, payment shall be made in whole or in part.

7.6 The City shall make payment to the Contractor in accordance with the Florida Prompt Payment Act, Section 218.70, Florida Statutes (2024), as amended or revised, provided, however, complete and error free pay application is submitted.

7.7 The City shall make payment to the Contractor through utilization of the City's Purchasing Card (P-Card) Program. The City has implemented a P-Card Program utilizing the MASTERCARD and VISA networks. Purchases from this Agreement will be made utilizing the City's P-Card. Contractor will receive payment from the purchasing card in the same manner as other credit card purchases. Accordingly, Contractor must presently have the ability to accept these credit cards or take whatever steps necessary to implement the ability before the start of the contract term, or contract award by the City. All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

7.8 Payment Card Industry (PCI) Compliance

Contractor agrees to comply with all applicable state, federal and international laws, as well as industry best practices, governing the collection, access, use, disclosure, safeguarding and destruction of Protected Information.

Contractor and/or any subcontractor that handles credit card data must be, and remain, PCI compliant under the current standards and will provide documentation confirming compliance upon request by the City of Fort Lauderdale. Failure to produce documentation could result in termination of the Agreement.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement, Contractor makes the following representations upon which the City has relied:

8.1 Contractor is qualified in the field of public construction and in particular to perform the Work and services set forth in this Agreement.

8.2 Contractor has visited the Work Site(s), has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of each Task Order and associated Contract Documents, the Work, locality, soil conditions, water table condition, moisture conditions and all year-round local weather and climate conditions (past and present), and examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any manner affect the Proposed Price and that the project can be completed for the Proposed Price submitted within the Contract Time as defined in each Task Order.

Furthermore, Contractor warrants and confirms that it is totally familiar with, understands and is obligated to comply with all federal, state, and local laws, ordinances, rules, regulations, and all market conditions that affect or may affect the cost and price of materials and labor needed to fulfill all provisions of this Agreement or that in any manner may affect cost, progress, or performance of the Work.

8.3 The Contractor has satisfied itself as to the nature and location of the Work under each Task Order, the general and local conditions of the Project, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed

preliminary to and during the prosecution of the Task Order and all other matters which can in any way affect the Work schedule, or the cost thereof under the Task Order and associated Documents.

8.4 The Contractor has studied investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Works, and finds and has further determined that no conditions exist that would in any manner affect the Proposed Price and that the Task Order Work can be completed for the Proposed Price submitted within the timeframe agreed upon within each Task Order.

8.5 Contractor has made or caused to be made, examinations, investigations, tests and studies of such reports and related data in addition to those referred to in Paragraphs 8.2, 8.3 and 8.4 above as it deems necessary for the performance of the Work under each Task Order at the Contract Prices, within the Contract Time of the specified Task Order and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor for such purposes.

8.6 Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data related to each Task Order with the terms and conditions of the Contract Documents.

8.7 Contractor has given City written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents related to each Task Order and the written resolution by City is acceptable to the Contractor.

8.8 Labor:

8.8.1 The Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents for each Task Order. The Contractor shall at all times maintain good discipline and order at the site.

8.8.2 The Contractor shall, at all times, have a competent superintendent, capable of reading and thoroughly understanding the drawings and specifications, as the Contractor's agent on the Work, who shall, as the Contractor's agent, supervise, direct and otherwise conduct the Work under each Task Order.

8.8.3 The Contractor shall designate the superintendent on the job to the City, in writing, immediately after receipt of each Task Order. The Contractor shall assign personnel to the job site that have successfully completed training programs related to trench safety, confined space work, and maintenance of traffic (MOT). Personnel certified by the International Municipal Signal Associations with Florida Department of Transportation qualifications are required relative to MOT. Any other certifications that may be required by applicable permitting agencies for the Work assigned under each Task Order shall also be complied with by the Contractor. Failure to pursue the Work with the properly certified supervisory staff may result in a notice to stop work on a Task Order or terminate the Agreement in accordance with Article 17.

8.9 Materials:

8.9.1 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of Work under each Task Order.

8.9.2 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. Suppliers shall be selected and paid by the Contractor; the City reserves the right to approve all suppliers and materials.

8.10 Work Hours: 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 Supplementary Conditions, all Work at the site shall be performed during regular working hours between 8 a.m. and 5:00 p.m., Monday through Friday.

Unless approved by the City in advance, the Contractor will not perform Work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy-two (72) hours in advance of starting such Work. For any overtime inspection required by City personnel, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. **It shall be noted that the City's Inspector work hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday, and any work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime at a rate of $100.00 per hour.** The cost to the Contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the Contractor at the actual rate accrued.

8.11 Patent Fee and Royalties: The 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, or any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. The Contractor hereby expressly binds itself to indemnify and hold harmless the City from all such claims and fees and from any and all suits and action of every name and description that may be brought against City on account of any such claims, fees, royalties, or costs for any such invention or patent, and from any and all suits or actions that may be brought against said City for the infringement of any and all patents or patent rights claimed by any person, firm corporation or other entity.

8.12 Permits: The Contractor shall obtain and pay for all permits and licenses. There shall be no allowance for Contractor markup, overhead or profit for permits and licenses.

The Contractor shall pay all government charges which are applicable at the time of opening of bids. It shall be the responsibility of the Contractor to secure and pay for all necessary licenses and permits of a temporary nature necessary for the prosecution of Work.

8.13 Law and Regulations: The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the Contractor observes that the specifications or plans are in conflict, the Contractor shall give the Project Manager prompt written notice thereof within five (5) calendar days, and any necessary changes shall be adjusted by any appropriate modifications. If the Contractor performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules, standards, specifications and regulations, and without such notice to the Project Manager, the Contractor shall bear all costs arising therefrom.

8.14 Taxes: The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by it in accordance with the laws of the City of Fort Lauderdale, County of Broward, and the State of Florida.

8.15 Contractor Use of Premises: The Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits and/or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

The Contractor shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the Project Manager with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for storage or staging by the Contractor.

The Contractor shall conduct its work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures of work of any kind, including permanent reference markers or property corner markers, or the interruption of a utility service, shall be repaired or restored promptly at no expense to the City or property owner.

The Contractor will preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction, as determined by the Project Manager. The Contractor will be responsible for repairing or replacing any trees, shrubs, lawns and landscaping that may be damaged due to careless operation of equipment, stockpiling of materials, tracking of grass by equipment or other construction activity. The Contractor will be liable for or will be required to replace or restore at no expense to the City all properties and areas not protected or preserved as required herein that may be destroyed or damaged.

During the progress of the Work, the Contractor shall keep the premises free from accumulation of waste materials, rubbish and debris resulting from the Work. At the completion of the Work, the 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 the City. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents at no cost to the City.

8.16 Project Coordination: The Contractor shall provide for the complete coordination of the construction effort. This shall include, but not necessarily be limited to, coordination of the following:

8.16.1 Flow of material and equipment from suppliers.
8.16.2 The interrelated work with affected utility companies.
8.16.3 The interrelated work with the City where tie-ins to existing facilities are required.
8.16.4 The effort of independent testing agencies.
8.16.5 Notice to affected property owners as may be directed by the Project Manager.
8.16.6 Coordination with and scheduling of all required inspections from all permitting agencies.

8.17 Project Record Documents and Final As-Builts (Record Drawings): Contractor shall be responsible for maintaining up-to-date redline as-built drawings, on site, at all times during construction. All as-built information shall be surveyed and verified by a professional land surveyor registered in the State of Florida. Contractor shall provide the City with a minimum of three (3) sets of signed and sealed record drawings (Final As-Builts). All costs associated with survey work required for construction layout and as-built preparation shall be the responsibility of the Contractor.

8.18 Safety and Protection:

8.18.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

8.18.1.1 All employees working on the Project and other persons who may be affected thereby.

8.18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

8.18.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

8.18.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders 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. The Contractor shall notify owners of adjacent property and utilities when execution of the Work may affect them at least seventy-two (72) hours in advance (unless otherwise required). All damage, injury or loss to any property caused, directly or indirectly, in whole or in part by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for safety and protection of the Work shall continue until such time as all the Work is completed and accepted by the City.

8.19 Emergencies: In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the City, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

8.20 Risk of Loss: The risk of loss, injury or destruction shall be on the Contractor until acceptance of the Work by the City. Title to the Work shall pass to the City upon acceptance of the Work by the City.

8.21 Environmental: The Contractor has fully inspected the Premises and agrees, except as to the presence of any asbestos, to accept the Premises in an "as is" physical condition, without representation or warranty by the City of any kind, including, without limitation, any and all existing environmental claims or obligations that may arise from the presence of any "contamination" on, in or about the Premises. Further, Contractor and all entitles claiming by, through or under the Contractor, releases and discharges the City from any claim, demand, or cause of action arising out of or relating to the Contractor's use, handling, storage, release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of any hazardous substances including asbestos on, under, from or about the Premises. The Contractor shall have no liability for any pre-existing claims or "contamination" on the Premises.

The Contractor shall not use, handle, store, discharge, treat, remove, transport, or dispose of Hazardous Substances including asbestos at, in, upon, under, to or from the Premises until receipt of instructions from the City. At such time, a City approved Change Order, which shall not include any profit, shall authorize the Contractor to perform such services.

The Contractor shall immediately deliver to the Project Manager complete copies of all notices, demands, or other communications received by the Contractor from any governmental or quasi-governmental authority or any insurance company or board of fire underwriters or like or similar entities regarding in any way alleged violations or potential violations of any Environmental Law or otherwise asserting the existence or potential existence of any condition or activity on the Premises which is or could be dangerous to life, limb, property, or the environment.

For other and additional consideration, the Contractor hereby agrees, at its sole cost and expense, to indemnify and protect, defend, and hold harmless the City and its respective employees, agents, officials, officers, and representatives(hereafter the "City") from and against any and all claims, demands, losses, damages, costs, expenses, including but not limited to mitigation, restoration, and natural restoration expenses, liabilities, assessments, fines, penalties charges, administrative and judicial proceedings and orders, judgments, causes of action, in law or in equity, remedial action requirements and/or enforcement actions of any kind (including, without limitation, attorneys' fees and costs) directly or indirectly arising out of or attributable to, in whole or in part, the Contractor's use, handling, storage, release, threatened release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of a Hazardous Substance (excluding asbestos) on, under, from, to or about the Premises or any other activity carried on or undertaken on or off the Premises by the Contractor or its employees, agents or subcontractors, in connection with the use,

handling, storage, release, threatened release, discharge, treatment, mitigation, natural resource restoration, removal, transport, decontamination, cleanup, disposal and/or presence or any Hazardous Substance including asbestos located, transported, or present on, undue, from, to, or about the Premises. This indemnity is intended to be operable under 42 U.S.C. Section 9607, as amended or revised, and any successor section.

The scope of the indemnity obligations includes, but is not limited to: (a) all consequential damages; (b) the cost of any required or necessary repair, cleanup, or detoxification of the applicable real estate and the preparation and implementation of any closure, remedial or other required plan, including without limitation; (i) the costs of removal or remedial action incurred by the United States government or the State of Florida or response costs incurred by any other person, or damages from injury to destruction of, or loss of, natural resources, including the cost of assessing such injury, destruction, or loss, incurred pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended; (ii) the clean-up costs, fines, damages, or penalties incurred pursuant to any applicable provisions of Florida law; and (iii) the cost and expenses of abatement, correction or cleanup, fines, damages, response costs, or penalties which arise from the provisions of any other statute, law, regulation, code ordinance, or legal requirement state or federal; and (c) liability for personal injury or property damage arising under any statutory or common law tort theory, including damages assessed for the maintenance of a public private nuisance, response costs, or for the carrying on of an abnormally dangerous activity.

8.22 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any other reason or allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

8.23 No Liens: If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the Work is performed or any part or against any personal property or improvements or claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any Change Order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within twenty (20) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the

lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining such. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments.

8.24 Weather Emergencies: Upon issuance of a hurricane watch by the National Weather Service, the Contractor shall submit to the City a plan to secure the work area in the event a hurricane warning is issued. The plan shall detail how the Contractor will secure the Premises, equipment and materials in a manner as to prevent damage to the Work and prevent materials and equipment from becoming a hazard to persons and property on and around the Premises. The plan shall include a time schedule required to accomplish the hurricane preparations and a list of emergency contacts that will be available, and in the City before, during and immediately after the storm.

Upon issuance of a hurricane warning by the National Weather Service, if the Contractor has not already done so, the Contractor shall implement its hurricane preparedness plan. Cost of development and implementation of the hurricane preparedness plan shall be considered as incidental to construction. Cost of any clean up and rework required after the storm will be considered normal construction risk within Florida and shall not entitle the Contractor to any additional compensation. Contractor shall be entitled to request an extension in time for completion of the Work, in accordance with the provisions of Article 15 of this Agreement, equal to the time it is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

8.25 Force Majeure: No Party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other Party or that could not have been reasonably foreseen and prevented. For this purpose, such acts or circumstances shall include, but not be limited to weather conditions affecting performance, floods, epidemics, pandemics, war, act of Governmental Authority, state of emergency, riots, strikes, lockouts, or other industrial disturbances, or protest demonstrations. Should such acts or circumstances occur, the Parties shall use their best efforts to overcome the difficulties arising therefrom and to resume the Work as soon as reasonably possible with the normal pursuit of the Work.

Inclement weather, continuous rain for less than three (3) days or the acts or omissions of subcontractors, third-party contractors, materialmen, suppliers, or their sub-contractors, shall not be considered acts of force majeure.

No Party shall be liable for its failure to carry out its obligations under the Agreement during a period when such Party is rendered unable by force majeure to carry out its obligation, but the obligation of the Party or Parties relying on such force majeure shall be suspended only during the continuance of the inability and for no longer period than the unexpected or uncontrollable event.

The Contractor further agrees and stipulates, that its right to excuse its failure to perform by reason of force majeure shall be conditioned upon giving written notice of its assertion that a Force Majeure delay has commenced within ninety-six (96) hours after such an occurrence. The Contractor shall use its reasonable efforts to minimize such delays. The Contractor shall promptly provide an estimate of the anticipated additional time required to complete the Project.

8.26 Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assisted Contracts: The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this Agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this Agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 *et seq.*).

Additionally, the Contractor assures that it, the sub-recipient or its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate. This additional language must be included in each subcontract the prime Contractor signs with a subcontractor.

ARTICLE 9 – CITY'S RESPONSIBILITIES

9.1 The City shall furnish the data required of the City under the Contract Documents promptly and shall make payments to the Contractor promptly after they are due as provided in Article 7.

9.2 The City shall provide public rights-of-way and easement, where available, for the installation of conduits, transformers pads and related appurtenances only.

9.3 Technical Clarifications and Interpretations:

9.3.1 The City shall issue, with reasonable promptness, such written clarifications or interpretations of the Contract Documents as it may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Should the Contractor fail to request interpretation of questionable items in the Contract Documents, the City shall not entertain any excuse for failure to execute the Work in a satisfactory manner.

9.3.2 The City shall interpret and decide matters concerning performance under the requirements of the Contract Documents, and shall make decisions on all claims, disputes or other matters in question. Written notice of each claim, dispute or

other matter will be delivered by claimant to the other Party but in no event later than five (5) days after the occurrence of event and written supporting data will be submitted to the other Party within five (5) days after such occurrence. All written decisions of the City on any claim or dispute will be final and binding.

9.4 The Contractor shall perform all Work to the reasonable satisfaction of the City in accordance with the Contract Documents. In cases of disagreement or ambiguity, the City shall decide all questions, difficulties, and disputes of whatever nature, which may arise under or by reason of this Agreement or the quality, amount and value of the Work, and the City's decisions on all claims, questions and determination are final.

9.5 Cancellation for Unappropriated Funds: The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the Agreement into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

ARTICLE 10 – BONDS AND INSURANCE

10.1 Public Construction and Other Bonds: The Contractor shall furnish Public Construction or Performance and Payment Bonds ("Bond"), each in an amount equal to 100% of each Task Order as security for the faithful performance and payment of all the Contractor's obligations under the Contract Documents. These Bonds shall remain in effect until at least one (1) year after the date of final payment, except as otherwise provided by law. All Bonds shall be furnished and provided by the surety and shall be in substantially the same form as prescribed by the Contract Documents and be executed by such sureties as (i) are licensed to conduct business in the State of Florida, and (ii) are named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department and (iii) otherwise meet the requirements set forth herein that apply to sureties. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

10.1.1 Performance Bond: The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2024), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

A Corporate Surety Bond legally issued, meeting the approval of, and running to the City in an amount not less than the Contract Price of such improvements, conditioned that the Contractor shall maintain and make all repairs to the improvements constructed by the Contractor at their own expense and free of charge to the City, for the period of one (1) year after the date of acceptance of the Work within such period by reason of any imperfection of the material used or by reason of any defective workmanship, or any improper, imperfect or defective preparation of the base upon which any such improvement shall be laid.

10.2 Disqualification of Surety: If the Surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the

State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of Paragraph 10.1, the Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to the City.

10.3 Insurance:

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipal corporation, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

a) The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
b) The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
c) In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
d) In the event the Agreement term or any surviving obligation of the Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
e) The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
f) The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
g) The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
h) The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:
City of Fort Lauderdale
1 East Broward Boulevard, Suite 444
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by the Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.
All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to the Contractor's insurance company or companies and the City's Risk Management office, as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

ARTICLE 11- WARRANTY AND GUARANTEE, TESTS AND INSPECTIONS, CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

11.1 Warranty: The Contractor warrants and guarantees to the 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 the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

11.1.1 Warranty of Title: The Contractor warrants to the City that it possesses good, clear and marketable title to all equipment and materials provided and that there are no pending liens, claims or encumbrances against the equipment and materials.

11.1.2 Warranty of Specifications: The Contractor warrants that all equipment, materials and workmanship furnished, whether furnished by the Contractor, its subcontractors or suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a workmanlike manner.

11.1.3 Warranty of Merchantability: The Contractor warrants that any and all equipment to be supplied pursuant to this Agreement is merchantable, free from defects, whether patent or latent in material or workmanship, and fit for the ordinary purposes for which it is intended.

11.2 Tests and Inspections: Contractor shall retain the services of an independent, certified, testing lab to perform all testing as required by the specifications, contract drawings, and any applicable permitting agency. Contractor shall provide evidence of certification to the City before the Work and testing is done. Test results shall be submitted to the Project Manager for review and approval at the time the results are provided to the Contractor. The Contractor shall give the Project Manager and City Inspector a minimum of twenty-four (24) hours' advanced notice of readiness of the Work for all required inspections, tests, or approvals and shall notify all applicable permitting agencies in a timely manner based on requirements set forth in the permit documents.

11.2.1 Neither observations by the Project Manager nor inspections, tests or approvals by others shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.

11.3 Uncovering Work: If any Work that is to be inspected, tested or approved is covered without approval or consent of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation and/or testing. Such uncovering and replacement shall be at the Contractor's sole expense unless the Contractor has given the Project Manager timely notice of the Contractor's intention to cover such Work and the Project Manager has not acted with reasonable promptness in response to such notice.

11.3.1 If the Project Manager considers it necessary or advisable that Work covered in accordance with Paragraph 11.2.1 be observed by the City or inspected or tested by others, the Contractor at the City's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager 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, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract

Time, or both, directly attributable to such uncovering, exposure, observation, inspection testing and reconstruction if it makes a claim therefore as provided in Articles 14 and 15.

11.4 City May Stop the Work: If the Work is defective, or the Contractor fails to supply sufficient skilled supervisory personnel or workmen or suitable materials or equipment or the work area is deemed unsafe, the City may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other Party. The City will not award any increase in Contract Price or Contract Time if the Work is stopped due to the circumstances described herein.

11.5 Correction or Removal of Defective Work Before Final Payment: If required by the Project Manager, the Contractor shall promptly, without cost to the City and as specified by the Project Manager, either correct any defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by the City remove it from the site and replace it with non-defective Work.

11.6 One Year Correction Period After Final Payment: If within one (1) year after the date of final acceptance of Work on each Task Order, or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, the Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or, if it has been rejected by the City, remove it from the site and replace it with non-defective Work.

If the 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, the City may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs for such removal and replacement, including compensation for additional professional services, shall be paid by the Contractor.

11.7 Acceptance of Defective Work, Deductions: If, instead of requiring correction or removal and replacement of defective Work, the City, at the City's sole option, prefers to accept it, the City may do so. In such a case, if acceptance occurs prior to the Project Manager's recommendation of final payments, a Change Order shall be issued incorporating the necessary revisions in the Contract's Documents, including appropriate reduction in the Contract Price; or if the acceptance occurs after such recommendation, an appropriate amount shall be paid by the Contractor to the City.

11.8 City May Correct Defective Work: If the Contractor fails within a reasonable time after written notice of the Project Manager to proceed to correct defective Work or to remove and replace rejected Work as required by the Project Manager in accordance with Paragraph 11.5, or if the Contractor fails to perform the Work in accordance with the Contract Documents, the City may, after seven (7) days' written notice to the Contractor, correct and remedy any such deficiency. In exercising its rights under this paragraph, the City shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the City may exclude the Contractor from all or part of the site, take possession of all or part of the Work, suspend the Contractor's services related thereto and take possession of the Contractor's tools, construction equipment and materials

stored at the site or elsewhere. The Contractor shall allow the City's representative agents and employees such access to the site as may be necessary to enable the City to exercise its rights under this paragraph. All direct and indirect costs of the City in exercising such rights shall be charged against the Contractor in an amount verified by the Project Manager, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the Contractor's defective Work. The 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 the City of the City's right hereunder.

ARTICLE 12 – INDEMNIFICATION

12.1 Disclaimer of Liability: The City shall not at any time, be liable for injury or damage occurring to any person or property from any cause, whatsoever, arising out of Contractor's construction and fulfillment of this Agreement.

12.2 Indemnification: For other, additional good valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

12.2.1 Contractor shall, at its sole cost and expense, indemnify and hold harmless the City, its representatives, agents, employees and elected and appointed officials from or on account of all claims, damages, losses, liabilities and expenses, direct, indirect or consequential including but not limited to fees and charges of engineers, architects, attorneys, consultants and other professionals and court costs arising out of or in consequence of the performance of this Agreement at all trial and appellate levels. Indemnification shall specifically include but not be limited to claims, damages, losses, liabilities and expenses arising out of or from (a) the negligent or defective design of the project and Work of this Agreement; (b) any act, omission or default of the Contractor, its subcontractors, agents, suppliers, employees or laborers; (c) any and all bodily injuries, sickness, disease or death; (d) injury to or destruction of tangible property, including any resulting loss of use; (e) other such damages, liabilities, or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this Project including the warranty period; (f) the use of any improper materials; (g) any construction defect including both patent and latent defects; (h) failure to timely complete the work; (i) the violation of any federal, state, county or City laws, ordinances or regulations by Contractor, its subcontractors, agents, suppliers, independent contractors or employees; (j) the breach or alleged breach by Contractor of any term of the Agreement, including the breach or alleged breach of any warranty or guarantee.

12.2.2 Contractor agrees to indemnify, defend, and hold harmless the City, its representatives, agents, employees and elected and appointed officials from all damages, liabilities, losses, claims, fines and fees, and from any and all suits and actions of every name and description that may be brought against City, its officers, agents and employees, on account of any claims, fees, royalties, or costs for any invention or patent and/or for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

12.2.3 Contractor shall pay all claims, losses, liens, settlements or judgments of any nature in connection with the foregoing indemnifications including, but not limited to, reasonable attorney's fees and costs for trials and appeals.

12.2.4 If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the work is performed or any part or against any personal property or improvements thereon or make a claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any change order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within five (5) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining the discharge. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments, and which shall be deducted from any amount owing to Contractor. In the event the amount due Contractor is less than the amount required to satisfy Contractor's obligation under this, or any other article, paragraph or section of this Agreement, the Contractor shall be liable for the deficiency due the City.

12.2.5 The Contractor and the City agree that Section 725.06(2), Florida Statutes (2024), as may be amended or revised, controls the extent and limits of the indemnification and hold harmless provisions of this Agreement, if any, and that the Parties waive any defects in the wording of this Article that runs afoul of said statutory section.

ARTICLE 13 – CHANGES IN THE WORK

13.1 Without invalidating this Agreement, the City may, at any time or from time to time order additions, deletions or revisions in the Work through the issuance of Task Order Amendments. Upon receipt of a fully executed Task Order Amendment, the Contractor shall proceed with the Work involved. All Work shall be executed under the applicable conditions of the Contract Documents. The City reserves the right to add, delete or modify any or all pay items and/or quantities. All adjustments shall be made on the per unit price basis where unit prices are quoted. Other adjustments, if any, shall be based on a fair and equitable manner per the Contract Documents or mutually negotiated price between the Contractor and City. In the event the Contractor and City cannot come to an agreement on a price or price adjustment, the City shall have the right to complete that item or work by other means without invalidating the Contract. No claim of loss of

profit shall be made against the City.

13.2 The Project Manager may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. Such changes must be in writing and signed by the City and the Contractor.

13.3 If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be the Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City.

ARTICLE 14 – CHANGE OF CONTRACT PRICE

14.1 Contract Price shall not exceed that which is agreed to in this Agreement. Any increase to the Contract Price shall be executed through an Amendment to this Agreement and approved by the City Commission.

14.2 Time for the City to Approve Contract Amendment: Should the cumulative amount of the executed Task Orders exceed the Contract Price, a Contract Amendment must be approved by the City Commission authorizing additional funding for this Contract if it exceeds the threshold established in the City Code.

ARTICLE 15 – CHANGE OF THE CONTRACT TIME

15.1 The Contract Time shall be for two (2) years from the date of Commission award subject to two (2) one (1) year renewal terms.

15.2 All time limits stated in the Contract Documents and within each executed Task Order are of the essence. The provisions of this Article 15 shall not exclude recovery for damages for delay by the Contractor.

15.3 Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor (non-affiliated Contractors) shall not give rise to a claim by the Contractor for damages for increases in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T and Florida East Coast Railway, LLC.

15.4 Rights of Various Interests: Whenever work being done by City's forces or by other contractors is contiguous to or within the limits of work covered by this Agreement, the respective rights of the various interests involved shall be established by the Project Manager to secure the completion of the various portions of the Work in general harmony.

ARTICLE 16 – LIQUIDATED DAMAGES

16.1 Upon failure of the Contractor to complete the Work of an executed Task Order within the agreed upon and approved time for said Task Order, the Contractor shall pay to the

City the sum of **Three Hundred/Thousand Dollars ($300.00)** for each and every calendar day that the completion of the Task Order is delayed beyond the time agreed upon for said Task Order, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. Should an act of God or the acts or omissions of the City, its agents or representatives, in derogation to the terms of this Agreement cause the delay, the Contractor shall not be responsible for the delay nor liquidated damages. Liquidated damages are fixed and agreed upon between the Parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the City as a consequence of such delay and both Parties desiring to obviate any question of dispute concerning the amount of damages and the cost and effect of the failure of the Contractor to complete the Work on time. Liquidated damages shall apply separately to each Task Order for which a time of completion is given. The City shall have the right to deduct from or retain any compensation which may be due or which may become due and payable to the Contractor the amount of liquidated damages, and if the amount retained by the City is insufficient to pay in full such liquidated damages, the Contractor shall pay all liquidated damages in full. The Contractor shall be responsible for reimbursing the City, in addition to liquidated damages or other damages for delay, for all costs of engineering, architectural fees, and inspection and other costs incurred in administering the construction of the Project beyond the completion date specified or beyond an approved extension of time granted to the Contractor whichever is later. Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor shall not give rise to a claim by Contractor for damages for increase in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T, and Florida East Coast Railway, LLC.

16.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 17 – SUSPENSION OF WORK AND TERMINATION

17.1 City May Suspend Work: The City may, at any time and without cause, suspend the Work or any portion of the Work for a period of not more than ninety (90) days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor shall resume the Work on the date fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension, if the Contractor makes a claim as provided in Articles 14 and 15.

17.2 City's Right to Terminate Task Order: The City may terminate this Agreement as well as any Task Order upon fifteen (15) calendar days' written notice upon the occurrence of any one or more of the following events:

17.2.1 If the Contractor makes a general assignment for the benefit of creditors.

17.2.2 If a trustee, receiver, custodian or agent of the Contractor is appointed under applicable law or under Agreement, whose appointment or authority to take charge of property of the 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 the Contractor's creditors.

17.2.3 If Contractor fails to begin the Work within fifteen (15) calendar days after the date set forth in the Notice to Proceed, or fails to perform the Work with sufficient workers and equipment or with sufficient materials to ensure the prompt completion of the Work, or shall perform the Work unsuitably, or cause it to be rejected as defective and unsuitable, or shall discontinue the prosecution of the Work pursuant to the accepted schedule or if Contractor shall fail to perform any material term set forth in the Contract Documents, or from any other cause whatsoever shall not carry on the Work in an acceptable manner, Project Manager may give notice in writing to Contractor and its Surety of such delay, neglect or default, specifying the same.

17.2.4 If the Contractor repeatedly fails to make prompt payments to subcontractors or for labor, material or equipment.

17.2.5 If the Contractor repeatedly disregards proper safety procedures.

17.2.6 If the Contractor disregards any local, state or federal laws or regulations.

17.2.7 If the Contactor otherwise violates any provisions of this Agreement.

17.3 If Contractor, within a period of ten (10) calendar days after such notice, shall not proceed in accordance therewith, the City may exclude the Contractor from the Work site and take the prosecution of the Work out of the hands of the Contractor, and take possession of the Work and all of the Contractor's tools, appliances, construction equipment and machinery at the site and use them without liability to the City for trespass or conversion, incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City may deem expedient. In this instance, the Contractor shall not be entitled to receive any further compensation until the Work is finished.

17.3.1 If after notice of termination of Contractor's notice to proceed, it is determined for any reason that Contractor was not in default, the rights and obligations of City and Contractor shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause as set forth below in Section 17.5.

17.3.2 Upon receipt of Notice of Termination pursuant to Sections 17.2 or 17.5, Contractor shall promptly discontinue all affected work unless the Notice of Termination directs otherwise and deliver or otherwise make available to City all data, drawings, specifications, reports, estimates, summaries and such other

information as may have been required by the Contract Documents whether completed or in process.

17.4 If the Contractor commits a default due to its insolvency or bankruptcy, the following shall apply:

17.4.1 Should this Agreement be entered into and fully executed by the Parties, funds released and the Contractor (Debtor) files for bankruptcy, the following shall occur:

17.4.1.1 In the event the Contactor files a voluntary petition under 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303, the Contractor shall acknowledge the extent, validity, and priority of the lien recorded in favor of the City. The Contractor further agrees that in the event of this default, the City shall, at its option, be entitled to seek relief from the automatic stay pursuant to 11 U.S.C. 362. The City shall be entitled to relief from the automatic stay pursuant to 11 U.S.C. 362(d) (1) or (d) (2), and the Contactor agrees to waive the notice provisions in effect pursuant to 11 U.S.C. 362 and any applicable Local Rules of the United States Bankruptcy Court. The Contactor acknowledges that such waiver is done knowingly and voluntarily.

17.4.1.2 Alternatively, in the event the City does not seek stay relief, or if stay relief is denied, the City shall be entitled to monthly adequate protection payments within the meaning of 11 U.S.C. 361. The monthly adequate protection payments shall each be in an amount determined in accordance with the Note and Mortgage executed by the Contractor in favor of the City.

17.4.1.3 In the event the Contractor files for bankruptcy under Chapter 13 of Title 11, United States Code in additional to the foregoing provisions, the Contractor agrees to cure any amounts in arrears over a period not to exceed twenty-four (24) months from the date of the confirmation order, and such payments shall be made in addition to the regular monthly payments required by the Note and mortgage. Additionally, the Contractor shall agree that the City is over secured and, therefore, entitled to interest and attorney's fees pursuant to 11 U.S.C. 506(b). Such fees shall be allowed and payable as an administrative expense. Further, in the event the Contractor has less than five (5) years of payments remaining on the Note, the Contractor agrees that the treatment afforded to the claim of the City under any confirmed plan of reorganization shall provide that the remaining payments shall be satisfied in accordance with the Note, and that the remaining payments or claim shall not be extended or amortized over a longer period than the time remaining under the Note.

17.4.2 Should this Agreement be entered into and fully executed by the Parties, and the funds have not been forwarded to Contractor, the following shall occur:

17.4.2.1 In the event the Contractor files a voluntary petition pursuant to 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303., the Contractor acknowledges that the commencement of a bankruptcy

proceeding constitutes an event of default under the terms of this Agreement. Further, the Contractor acknowledges that this Agreement constitutes an executory contract within the meaning of 11 U.S.C. 365. The Contractor acknowledges that this Agreement is not capable of being assumed pursuant to 11 U.S.C. 365(c)(2), unless the City expressly consents in writing to the assumption. In the event the City consents to the assumption, the Contractor agrees to file a motion to assume this Agreement within ten (10) days after receipt of written consent from the City, regardless of whether the bankruptcy proceeding is pending under Chapter 7, 11, or 13 of Title 11 of the United States Code. The Contractor further acknowledges that this Agreement is not capable of being assigned pursuant to 11 U.S.C. 365(b)(1).

17.5 Termination for Convenience: This Agreement may be terminated for convenience in writing by City upon thirty (30) days' written notice to Contractor (delivered by certified mail, return receipt requested) of intent to terminate and the date on which such termination becomes effective. In such case, Contractor shall be paid for all work executed and accepted by the City and costs reasonably incurred by Contractor relating to commitments which had become firm prior to the termination. No payment shall be made for profit for work/services which have not been performed or accepted.

17.6 Where the Contractor's service has been terminated by the City, the termination shall not affect any rights of the City against the Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due the Contractor by the City will not release the Contractor from liability.

17.7 The Contractor has no right, authority or ability to terminate the Work except for the wrongful withholding of any payments due the Contractor from the City.

ARTICLE 18 – DISPUTE RESOLUTION

18.1 Resolution of Disputes: Questions, claims, difficulties and disputes of whatever nature which may arise relative to the technical interpretation of the Contract Documents and fulfillment of this Agreement as to the character, quality, amount and value of any work done and materials furnished, or proposed to be done or furnished under, or by reason of, the Contract Documents which cannot be resolved by mutual agreement of City Project Manager and Contractor shall be submitted to the City Manager or his designee and Contractor's representative for resolution. Prior to any litigation being commenced, for any disputes which remain unresolved, within sixty (60) days after final completion of the Work, the Parties shall participate in mediation to address all unresolved disputes to a mediator agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies provided under the laws of Florida. Failure by a Party to comply in strict accordance with the requirements of this Article, then said Party specifically waives all of its rights provided hereunder, including its rights and remedies under the laws of Florida.

18.1.1 All non-technical administrative disputes (such as billing and payment) shall be determined by Contract Administrator.

18.1.2 During the pendency of any dispute and after a determination thereof, Contractor and Contract Administrator shall act in good faith to mitigate any

potential damages including utilization of construction schedule changes and alternate means of construction. During the pendency of any dispute arising under this Agreement, other than termination herein, Contractor shall carry on the Work and adhere to the progress schedule. The Work shall not be delayed or postponed pending resolution of any disputes or disagreements.

18.1.3 For any disputes which remain unsolved, within sixty (60) calendar days after Final Completion of the Work, the Parties shall participate in mediation to address all unresolved disputes. A mediator shall be mutually agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies under applicable law. If a Party objecting to a determination, fails to comply in strict accordance with the requirements of this Article, said Party specifically waives all of its rights provided hereunder, including its rights and remedies under applicable law.

ARTICLE 19 – NOTICES

19.1 All notices required by any of the Contract Documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested to the following:

To the City:

Herb Stanley
Project Manager
City of Fort Lauderdale
949 N.W. 38th Street,
Fort Lauderdale, Florida 33309
Telephone: (954) 828-6801
E-mail: HStanley@fortlauderdale.gov

with copies to:

City Manager
City of Fort Lauderdale
101 NE 3rd Avenue, Suite 1430
Fort Lauderdale, Florida 33301-1016

City Attorney
City of Fort Lauderdale
1 East Broward Boulevard, Suite 1605
Fort Lauderdale, Florida 33301-1016

To the Contractor:

Comerford Belseri
President
Southern Underground Industries, Inc.,
6115 NW 77th Way Wiles Road
Tamarac, FL 33321
Telephone: 727-530-3038
E-mail: bids@southernundergroundindustries.com

ARTICLE 20 – LIMITATION OF LIABILITY

20.1 The City desires to enter into this Agreement only if in so doing the City can place a limit on the City's liability for any cause of action arising out of this Agreement, so that the City's liability for any breach never exceeds the sum of $1,000. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor expresses its willingness to enter into this Agreement with the knowledge that the Contractor's recovery from the City to any action or claim arising from the Agreement is limited to a maximum amount of $1,000, which amount shall be reduced by the amount actually paid by the City to the Contractor pursuant to this Agreement, for any action or claim arising out of this Agreement. Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the limitation placed upon the City's liability as set forth in Section 768.28, Florida Statutes (2024), as may be amended or revised, or to extend the City's liability beyond the limits established in said Section 768.28, Florida Statutes (2024), as may be amended or revised; and no claim or award against the City shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

20.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 21 – GOVERNING LAW; WAIVER OF JURY TRIAL

21.1 The Agreement shall be interpreted and construed in accordance with, and governed by, the laws of the state of Florida. The Parties agree that the exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claims arising from, related to, or in connection with this Agreement must be litigated in federal court, the Parties agree that the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **BY ENTERING INTO THIS AGREEMENT, THE PARTIES HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS EITHER PARTY MIGHT HAVE TO A TRIAL BY JURY OF ANY ISSUES RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

ARTICLE 22 – MISCELLANEOUS

22.1 The duties and obligations imposed by this Agreement and the rights and remedies available to the Parties and, in particular but without limitation, the warranties, guaranties and obligations imposed upon the Contractor and all of the rights and remedies available to the City, 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, and the provisions of this Paragraph will survive final payment and termination or completion of this Agreement.

22.2 The Contractor shall not assign or transfer this Agreement or its rights, title or interests. The obligations undertaken by the Contractor pursuant to this Agreement shall not be delegated or assigned to any other person or firm. Violation of the terms of this Paragraph shall constitute a material breach of Agreement by the Contractor and the City any, at its discretion, cancel this Agreement and all rights, title and interest of the Contractor which shall immediately cease and terminate.

22.3 The Contractor and its employees, volunteers and agents shall be and remain as independent contractor and not agents or employees of the City with respect to all of the acts and services performed by and under the terms of this Agreement. This Agreement shall not in any way be constructed to create a partnership, association or any other kind of joint undertaking or venture between the Parties.

22.4 The City reserves the right to audit the records of the Contractor relating in any way to the Work to be performed pursuant to this Agreement at any time during the performance and term of this Agreement and for a period of three (3) years after completion and acceptance by the City. If required by the City, the Contractor agrees to submit to an audit by an independent certified public accountant selected by the City. The Contractor shall allow the City to inspect, examine and review the records of the Contractor at any and all times during normal business hours during the term of this Agreement.

22.5 The remedies expressly provided in this Agreement to the City shall not be deemed to be exclusive but shall be cumulative and in addition to all other remedies in favor of the City now or later existing at law or in equity.

22.6 Should any part, term or provisions of this Agreement be decided by the courts to be invalid, illegal or in conflict with any state or federal law, the validity of the remaining portion or provision shall not be affected.

22.7 Prohibition Against Contracting With Scrutinized Companies: Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2024), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2024), as may be amended or revised, and that it is not

engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2024), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2024), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2024), as may be amended or revised.

By submitting a proposal or response, the company, principals, or owners certify that it is not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

22.8 Public Entity Crimes: In accordance with the Public Crimes Act, Section 287.133, Florida Statutes (2024), as may be amended or revised, a person or affiliate who is a contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes (2024), as may be amended or revised, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

22.9 Attorney Fees: If City or Contractor incurs any expense in enforcing the terms of this Agreement through litigation, the prevailing Party in that litigation shall be reimbursed for all such costs and expenses, including but not limited to court costs, and reasonable attorney fees incurred during litigation.

22.10 Public Records:

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES (2024), TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 1 EAST BROWARD BOULEVARD, SUITE 444, FORT LAUDERDALE, FLORIDA 33301.

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2023), as may be amended or revised, or as otherwise provided by law.

3. 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 this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, 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 public records upon completion of this Agreement, 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's custodian of public records, in a format that is compatible with the information technology systems of the City.

22.11 Non-Discrimination:

The Contractor shall not discriminate against its employees based on the employee's race, color, religion, gender, gender identity, gender expression, marital status, sexual orientation, national origin, age, disability, or any other protected classification as defined by applicable law.

1. The Contractor certifies and represents that the Contractor offers the same health benefits to the domestic partners of its employees as are offered its employees' spouses or offers its employees the cash equivalent of such health benefits because it is unable to provide health benefits to its employees' domestic partners, and that the Contractor will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as may be amended or revised, ("Section 2-187"), during the entire term of this Agreement.

2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.

4. The City may retain all monies due or become due until the Contractor complies with Section 2-187.

5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in Section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

22.12 E-Verify:

As a condition precedent to the effectiveness of this Agreement, pursuant to Section 448.095, Florida Statutes (2024), as may be amended or revised, the Contractor and its subcontractors shall register with and use the E-Verify system to electronically verify the employment eligibility of newly hired employees.

1. The Contractor shall require each of its subcontractors, if any, to provide the Contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. The Contractor shall maintain a copy of the subcontractor's affidavit for the duration of this Agreement and in accordance with the public records requirements of this Agreement.

2. The City, the Contractor, or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated Section 448.09(1), Florida Statutes (2024), as may be amended or revised, shall terminate the Agreement with the person or entity.

3. The City, upon good faith belief that a subcontractor knowingly violated the provisions of Subsection 448.095(5), Florida Statutes (2024), as may be amended or revised, but that the Contractor otherwise complied with Subsection 448.095(5), Florida Statutes (2024), as may be amended or revised, shall promptly notify Contractor and order the Contractor to immediately terminate the contract with the subcontractor, and the Contractor shall comply with such order.

4. An Agreement terminated under Sections 448.095(5)(c)1. or 2., Florida Statutes (2024), as may be amended or revised, is not a breach of contract and may not be considered as such. If the City terminates this Agreement under Section448.095(5)(c), Florida Statutes (2024), as may be amended or revised, the Contractor may not be awarded a public contract for at least one year after the date on which the Agreement was terminated. The Contractor is liable for any additional costs incurred by the City as a result of termination of this Agreement.

5. Contractor shall include in each of its subcontracts, if any, the requirements set forth in this Section, including this subparagraph, requiring any and all subcontractors, as defined in Section 448.095(1)(e), Florida Statutes (2024), as maybe amended or revised, to include all of the requirements of this Section in its subcontracts. Contractor shall be responsible for compliance by any and all subcontractors, as defined in Section 448.095(1)(e), Florida Statutes (2024), as maybe amended or revised, with the requirements of Section 448.095, Florida Statutes (2024), as may be amended or revised.

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CITY

IN WITNESS OF THE FOREGOING, the Parties have set their hands and seals the day and year first written above.

CITY OF FORT LAUDERDALE, a Florida municipal corporation

By: _____
GREG CHAVARRIA
City Manager

Date: January 30, 2024

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

Approved as to Legal Form and Correctness:
Thomas Ansbro, City Attorney

By: _____
RHONDA MONTOYA HASAN
Assistant City Attorney

CONTRACTOR

WITNESSES:

Print Name

Print Name

SOUTHERN UNDERGROUND INDUSTRIES, INC.,
a Florida corporation

By: _____
BELSERI L. COMERFORD
President

ATTEST:

By: _____
Secretary

(CORPORATE SEAL)

STATE OF Florida :

COUNTY OF Broward :

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 10th day of January, 2024, by **Belseri L. Comerford**, as **President** for **Southern Underground Industries, Inc.**, a Florida corporation.

Notary Public State of Florida
Anthony Robert Marini
My Commission HH 121070
Expires 04/22/2025

_____
(Signature of Notary Public - State of Florida)

Anthony Marini
(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known ✓ OR Produced Identification_____
Type of Identification Produced: _____

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Broward County Commission
3 Page(s)
#1

SURETY BOND
IN COMPLIANCE WITH AND INCORPORATING THE PROVISIONS OF SECTION 255.05, FLORIDA STATUTES

THIS IS A SURETY BOND given by Southern Underground Industries, Inc. the "Contractor" as principal, referred to in this Bond as "Contractor" and Nationwide Mutual Insurance Company as "Surety," and they represent by this instrument that they are bound to the CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida ("City"), in the sum of **$3,000,000.00** (THREE MILLION DOLLARS AND ZERO CENTS) for the payment of which, to be made to the City of Fort Lauderdale, Florida, they jointly and severally, bind themselves and each of their heirs, executors, administrators, successors and assigns.

Owner Name:	CITY OF FORT LAUDERDALE a municipal corporation of the State of Florida
Owner Address and Telephone:	City Hall, Public Works Department 1 East Broward Boulevard, Suite 444 Fort Lauderdale, Florida 33301 (954) 828-5772
Bond No.:	7901085061
Contractor Name, Address, Telephone:	Southern Underground Industries, Inc. 794 S. Military Trail Deerfield Beach, Florida 33442 Telephone: (954) 590-0322
Surety Company, Address, Telephone:	Nationwide Mutual Insurance Company One West Nationwide Blvd., 1-14-301 Columbus, Ohio 43215-2220 (866) 387-0457
City Project No./Bid No.:	12849 / 154
Name of Project:	Annual Sewer Repair and Replacement
Project Location:	City of Fort Lauderdale
Legal Description and Street Address:	City-wide in the City of Fort Lauderdale
Description of Work:	Water and sewer construction, stormwater construction, and various restoration services associated with that construction.

"Contractor" is bound by an instrument in writing dated the **9th** day of **JANUARY**, **2024**, by which Contractor has contracted with the City of Fort Lauderdale, Florida, to furnish labor, tools, and materials for the Project referenced and described above, together with all work incidental thereto, as fully set out in the plans, specifications and details on file in the Office of the City Engineer of the City.

Notice required by Section 255.05(6), Florida Statutes (2024): "This bond is given to comply with Section 255.05 Florida Statutes (2024), and any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes (2024)."

The condition of the above obligation is such that if the above bound "Contractor," or its successor or assigns shall in good faith and in good, sufficient, substantial and workmanlike manner, perform the work and comply with the conditions of the contract, including payment of penalties, in strict accordance with the terms and provisions stipulated in it and shall indemnify and hold harmless the City against and for payments of any and all damages that may happen to persons or property by reason of excavations, embankments, obstructions and all

other work in streets, alleys or places in connection with the work, or arising out of any act, neglect or omission of the "Contractor" or its agents, servants, or employees with relation to the work, and shall indemnify and hold harmless the City against and from all suits and acts of every nature and description arising out of any claims by patentees of any process connected with the work agreed to be performed under the contract, or of any materials used upon the work, and pay all costs accruing if the contract is cancelled and a new contract for finishing the work is let, and all other expenses lawfully chargeable to the "Contractor," then this agreement shall be null and void; otherwise it is to remain in full force and effect, but it is expressly provided, understood and agreed that if the "Contractor" or its subcontractors fail to duly and promptly pay for any labor, material, or other supplies used by "Contractor" or any of its subcontractors in the performance of the work to be done, or the Contractor defaults in its Contract with the City, the "Surety" will promptly pay to all claimants, as defined in Section 255.05(1), Florida Statutes (2024), the same in an amount not exceeding the sum specified in this bond, together with interest at the rate of fifteen percent (15%) per annum, and the Surety hereby stipulates and agrees that no change, extension, reduction, alteration or addition to the terms of the contract or the plans, details and specifications shall in any way affect the obligations of this bond.

Whenever Contractor shall be, and is declared by the City to be in default under the contract, the City may proceed to cancel the contract and award a new contract for finishing the work or order the Surety to promptly remedy the default by obtaining a bid or bids for completing the contract in accordance with the original contract terms and conditions. Upon the determination by the City of the lowest responsible bidder, the Surety shall complete all work and pay the full cost of completion, less previous payments.

This Bond is effective for one (1) year after completion and acceptance of the work, with liability equal to twenty-five percent (25%) of the contract price, and is so conditioned that the "Contractor" will, at its own expense, correct any defective or faulty work or material which appears within one (1) year after completion of the work and final payment, upon notification by the City.

IN WITNESS WHEREOF, the above "Contractor" has signed this Agreement, and the "Surety" has caused this Agreement to be signed in its name by its Attorney-in-Fact, and its corporate seal affixed, this 12 day of January, 2024.

Signed, sealed and delivered in the presence of:

(Witness) Signature

FRANK DIMESSANDRO

(Witness) Print Name

(Witness) Signature

Doreen Shearin, CSR

(Witness) Print Name

CONTRACTOR:

Belser Contractors pres

Print Name and Title

(SEAL)

SURETY:

Local Agent

Warren M. Alter, Attorney-In-Fact

Print Name and Title

(SEAL)

(SEAL)

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

DAVID T SATINE; JONATHAN A BURSEVICH; WARREN M ALTER;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.

Antonio C. Albanese, **Vice President** of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF NEW YORK: ss

On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.

Stephanie Rubino McArthur
Notary Public, State of New York
No. 02MC6270117
Qualified in New York County
Commission Expires October 19, 2024

Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 12th day of January, 2024.

Assistant Secretary

BDJ 1(08-21)00

SOUTUND-02 REYNOLDSMA

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 1/18/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Mallory Reynolds	
Insurance Office of America 1855 West State Road 434 Longwood, FL 32750	PHONE (A/C, No, Ext): (407) 998-4134	FAX (A/C, No):
	E-MAIL ADDRESS: mallory.reynolds@ioausa.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : HDI Specialty Insurance Company	16131
INSURED	INSURER B : First Liberty Insurance Corporation	33588
Southern Underground Industries, Inc. 794 South Military Trail Deerfield Beach, FL 33442	INSURER C : Indemnity National Insurance Company	18468
	INSURER D : Employers Insurance Company of Wausau	21458
	INSURER E : Westchester Surplus Lines Insurance Company	10172
	INSURER F : Federal Insurance Company	20281

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR	X	X	CLD6033900S	6/1/2023	6/1/2024	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	X POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
B	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO			AS6Z91471781023	6/1/2023	6/1/2024	BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
C	UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 1,000,000
	X EXCESS LIAB CLAIMS-MADE			XS000127023	6/1/2023	6/1/2024	AGGREGATE	$ 1,000,000
	DED RETENTION $							$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: N	N / A		WCCZ91471781013	6/1/2023	6/1/2024	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
E	Contractors Pollutio			G71528406005	6/1/2023	6/1/2024	Aggregate	4,000,000
F	Equipment Floater			45468572	6/1/2023	6/1/2024	Leased/Rented	400,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
City of Fort Lauderdale is an Additional Insured with respects to General Liability including Ongoing and Completed Operations when required by written contract. Waiver of Subrogation applies in favor of the Additional Insured with respects to General Liability when required by written contract.

APPROVED
By Matthew Cobb at 6:05 pm, Jan 18, 2024

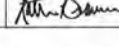
CERTIFICATE HOLDER

City of Fort Lauderdale
100 N Andrews Ave Fort
Lauderdale, FL 33301

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION) - AUTOMATIC

Attached To and Forming Part of Policy	*Effective Date of Endorsement*	*Named Insured*
CLD6033900S	06/01/2023 12:01AM at the Named Insured address shown on the Declarations	Southern Underground Industries, Inc.

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

The following is added to Paragraph **8. Transfer Of Rights Of Recovery Against Others To Us** of **Section IV – Conditions:**

We waive any right of recovery against any person or organization, because of any payment we make under this Coverage Part, to whom the insured has waived its right of recovery in a written contract or agreement. Such waiver by us applies only to the extent that the insured has waived its right of recovery against such person or organization prior to loss.

ALL OTHER TERMS AND CONDITIONS OF THE POLICY REMAIN UNCHANGED.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location And Description Of Completed Operations
where required by written contract or written agreement	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

Sample

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
where required by written contract or written agreement	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

Sample

© Insurance Services Office, Inc., 2018

C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or

2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

Sample

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY AND NONCONTRIBUTORY – OTHER INSURANCE CONDITION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

The following is added to the **Other Insurance** Condition and supersedes any provision to the contrary:

Primary And Noncontributory Insurance

This insurance is primary to and will not seek contribution from any other insurance available to an additional insured under your policy provided that:

(1) The additional insured is a Named Insured under such other insurance; and

(2) You have agreed in writing in a contract or agreement that this insurance would be primary and would not seek contribution from any other insurance available to the additional insured.

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Indemnity National Insurance Company

POLICY NUMBER: XS000127023 COMMERCIAL EXCESS LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

FOLLOW FORM AGGREGATE LIMIT OF CONTROLLING UNDERLYING INSURANCE

This endorsement modifies insurance provided under the following:

COMMERCIAL EXCESS LIABILITY COVERAGE PART

Section II – Limits of Insurance is replaced by the following:

1. The Limits of Insurance shown in the Declarations, the Schedule of Controlling Underlying, and the following rules fix the most we will pay regardless of the number of:
   a. Insureds;
   b. Claims made or suits brought, or number of vehicles involved;
   c. Persons or organizations making claims or bringing suits; or
   d. Limits available under any "controlling underlying insurance".
2. The Limits of Insurance will apply as follows:
   a. This insurance only applies in excess of the "retained limit".
   b. The aggregate limit is the most we will pay for the sum of all "ultimate net loss" that is subject to an aggregate limit provided by the "controlling underlying insurance" and shall apply in the same manner as the aggregate limits provided by the "controlling underlying insurance".
   c. Subject to Paragraph **2.b.** of this endorsement, the Each Occurrence Limit is the most we will pay for the sum of all "ultimate net loss" under this insurance because of all "injury or damage" arising out of any one "event".
   d. If the Limits of Insurance of the "controlling underlying insurance" are reduced by defense expenses by the terms of that policy, any payments for defense expenses we make will reduce our applicable Limits of Insurance in the same manner.
3. If any "controlling underlying insurance" has a policy period that is different from the policy period of this Coverage Part then, for the purposes of this insurance, the "retained limit" will only be reduced or exhausted by payments made for "injury or damage" covered under this insurance.

The Aggregate Limits, as described in Paragraph **2.** above, apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.

Policy Number AS6-Z91-471781-023
Issued by Liberty Insurance Corp.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

AUTO ENHANCEMENT ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

I. Newly Acquired or Formed Organizations
II. Employees as Insureds
III. Lessor - Additional Insured and Loss Payee
IV. Supplementary Payments - Increased Limits
V. Fellow Employee Coverage
VI. Personal Property of Others
VII. Additional Transportation Expense and Cost to Recover Stolen Auto
VIII. Airbag Coverage
IX. Tapes, Records and Discs Coverage
X. Physical Damage Deductible - Single Deductible
XI. Physical Damage Deductible - Glass
XII. Physical Damage Deductible - Vehicle Tracking System
XIII. Duties in Event of Accident, Claim, Suit or Loss
XIV. Unintentional Failure to Disclose Hazards
XV. Worldwide Liability Coverage - Hired and Nonowned Autos
XVI. Hired Auto Physical Damage
XVII. Auto Medical Payments Coverage Increased Limits
XVIII. Drive Other Car Coverage - Broadened Coverage for Designated Individuals
XIX. Rental Reimbursement Coverage
XX. Notice of Cancellation or Nonrenewal
XXI. Loan/Lease Payoff Coverage
XXII. Limited Mexico Coverage
XXIII. Waiver of Subrogation

I. NEWLY ACQUIRED OR FORMED ORGANIZATIONS

Throughout this policy, the words you and your also refer to any organization you newly acquire or form, other than a partnership or joint venture, and over which you maintain ownership of more than 50 percent interest, provided:

A. There is no similar insurance available to that organization;

B. Unless you notify us to add coverage to your policy, the coverage under this provision is afforded only until:

1. The 90th day after you acquire or form the organization; or

2. The end of the policy period, whichever is earlier; and

C. The coverage does not apply to an "accident" which occurred before you acquired or formed the organization.

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II. EMPLOYEES AS INSUREDS

Paragraph A.1. Who Is An Insured of SECTION II - LIABILITY COVERAGE is amended to add:

Your "employee" is an "insured" while using with your permission a covered "auto" you do not own, hire or borrow in your business or your personal affairs.

III. LESSOR - ADDITIONAL INSURED AND LOSS PAYEE

A. Any "leased auto" will be considered an "auto" you own and not an "auto" you hire or borrow. The coverages provided under this section apply to any "leased auto" until the expiration date of this policy or until the lessor or his or her agent takes possession of the "leased auto" whichever occurs first.

B. For any "leased auto" that is a covered "auto" under SECTION II- LIABILITYCOVERAGE, Paragraph A.1. Who Is An Insured provision is changed to include as an "insured" the lessor of the "leased auto". However, the lessor is an "insured" only for "bodily injury" or "property damage" resulting from the acts or omissions by:

1. You.

2. Any of your "employees" or agents; or

3. Any person, except the lessor or any "employee" or agent of the lessor, operating a "leased auto" with the permission of any of the above.

C. Loss Payee Clause

1. We will pay, as interests may appear, you and the lessor of the "leased auto" for "loss" to the covered "leased auto".

2. The insurance covers the interest of the lessor of the "leased auto" unless the "loss" results from fraudulent acts or omissions on your part.

3. If we make any payment to the lessor of a "leased auto", we will obtain his or her rights against any other party.

D. Cancellation

1. If we cancel the policy, we will mail notice to the lessor in accordance with the Cancellation Common Policy Condition.

2. If you cancel the policy, we will mail notice to the lessor.

3. Cancellation ends this agreement.

E. The lessor is not liable for payment of your premiums.

F. For purposes of this endorsement, the following definitions apply:

"Leased auto" means an "auto" which you lease for a period of six months or longer for use in your business, including any "temporary substitute" of such "leased auto".

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"Temporary substitute" means an "auto" that is furnished as a substitute for a covered "auto" when the covered "auto" is out of service because of its breakdown, repair, servicing, "loss" or destruction.

IV. SUPPLEMENTARY PAYMENTS - INCREASED LIMITS

Subparagraphs A.2.a.(2) and A.2.a.(4) of SECTION II - LIABILITYCOVERAGE are deleted and replaced by the following:

(2) Up to $3,000 for the cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

(4) All reasonable expenses incurred by the "insured" at our request, including the actual loss of earnings up to $500 a day because of time off from work.

V. FELLOW EMPLOYEE COVERAGE

A. Exclusion B.5. of SECTION II - LIABILITY COVERAGE does not apply.

B. For the purpose of Fellow Employee Coverage only, Paragraph B.5. of BUSINESS AUTO CONDITIONS is changed as follows:

This Fellow Employee Coverage is excess over any other collectible insurance.

VI. PERSONAL PROPERTY OF OTHERS

Exclusion 6. in SECTION II - LIABILITY COVERAGE for a covered "auto" is amended to add:

This exclusion does not apply to "property damage" or "covered pollution cost or expense" involving "personal property" of your "employees" or others while such property is carried by the covered "auto". The Limit of Insurance for this coverage is $5,000 per "accident". Payment under this coverage does not increase the Limit of Insurance.

For the purpose of this section of this endorsement, "personal property" is defined as any property that is not used in the individual's trade or business or held for the production or collection of income.

VII. ADDITIONAL TRANSPORTATION EXPENSE AND COST TO RECOVER STOLEN AUTO

A. Paragraph A.4.a. of SECTION III - PHYSICAL DAMAGE COVERAGE is amended as follows:

The amount we will pay is increased to $50 per day and to a maximum limit of $1,000.

B. Paragraph A.4.a. of SECTION III - PHYSICAL DAMAGE COVERAGE is amended to add the following:

If your business is shown in the Declarations as something other than an auto dealership, we will also pay up to $1,000 for reasonable and necessary costs incurred by you to return a stolen covered "auto" from the place where it is recovered to its usual garaging location.

VIII. AIRBAG COVERAGE

Exclusion B.3.a. in SECTION III - PHYSICAL DAMAGE COVERAGE is amended to add:

This exclusion does not apply to the accidental discharge of an airbag.

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IX. TAPES, RECORDS AND DISCS COVERAGE

Exclusion B.4.a. of SECTION III - PHYSICAL DAMAGE COVERAGE is deleted and replaced by the following:

a. Tapes, records, discs or other similar audio, visual or data electronic devices designed for use with audio, visual or data electronic equipment except when the tapes, records, discs or other similar audio, visual or data electronic devices:

(1) Are your property or that of a family member; and

(2) Are in a covered "auto" at the time of "loss".

The most we will pay for "loss" is $200. No Physical Damage Coverage deductible applies to this coverage.

X. PHYSICAL DAMAGE DEDUCTIBLE - SINGLE DEDUCTIBLE

Paragraph D. in SECTION III - PHYSICAL DAMAGE COVERAGE is deleted and replaced by the following:

D. Deductible

For each covered "auto", our obligation to pay for, repair, return or replace damaged or stolen property will be reduced by the applicable deductible shown in the Declarations. Any Comprehensive Coverage deductible shown in the Declarations does not apply to "loss" caused by fire or lightning.

When two or more covered "autos" sustain "loss" in the same collision, the total of all the "loss" for all the involved covered "autos" will be reduced by a single deductible, which will be the largest of all the deductibles applying to all such covered "autos".

XI. PHYSICAL DAMAGE DEDUCTIBLE - GLASS

Paragraph D. in SECTION III - PHYSICAL DAMAGE COVERAGE is amended to add:

No deductible applies to "loss" to glass if you elect to patch or repair it rather than replace it.

XII. PHYSICAL DAMAGE DEDUCTIBLE - VEHICLE TRACKING SYSTEM

Paragraph D. in SECTION III - PHYSICAL DAMAGE COVERAGE is amended to add:

Any Comprehensive Coverage Deductible shown in the Declarations will be reduced by 50% for any "loss" caused by theft if the vehicle is equipped with a vehicle tracking device such as a radio tracking device or a global positioning device and that device was the method of recovery of the vehicle.

XIII. DUTIES IN EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS

Subparagraphs A.2.a. and A.2.b. of SECTION IV- BUSINESS AUTO CONDITIONS are changed to:

a. In the event of "accident", claim, "suit" or "loss", your insurance manager or any other person you designate must notify us as soon as reasonably possible of such "accident", claim, "suit" or "loss". Such notice must include:

(1) How, when and where the "accident" or "loss" occurred;

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(2) The "insured's" name and address; and

(3) To the extent possible, the names and addresses of any injured persons and witnesses.

Knowledge of an "accident", claim, "suit" or "loss" by your agent, servant or "employee" shall not be considered knowledge by you unless you, your insurance manager or any other person you designate has received notice of the "accident", claim, "suit" or "loss" from your agent, servant or "employee".

b. Additionally, you and any other involved "insured" must:

(1) Assume no obligation, make no payment or incur no expense without our consent, except at the "insured's" own cost.

(2) Immediately send us copies of any request, demand, order, notice, summons or legal paper received concerning the claim or "suit".

(3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit".

(4) Authorize us to obtain medical records or other pertinent information.

(5) Submit to examination, at our expense, by physicians of our choice, as often as we reasonably require.

XIV. UNINTENTIONAL FAILURE TO DISCLOSE HAZARDS

Paragraph B.2. in SECTION IV - BUSINESS AUTO CONDITIONS is amended to add the following:

Any unintentional failure to disclose all exposures or hazards existing as of the effective date of the Business Auto Coverage Form or at any time during the policy period will not invalidate or adversely affect the coverage for such exposure or hazard. However, you must report the undisclosed exposure or hazard to us as soon as reasonably possible after its discovery

XV. WORLDWIDE LIABILITY COVERAGE - HIRED AND NONOWNED AUTOS

Condition B.7. in SECTION IV - BUSINESS AUTO CONDITIONS is amended to include the following:

For "accidents" resulting from the use or operation of covered "autos" you do not own, the coverage territory means all parts of the world subject to the following provisions:

a. If claim is made or "suit" is brought against an "insured" outside of the United States of America, its territories and possessions, Puerto Rico and Canada, we shall have the right, but not the duty to investigate, negotiate, and settle or defend such claim or "suit".

If we do not exercise that right, the "insured" shall have the duty to investigate, negotiate, and settle or defend the claim or "suit" and we will reimburse the "insured" for the expenses reasonably incurred in connection with the investigation, settlement or defense. Reimbursement will be paid in the currency of the United States of America at the rate of exchange prevailing on the date of reimbursement.

The "insured" shall provide us with such information we shall reasonably request regarding such claim or "suit" and its investigation, negotiation, and settlement or defense.

The "insured" shall not agree to any settlement of the claim or "suit" without our consent. We shall not unreasonably withhold consent.

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b. We are not licensed to write insurance outside of the United States of America, its territories or possessions, Puerto Rico and Canada.

We will not furnish certificates of insurance or other evidence of insurance you may need for the purpose of complying with the laws of other countries relating to auto insurance.

Failure to comply with the auto insurance laws of other countries may result in fines or penalties. This insurance does not apply to such fines or penalties.

XVI. HIRED AUTO PHYSICAL DAMAGE

If no deductibles are shown in the Declarations for Physical Damage Coverage for Hired or Borrowed Autos, the following will apply:

A. We will pay for "loss" under Comprehensive and Collision coverages to a covered "auto" of the private passenger type hired without an operator for use in your business:

1. The most we will pay for coverage afforded by this endorsement is the lesser of:

a. The actual cost to repair or replace such covered "auto" with other property of like kind and quality; or

b. The actual cash value of such covered "auto" at the time of the "loss".

2. An adjustment for depreciation and physical condition will be made in determining actual cash value in the event of a total "loss".

3. If a repair or replacement results in better than like kind or quality, we will not pay for the amount of the betterment.

B. For each covered "auto", our obligation to pay for, repair, return or replace the covered "auto" will be reduced by any deductible shown in the Declarations that applies to private passenger "autos" that you own. If no applicable deductible is shown in the Declarations, the deductible will be $250.

If the Declarations show other deductibles for Physical Damage Coverages for Hired or Borrowed Autos, this Section XVI of this endorsement does not apply.

C. Paragraph A.4.b. of SECTION III - PHYSICAL DAMAGE COVERAGE is replaced by:

b. Loss of Use Expenses

For Hired Auto Physical Damage provided by this endorsement, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a private passenger vehicle rented or hired without a driver, under a written rental contract or agreement. We will pay for loss of use expenses caused by:

(1) Other than collision only if the Declarations indicate that Comprehensive Coverage is provided for any covered "auto";

(2) Specified Causes of Loss only if the Declarations indicate that Specified Causes of Loss Coverage is provided for any covered "auto"; or

(3) Collision only if the Declarations indicate that Collision Coverage is provided for any covered "auto".

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However, the most we will pay under this coverage is $30 per day, subject to a maximum of $900.

XVII. AUTO MEDICAL PAYMENTS COVERAGE - INCREASED LIMITS

For any covered "loss", the Limit of Insurance for Auto Medical Payments will be double the limit shown in the Declarations if the "insured" was wearing a seat belt at the time of the "accident". This is the maximum amount we will pay for all covered medical expenses, regardless of the number of covered "autos", "insureds", premiums paid, claims made, or vehicles involved in the "accident".

If no limit of insurance for Auto Medical Payments is shown on the Declarations, this paragraph Section XVII of this endorsement does not apply.

XVIII. DRIVE OTHER CAR COVERAGE - BROADENED COVERAGE FOR DESIGNATED INDIVIDUALS

A. This endorsement amends only those coverages indicated with an "X" in the Drive Other Car section of the Schedule to this endorsement.

B. SECTION II - LIABILITY COVERAGE is amended as follows:

1. Any "auto" you don't own, hire or borrow is a covered "auto" for Liability Coverage while being used by any individual named in the Drive Other Car section of the Schedule to this endorsement or by his or her spouse while a resident of the same household except:

   a. Any "auto" owned by that individual or by any member of his or her household; or

   b. Any "auto" used by that individual or his or her spouse while working in a business of selling, servicing, repairing or parking "autos".

2. The following is added to Who Is An Insured:

   Any individual named in the Drive Other Car section of the Schedule to this endorsement and his or her spouse, while a resident of the same household, are "insureds" while using any covered "auto" described in Paragraph B.1. of this endorsement.

C. Auto Medical Payments, Uninsured Motorist, and Underinsured Motorist Coverages are amended as follows:

The following is added to Who Is An Insured:

Any individual named in the Drive Other Car section of the Schedule to this endorsement and his or her "family members" are "insured" while "occupying" or while a pedestrian when struck by any "auto" you don't own except:

Any "auto" owned by that individual or by any "family member".

D. SECTION III - PHYSICAL DAMAGE COVERAGE is changed as follows:

Any private passenger type "auto" you don't own, hire or borrow is a covered "auto" while in the care, custody or control of any individual named in the Drive Other Car section of the Schedule to this endorsement or his or her spouse while a resident of the same household except:

1. Any "auto" owned by that individual or by any member of his or her household; or

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2. Any "auto" used by that individual or his or her spouse while working in a business of selling, servicing, repairing or parking "autos".

E. For purposes of this endorsement, SECTION V - DEFINITIONS is amended to add the following:

"Family member" means a person related to the individual named in the Drive Other Car section of the Schedule to this endorsement by blood, marriage or adoption who is a resident of the individual's household, including a ward or foster child.

XIX. RENTAL REIMBURSEMENT COVERAGE

A. For any owned covered "auto" for which Collision and Comprehensive Coverages are provided, we will pay for rental reimbursement expenses incurred by you for the rental of an "auto" because of a covered physical damage "loss" to an owned covered "auto". Such payment applies in addition to the otherwise applicable amount of physical damage coverage you have on a covered "auto". No deductibles apply to this coverage.

B. We will pay only for those expenses incurred during the policy period beginning 24 hours after the "loss" and ending with the earlier of the return or repair of the covered "auto", or the exhaustion of the coverage limit.

C. Our payment is limited to the lesser of the following amounts:

1. Necessary and actual expenses incurred; or

2. $30 per day with a maximum of $900 in any one period.

D. This coverage does not apply:

1. While there are spare or reserve "autos" available to you for your operations; or

2. If coverage is provided by another endorsement attached to this policy.

E. If a covered "loss" results from the total theft of a covered "auto" of the private passenger type, we will pay under this coverage only that amount of your rental reimbursement expenses which is not already provided for under Paragraph A.4. Coverage Extensions of SECTION III – PHYSICAL DAMAGE COVERAGE of the Business Auto Coverage Form or Section VII of this endorsement.

XX. NOTICE OF CANCELLATION OR NONRENEWAL

A. Paragraph A.2. of the COMMON POLICY CONDITIONS is changed to:

2. We may cancel or non-renew this policy by mailing written notice of cancellation or non-renewal to the Named Insured, and to any name(s) and address(es) shown in the Cancellation and Non-renewal Schedule:

a. For reasons of non-payment, the greater of:

(1) 10 days; or

(2) The number of days specified in any other Cancellation Condition attached to this policy; or

b. For reasons other than non-payment, the greater of:

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(1) 60 days;

(2) The number of days shown in the Cancellation and Non-renewal Schedule; or

(3) The number of days specified in any other Cancellation Condition attached to this policy,

prior to the effective date of the cancellation or non-renewal.

B. All other terms of Paragraph A. of the COMMON POLICY CONDITIONS, and any amendments thereto, remain in full force and effect.

XXI. LOAN/LEASE PAYOFF COVERAGE

The following is added to Paragraph C. Limit of Insurance of SECTION III - PHYSICAL DAMAGE COVERAGE:

In the event of a total "loss" to a covered "auto" of the private passenger type shown in the schedule or declarations for which Collision and Comprehensive Coverage apply, we will pay any unpaid amount due on the lease or loan for that covered "auto", less:

1. The amount paid under the PHYSICAL DAMAGE COVERAGE SECTION of the policy; and

2. Any:

   a. Overdue lease/loan payments at the time of the "loss";

   b. Financial penalties imposed under a lease for excessive use, abnormal wear and tear or high mileage;

   c. Security deposits not returned by the lessor;

   d. Costs for extended warranties, Credit Life Insurance, Health, Accident or Disability Insurance purchased with the loan or lease; and

   e. Carry-over balances from previous loans or leases.

This coverage is limited to a maximum of $1500 for each covered "auto".

XXII. LIMITED MEXICO COVERAGE

WARNING
AUTO ACCIDENTS IN MEXICO ARE SUBJECT TO THE LAWS OF MEXICO ONLY - **NOT** THE LAWS OF THE UNITED STATES OF AMERICA. THE REPUBLIC OF MEXICO CONSIDERS ANY AUTO ACCIDENT A **CRIMINAL OFFENSE** AS WELL AS A CIVIL MATTER.

IN SOME CASES THE COVERAGE PROVIDED UNDER **THIS ENDORSEMENT MAY NOT BE RECOGNIZED BY THE MEXICAN AUTHORITIES** AND WE MAY NOT BE ALLOWED TO IMPLEMENT THIS COVERAGE AT ALL IN MEXICO. YOU SHOULD CONSIDER PURCHASING AUTO COVERAGE FROM A LICENSED MEXICAN INSURANCE COMPANY BEFORE DRIVING INTO MEXICO.

THIS ENDORSEMENT DOES NOT APPLY TO ACCIDENTS OR LOSSES WHICH OCCUR BEYOND 25 MILES FROM THE BOUNDARY OF THE UNITED STATES OF AMERICA.

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A. Coverage

1. Paragraph B.7. of SECTION IV - BUSINESS AUTO CONDITIONS is amended by the addition of the following:

   The coverage territory is extended to include Mexico but only if all of the following criteria are met:

   a. The "accidents" or "loss" occurs within 25 miles of the United States border; and

   b. While on a trip into Mexico for 10 days or less.

2. For coverage provided by this section of the endorsement, Paragraph B.5. Other Insurance in SECTION IV - BUSINESS AUTO CONDITIONS is replaced by the following:

   The insurance provided by this endorsement will be excess over any other collectible insurance.

B. Physical Damage Coverage is amended by the addition of the following:

If a "loss" to a covered "auto" occurs in Mexico, we will pay for such "loss" in the United States. If the covered "auto" must be repaired in Mexico in order to be driven, we will not pay more than the actual cash value of such "loss" at the nearest United States point where the repairs can be made.

C. Additional Exclusions

The following additional exclusions are added:

This insurance does not apply:

1. If the covered "auto" is not principally garaged and principally used in the United States.

2. To any "insured" who is not a resident of the United States.

XXIII. WAIVER OF SUBROGATION

Paragraph A.5. in SECTION IV - BUSINESS AUTO CONDITIONS does not apply to any person or organization where the Named Insured has agreed, by written contract executed prior to the date of "accident", to waive rights of recovery against such person or organization.

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Policy Number AS6-Z91-471781-023
Issued by Liberty Insurance Corp.

Schedule

Premium

Liability $360
Physical Damage $240
Total Premium $600 FC

V. Fellow Employee
Schedule of Employees:
Not Applicable

XVIII. Drive Other Car	**LIAB**	**MP**	**UM**	**UIM**	**COMP**	**COLL**
Name of Individual						
Not Applicable						

XX. Notice of Cancellation or Nonrenewal

Name and Address	**Number of Days**
Not Applicable	

This endorsement applies in all states except:
AL, AR, AZ, CA, CO, CT, DC, DE, GA, ID, KS, KY, LA, MI, MN, MO, MT, NC, ND, NJ, NY, OK, PA, RI, SD, TX, UT, VA, VT, WA, WI, WV, WY

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BUSINESS AUTO COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations. The words "we", "us" and "our" refer to the company providing this insurance.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section **V** – Definitions.

SECTION I – COVERED AUTOS

Item Two of the Declarations shows the "autos" that are covered "autos" for each of your coverages. The following numerical symbols describe the "autos" that may be covered "autos". The symbols entered next to a coverage on the Declarations designate the only "autos" that are covered "autos".

A. Description Of Covered Auto Designation Symbols

Symbol	Description Of Covered Auto Designation Symbols	
1	Any "Auto"	
2	Owned "Autos" Only	Only those "autos" you own (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" you acquire ownership of after the policy begins.
3	Owned Private Passenger "Autos" Only	Only the private passenger "autos" you own. This includes those private passenger "autos" you acquire ownership of after the policy begins.
4	Owned "Autos" Other Than Private Passenger "Autos" Only	Only those "autos" you own that are not of the private passenger type (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" not of the private passenger type you acquire ownership of after the policy begins.
5	Owned "Autos" Subject To No-fault	Only those "autos" you own that are required to have no-fault benefits in the state where they are licensed or principally garaged. This includes those "autos" you acquire ownership of after the policy begins provided they are required to have no-fault benefits in the state where they are licensed or principally garaged.
6	Owned "Autos" Subject To A Compulsory Uninsured Motorists Law	Only those "autos" you own that because of the law in the state where they are licensed or principally garaged are required to have and cannot reject Uninsured Motorists Coverage. This includes those "autos" you acquire ownership of after the policy begins provided they are subject to the same state uninsured motorists requirement.
7	Specifically Described "Autos"	Only those "autos" described in Item Three of the Declarations for which a premium charge is shown (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to any power unit described in Item Three).
8	Hired "Autos" Only	Only those "autos" you lease, hire, rent or borrow. This does not include any "auto" you lease, hire, rent or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.
9	Non-owned "Autos" Only	Only those "autos" you do not own, lease, hire, rent or borrow that are used in connection with your business. This includes "autos" owned by your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households but only while used in your business or your personal affairs.

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19	Mobile Equipment Subject To Compulsory Or Financial Responsibility Or Other Motor Vehicle Insurance Law Only	Only those "autos" that are land vehicles and that would qualify under the definition of "mobile equipment" under this policy if they were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law where they are licensed or principally garaged.

B. Owned Autos You Acquire After The Policy Begins

1. If Symbols **1, 2, 3, 4, 5, 6** or **19** are entered next to a coverage in Item Two of the Declarations, then you have coverage for "autos" that you acquire of the type described for the remainder of the policy period.
2. But, if Symbol **7** is entered next to a coverage in Item Two of the Declarations, an "auto" you acquire will be a covered "auto" for that coverage only if:
   a. We already cover all "autos" that you own for that coverage or it replaces an "auto" you previously owned that had that coverage; and
   b. You tell us within 30 days after you acquire it that you want us to cover it for that coverage.

C. Certain Trailers, Mobile Equipment And Temporary Substitute Autos

If Covered Autos Liability Coverage is provided by this Coverage Form, the following types of vehicles are also covered "autos" for Covered Autos Liability Coverage:

1. "Trailers" with a load capacity of 2,000 pounds or less designed primarily for travel on public roads.
2. "Mobile equipment" while being carried or towed by a covered "auto".
3. Any "auto" you do not own while used with the permission of its owner as a temporary substitute for a covered "auto" you own that is out of service because of its:
   a. Breakdown;
   b. Repair;
   c. Servicing;
   d. "Loss"; or
   e. Destruction.

SECTION II - COVERED AUTOS LIABILITY COVERAGE

A. Coverage

We will pay all sums an "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of a covered "auto".

We will also pay all sums an "insured" legally must pay as a "covered pollution cost or expense" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of covered "autos". However, we will only pay for the "covered pollution cost or expense" if there is either "bodily injury" or "property damage" to which this insurance applies that is caused by the same "accident".

We have the right and duty to defend any "insured" against a "suit" asking for such damages or a "covered pollution cost or expense". However, we have no duty to defend any "insured" against a "suit" seeking damages for "bodily injury" or "property damage" or a "covered pollution cost or expense" to which this insurance does not apply. We may investigate and settle any claim or "suit" as we consider appropriate. Our duty to defend or settle ends when the Covered Autos Liability Coverage Limit of Insurance has been exhausted by payment of judgments or settlements.

1. Who Is An Insured

The following are "insureds":

a. You for any covered "auto".

b. Anyone else while using with your permission a covered "auto" you own, hire or borrow except:

   (1) The owner or anyone else from whom you hire or borrow a covered "auto".

   This exception does not apply if the covered "auto" is a "trailer" connected to a covered "auto" you own.

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(2) Your "employee" if the covered "auto" is owned by that "employee" or a member of his or her household.

(3) Someone using a covered "auto" while he or she is working in a business of selling, servicing, repairing, parking or storing "autos" unless that business is yours.

(4) Anyone other than your "employees", partners (if you are a partnership), members (if you are a limited liability company) or a lessee or borrower or any of their "employees", while moving property to or from a covered "auto".

(5) A partner (if you are a partnership) or a member (if you are a limited liability company) for a covered "auto" owned by him or her or a member of his or her household.

c. Anyone liable for the conduct of an "insured" described above but only to the extent of that liability.

2. **Coverage Extensions**

a. **Supplementary Payments**

We will pay for the "insured":

(1) All expenses we incur.

(2) Up to $2,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

(3) The cost of bonds to release attachments in any "suit" against the "insured" we defend, but only for bond amounts within our Limit of Insurance.

(4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $250 a day because of time off from work.

(5) All court costs taxed against the "insured" in any "suit" against the "insured" we defend. However, these payments do not include attorneys' fees or attorneys' expenses taxed against the "insured".

(6) All interest on the full amount of any judgment that accrues after entry of the judgment in any "suit" against the "insured" we defend, but our duty to pay interest ends when we have paid, offered to pay or deposited in court the part of the judgment that is within our Limit of Insurance.

These payments will not reduce the Limit of Insurance.

b. **Out-of-state Coverage Extensions**

While a covered "auto" is away from the state where it is licensed, we will:

(1) Increase the Limit of Insurance for Covered Autos Liability Coverage to meet the limits specified by a compulsory or financial responsibility law of the jurisdiction where the covered "auto" is being used. This extension does not apply to the limit or limits specified by any law governing motor carriers of passengers or property.

(2) Provide the minimum amounts and types of other coverages, such as no-fault, required of out-of-state vehicles by the jurisdiction where the covered "auto" is being used.

We will not pay anyone more than once for the same elements of loss because of these extensions.

B. Exclusions

This insurance does not apply to any of the following:

1. **Expected Or Intended Injury**

"Bodily injury" or "property damage" expected or intended from the standpoint of the "insured".

2. **Contractual**

Liability assumed under any contract or agreement.

But this exclusion does not apply to liability for damages:

a. Assumed in a contract or agreement that is an "insured contract", provided the "bodily injury" or "property damage" occurs subsequent to the execution of the contract or agreement; or

b. That the "insured" would have in the absence of the contract or agreement.

3. **Workers' Compensation**

Any obligation for which the "insured" or the "insured's" insurer may be held liable under any workers' compensation, disability benefits or unemployment compensation law or any similar law.

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4. **Employee Indemnification And Employer's Liability**

"Bodily injury" to:

a. An "employee" of the "insured" arising out of and in the course of:

(1) Employment by the "insured"; or

(2) Performing the duties related to the conduct of the "insured's" business; or

b. The spouse, child, parent, brother or sister of that "employee" as a consequence of Paragraph **a.** above.

This exclusion applies:

(1) Whether the "insured" may be liable as an employer or in any other capacity; and

(2) To any obligation to share damages with or repay someone else who must pay damages because of the injury.

But this exclusion does not apply to "bodily injury" to domestic "employees" not entitled to workers' compensation benefits or to liability assumed by the "insured" under an "insured contract". For the purposes of the Coverage Form, a domestic "employee" is a person engaged in household or domestic work performed principally in connection with a residence premises.

5. **Fellow Employee**

"Bodily injury" to:

a. Any fellow "employee" of the "insured" arising out of and in the course of the fellow "employee's" employment or while performing duties related to the conduct of your business; or

b. The spouse, child, parent, brother or sister of that fellow "employee" as a consequence of Paragraph **a.** above.

6. **Care, Custody Or Control**

"Property damage" to or "covered pollution cost or expense" involving property owned or transported by the "insured" or in the "insured's" care, custody or control. But this exclusion does not apply to liability assumed under a sidetrack agreement.

7. **Handling Of Property**

"Bodily injury" or "property damage" resulting from the handling of property:

a. Before it is moved from the place where it is accepted by the "insured" for movement into or onto the covered "auto"; or

b. After it is moved from the covered "auto" to the place where it is finally delivered by the "insured".

8. **Movement Of Property By Mechanical Device**

"Bodily injury" or "property damage" resulting from the movement of property by a mechanical device (other than a hand truck) unless the device is attached to the covered "auto".

9. **Operations**

"Bodily injury" or "property damage" arising out of the operation of:

a. Any equipment listed in Paragraphs **6.b.** and **6.c.** of the definition of "mobile equipment"; or

b. Machinery or equipment that is on, attached to or part of a land vehicle that would qualify under the definition of "mobile equipment" if it were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

10. **Completed Operations**

"Bodily injury" or "property damage" arising out of your work after that work has been completed or abandoned.

In this exclusion, your work means:

a. Work or operations performed by you or on your behalf; and

b. Materials, parts or equipment furnished in connection with such work or operations.

Your work includes warranties or representations made at any time with respect to the fitness, quality, durability or performance of any of the items included in Paragraph **a.** or **b.** above.

Your work will be deemed completed at the earliest of the following times:

(1) When all of the work called for in your contract has been completed;

(2) When all of the work to be done at the site has been completed if your contract calls for work at more than one site; or

(3) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

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Work that may need service, maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as completed.

11. Pollution

"Bodily injury" or "property damage" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

a. That are, or that are contained in any property that is:

(1) Being transported or towed by, handled or handled for movement into, onto or from the covered "auto";

(2) Otherwise in the course of transit by or on behalf of the "insured"; or

(3) Being stored, disposed of, treated or processed in or upon the covered "auto";

b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or

c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

Paragraph **a.** above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts if:

(1) The "pollutants" escape, seep, migrate or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and

(2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraphs **6.b.** and **6.c.** of the definition of "mobile equipment".

Paragraphs **b.** and **c.** above of this exclusion do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

(a) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and

(b) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

12. War

"Bodily injury" or "property damage" arising directly or indirectly out of:

a. War, including undeclared or civil war;

b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or

c. Insurrection, rebellion, revolution, usurped power or action taken by governmental authority in hindering or defending against any of these.

13. Racing

Covered "autos" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. This insurance also does not apply while that covered "auto" is being prepared for such a contest or activity.

C. Limit Of Insurance

Regardless of the number of covered "autos", "insureds", premiums paid, claims made or vehicles involved in the "accident", the most we will pay for the total of all damages and "covered pollution cost or expense" combined resulting from any one "accident" is the Limit Of Insurance for Covered Autos Liability Coverage shown in the Declarations.

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All "bodily injury", "property damage" and "covered pollution cost or expense" resulting from continuous or repeated exposure to substantially the same conditions will be considered as resulting from one "accident".

No one will be entitled to receive duplicate payments for the same elements of "loss" under this Coverage Form and any Medical Payments Coverage endorsement, Uninsured Motorists Coverage endorsement or Underinsured Motorists Coverage endorsement attached to this Coverage Part.

SECTION III - PHYSICAL DAMAGE COVERAGE

A. Coverage

1. We will pay for "loss" to a covered "auto" or its equipment under:

   a. **Comprehensive Coverage**

   From any cause except:

   (1) The covered "auto's" collision with another object; or

   (2) The covered "auto's" overturn.

   b. **Specified Causes Of Loss Coverage**

   Caused by:

   (1) Fire, lightning or explosion;

   (2) Theft;

   (3) Windstorm, hail or earthquake;

   (4) Flood;

   (5) Mischief or vandalism; or

   (6) The sinking, burning, collision or derailment of any conveyance transporting the covered "auto".

   c. **Collision Coverage**

   Caused by:

   (1) The covered "auto's" collision with another object; or

   (2) The covered "auto's" overturn.

2. **Towing**

   We will pay up to the limit shown in the Declarations for towing and labor costs incurred each time a covered "auto" of the private passenger type is disabled. However, the labor must be performed at the place of disablement.

3. **Glass Breakage - Hitting A Bird Or Animal - Falling Objects Or Missiles**

   If you carry Comprehensive Coverage for the damaged covered "auto", we will pay for the following under Comprehensive Coverage:

   a. Glass breakage;

   b. "Loss" caused by hitting a bird or animal; and

   c. "Loss" caused by falling objects or missiles.

   However, you have the option of having glass breakage caused by a covered "auto's" collision or overturn considered a "loss" under Collision Coverage.

4. **Coverage Extensions**

   a. **Transportation Expenses**

   We will pay up to $20 per day, to a maximum of $600, for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type. We will pay only for those covered "autos" for which you carry either Comprehensive or Specified Causes Of Loss Coverage. We will pay for temporary transportation expenses incurred during the period beginning 48 hours after the theft and ending, regardless of the policy's expiration, when the covered "auto" is returned to use or we pay for its "loss".

   b. **Loss Of Use Expenses**

   For Hired Auto Physical Damage, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a vehicle rented or hired without a driver under a written rental contract or agreement. We will pay for loss of use expenses if caused by:

   (1) Other than collision only if the Declarations indicates that Comprehensive Coverage is provided for any covered "auto";

   (2) Specified Causes Of Loss only if the Declarations indicates that Specified Causes Of Loss Coverage is provided for any covered "auto"; or

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(3) Collision only if the Declarations indicates that Collision Coverage is provided for any covered "auto".

However, the most we will pay for any expenses for loss of use is $20 per day, to a maximum of $600.

B. Exclusions

1. We will not pay for "loss" caused by or resulting from any of the following. Such "loss" is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the "loss".

   a. **Nuclear Hazard**

      (1) The explosion of any weapon employing atomic fission or fusion; or

      (2) Nuclear reaction or radiation, or radioactive contamination, however caused.

   b. **War Or Military Action**

      (1) War, including undeclared or civil war;

      (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or

      (3) Insurrection, rebellion, revolution, usurped power or action taken by governmental authority in hindering or defending against any of these.

2. We will not pay for "loss" to any covered "auto" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. We will also not pay for "loss" to any covered "auto" while that covered "auto" is being prepared for such a contest or activity.

3. We will not pay for "loss" due and confined to:

   a. Wear and tear, freezing, mechanical or electrical breakdown.

   b. Blowouts, punctures or other road damage to tires.

   This exclusion does not apply to such "loss" resulting from the total theft of a covered "auto".

4. We will not pay for "loss" to any of the following:

   a. Tapes, records, discs or other similar audio, visual or data electronic devices designed for use with audio, visual or data electronic equipment.

   b. Any device designed or used to detect speed-measuring equipment, such as radar or laser detectors, and any jamming apparatus intended to elude or disrupt speed-measuring equipment.

   c. Any electronic equipment, without regard to whether this equipment is permanently installed, that reproduces, receives or transmits audio, visual or data signals.

   d. Any accessories used with the electronic equipment described in Paragraph **c.** above.

5. Exclusions **4.c.** and **4.d.** do not apply to equipment designed to be operated solely by use of the power from the "auto's" electrical system that, at the time of "loss", is:

   a. Permanently installed in or upon the covered "auto";

   b. Removable from a housing unit which is permanently installed in or upon the covered "auto";

   c. An integral part of the same unit housing any electronic equipment described in Paragraphs **a.** and **b.** above; or

   d. Necessary for the normal operation of the covered "auto" or the monitoring of the covered "auto's" operating system.

6. We will not pay for "loss" to a covered "auto" due to "diminution in value".

C. Limits Of Insurance

1. The most we will pay for:

   a. "Loss" to any one covered "auto" is the lesser of:

      (1) The actual cash value of the damaged or stolen property as of the time of the "loss"; or

      (2) The cost of repairing or replacing the damaged or stolen property with other property of like kind and quality.

   b. All electronic equipment that reproduces, receives or transmits audio, visual or data signals in any one "loss" is $1,000, if, at the time of "loss", such electronic equipment is:

      (1) Permanently installed in or upon the covered "auto" in a housing, opening or other location that is not normally used by the "auto" manufacturer for the installation of such equipment;

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(2) Removable from a permanently installed housing unit as described in Paragraph **b.(1)** above; or

(3) An integral part of such equipment as described in Paragraphs **b.(1)** and **b.(2)** above.

2. An adjustment for depreciation and physical condition will be made in determining actual cash value in the event of a total "loss".

3. If a repair or replacement results in better than like kind or quality, we will not pay for the amount of the betterment.

D. Deductible

For each covered "auto", our obligation to pay for, repair, return or replace damaged or stolen property will be reduced by the applicable deductible shown in the Declarations. Any Comprehensive Coverage deductible shown in the Declarations does not apply to "loss" caused by fire or lightning.

SECTION IV - BUSINESS AUTO CONDITIONS

The following conditions apply in addition to the Common Policy Conditions:

A. Loss Conditions

1. Appraisal For Physical Damage Loss

If you and we disagree on the amount of "loss", either may demand an appraisal of the "loss". In this event, each party will select a competent appraiser. The two appraisers will select a competent and impartial umpire. The appraisers will state separately the actual cash value and amount of "loss". If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will be binding. Each party will:

a. Pay its chosen appraiser; and

b. Bear the other expenses of the appraisal and umpire equally.

If we submit to an appraisal, we will still retain our right to deny the claim.

2. Duties In The Event Of Accident, Claim, Suit Or Loss

We have no duty to provide coverage under this policy unless there has been full compliance with the following duties:

a. In the event of "accident", claim, "suit" or "loss", you must give us or our authorized representative prompt notice of the "accident" or "loss". Include:

(1) How, when and where the "accident" or "loss" occurred;

(2) The "insured's" name and address; and

(3) To the extent possible, the names and addresses of any injured persons and witnesses.

b. Additionally, you and any other involved "insured" must:

(1) Assume no obligation, make no payment or incur no expense without our consent, except at the "insured's" own cost.

(2) Immediately send us copies of any request, demand, order, notice, summons or legal paper received concerning the claim or "suit".

(3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit".

(4) Authorize us to obtain medical records or other pertinent information.

(5) Submit to examination, at our expense, by physicians of our choice, as often as we reasonably require.

c. If there is "loss" to a covered "auto" or its equipment, you must also do the following:

(1) Promptly notify the police if the covered "auto" or any of its equipment is stolen.

(2) Take all reasonable steps to protect the covered "auto" from further damage. Also keep a record of your expenses for consideration in the settlement of the claim.

(3) Permit us to inspect the covered "auto" and records proving the "loss" before its repair or disposition.

(4) Agree to examinations under oath at our request and give us a signed statement of your answers.

3. Legal Action Against Us

No one may bring a legal action against us under this Coverage Form until:

a. There has been full compliance with all the terms of this Coverage Form; and

b. Under Covered Autos Liability Coverage, we agree in writing that the "insured" has an obligation to pay or until the amount of that obligation has finally been determined by judgment after trial. No one has the right under this policy to bring us into an action to determine the "insured's" liability.

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4. **Loss Payment - Physical Damage Coverages**

   At our option, we may:

   a. Pay for, repair or replace damaged or stolen property;

   b. Return the stolen property, at our expense. We will pay for any damage that results to the "auto" from the theft; or

   c. Take all or any part of the damaged or stolen property at an agreed or appraised value.

   If we pay for the "loss", our payment will include the applicable sales tax for the damaged or stolen property.

5. **Transfer Of Rights Of Recovery Against Others To Us**

   If any person or organization to or for whom we make payment under this Coverage Form has rights to recover damages from another, those rights are transferred to us. That person or organization must do everything necessary to secure our rights and must do nothing after "accident" or "loss" to impair them.

B. General Conditions

1. **Bankruptcy**

   Bankruptcy or insolvency of the "insured" or the "insured's" estate will not relieve us of any obligations under this Coverage Form.

2. **Concealment, Misrepresentation Or Fraud**

   This Coverage Form is void in any case of fraud by you at any time as it relates to this Coverage Form. It is also void if you or any other "insured", at any time, intentionally conceals or misrepresents a material fact concerning:

   a. This Coverage Form;

   b. The covered "auto";

   c. Your interest in the covered "auto"; or

   d. A claim under this Coverage Form.

3. **Liberalization**

   If we revise this Coverage Form to provide more coverage without additional premium charge, your policy will automatically provide the additional coverage as of the day the revision is effective in your state.

4. **No Benefit To Bailee - Physical Damage Coverages**

   We will not recognize any assignment or grant any coverage for the benefit of any person or organization holding, storing or transporting property for a fee regardless of any other provision of this Coverage Form.

5. **Other Insurance**

   a. For any covered "auto" you own, this Coverage Form provides primary insurance. For any covered "auto" you don't own, the insurance provided by this Coverage Form is excess over any other collectible insurance. However, while a covered "auto" which is a "trailer" is connected to another vehicle, the Covered Autos Liability Coverage this Coverage Form provides for the "trailer" is:

      (1) Excess while it is connected to a motor vehicle you do not own; or

      (2) Primary while it is connected to a covered "auto" you own.

   b. For Hired Auto Physical Damage Coverage, any covered "auto" you lease, hire, rent or borrow is deemed to be a covered "auto" you own. However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

   c. Regardless of the provisions of Paragraph **a.** above, this Coverage Form's Covered Autos Liability Coverage is primary for any liability assumed under an "insured contract".

   d. When this Coverage Form and any other Coverage Form or policy covers on the same basis, either excess or primary, we will pay only our share. Our share is the proportion that the Limit of Insurance of our Coverage Form bears to the total of the limits of all the Coverage Forms and policies covering on the same basis.

6. **Premium Audit**

   a. The estimated premium for this Coverage Form is based on the exposures you told us you would have when this policy began. We will compute the final premium due when we determine your actual exposures. The estimated total premium will be credited against the final premium due and the first Named Insured will be billed for the balance, if any. The due date for the final premium or retrospective premium is the date shown as the due date on the bill. If the estimated total premium exceeds the final premium due, the first Named Insured will get a refund.

   b. If this policy is issued for more than one year, the premium for this Coverage Form will be computed annually based on our rates or premiums in effect at the beginning of each year of the policy.

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7. **Policy Period, Coverage Territory**

Under this Coverage Form, we cover "accidents" and "losses" occurring:

a. During the policy period shown in the Declarations; and

b. Within the coverage territory.

The coverage territory is:

(1) The United States of America;

(2) The territories and possessions of the United States of America;

(3) Puerto Rico;

(4) Canada; and

(5) Anywhere in the world if a covered "auto" of the private passenger type is leased, hired, rented or borrowed without a driver for a period of 30 days or less,

provided that the "insured's" responsibility to pay damages is determined in a "suit" on the merits, in the United States of America, the territories and possessions of the United States of America, Puerto Rico or Canada, or in a settlement we agree to.

We also cover "loss" to, or "accidents" involving, a covered "auto" while being transported between any of these places.

8. **Two Or More Coverage Forms Or Policies Issued By Us**

If this Coverage Form and any other Coverage Form or policy issued to you by us or any company affiliated with us applies to the same "accident", the aggregate maximum Limit of Insurance under all the Coverage Forms or policies shall not exceed the highest applicable Limit of Insurance under any one Coverage Form or policy. This condition does not apply to any Coverage Form or policy issued by us or an affiliated company specifically to apply as excess insurance over this Coverage Form.

SECTION V - DEFINITIONS

A. "Accident" includes continuous or repeated exposure to the same conditions resulting in "bodily injury" or "property damage".

B. "Auto" means:

1. A land motor vehicle, "trailer" or semitrailer designed for travel on public roads; or

2. Any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

However, "auto" does not include "mobile equipment".

C. "Bodily injury" means bodily injury, sickness or disease sustained by a person, including death resulting from any of these.

D. "Covered pollution cost or expense" means any cost or expense arising out of:

1. Any request, demand, order or statutory or regulatory requirement that any "insured" or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or

2. Any claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

"Covered pollution cost or expense" does not include any cost or expense arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

a. That are, or that are contained in any property that is:

(1) Being transported or towed by, handled or handled for movement into, onto or from the covered "auto";

(2) Otherwise in the course of transit by or on behalf of the "insured"; or

(3) Being stored, disposed of, treated or processed in or upon the covered "auto";

b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or

c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

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Paragraph **a.** above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts, if:

(1) The "pollutants" escape, seep, migrate or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and

(2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraph **6.b.** or **6.c.** of the definition of "mobile equipment".

Paragraphs **b.** and **c.** above do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

(a) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and

(b) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

E. "Diminution in value" means the actual or perceived loss in market value or resale value which results from a direct and accidental "loss".

F. "Employee" includes a "leased worker". "Employee" does not include a "temporary worker".

G. "Insured" means any person or organization qualifying as an insured in the Who Is An Insured provision of the applicable coverage. Except with respect to the Limit of Insurance, the coverage afforded applies separately to each insured who is seeking coverage or against whom a claim or "suit" is brought.

H. "Insured contract" means:

1. A lease of premises;

2. A sidetrack agreement;

3. Any easement or license agreement, except in connection with construction or demolition operations on or within 50 feet of a railroad;

4. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;

5. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another to pay for "bodily injury" or "property damage" to a third party or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement; or

6. That part of any contract or agreement entered into, as part of your business, pertaining to the rental or lease, by you or any of your "employees", of any "auto". However, such contract or agreement shall not be considered an "insured contract" to the extent that it obligates you or any of your "employees" to pay for "property damage" to any "auto" rented or leased by you or any of your "employees".

An "insured contract" does not include that part of any contract or agreement:

a. That indemnifies a railroad for "bodily injury" or "property damage" arising out of construction or demolition operations, within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel, underpass or crossing;

b. That pertains to the loan, lease or rental of an "auto" to you or any of your "employees", if the "auto" is loaned, leased or rented with a driver; or

c. That holds a person or organization engaged in the business of transporting property by "auto" for hire harmless for your use of a covered "auto" over a route or territory that person or organization is authorized to serve by public authority.

I. "Leased worker" means a person leased to you by a labor leasing firm under an agreement between you and the labor leasing firm to perform duties related to the conduct of your business. "Leased worker" does not include a "temporary worker".

J. "Loss" means direct and accidental loss or damage.

K. "Mobile equipment" means any of the following types of land vehicles, including any attached machinery or equipment:

1. Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;

2. Vehicles maintained for use solely on or next to premises you own or rent;

3. Vehicles that travel on crawler treads;

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4. Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:
   a. Power cranes, shovels, loaders, diggers or drills; or
   b. Road construction or resurfacing equipment such as graders, scrapers or rollers;
5. Vehicles not described in Paragraph **1., 2., 3.** or **4.** above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:
   a. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well-servicing equipment; or
   b. Cherry pickers and similar devices used to raise or lower workers; or
6. Vehicles not described in Paragraph **1., 2., 3.** or **4.** above maintained primarily for purposes other than the transportation of persons or cargo. However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":
   a. Equipment designed primarily for:
      (1) Snow removal;
      (2) Road maintenance, but not construction or resurfacing; or
      (3) Street cleaning;
   b. Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and
   c. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting or well-servicing equipment.

However, "mobile equipment" does not include land vehicles that are subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged. Land vehicles subject to a compulsory or financial responsibility law or other motor vehicle insurance law are considered "autos".

L. "Pollutants" means any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

M. "Property damage" means damage to or loss of use of tangible property.

N. "Suit" means a civil proceeding in which:

1. Damages because of "bodily injury" or "property damage"; or
2. A "covered pollution cost or expense";

to which this insurance applies, are alleged.

"Suit" includes:

a. An arbitration proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the "insured" must submit or does submit with our consent; or

b. Any other alternative dispute resolution proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the insured submits with our consent.

O. "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions.

P. "Trailer" includes semitrailer.

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WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Where required by contract or written agreement prior to loss and allowed by law.

In the state of Florida, the premium charge is 1% of the total manual premium, subject to a minimum premium of $250 per policy.

Issued by Employers Insurance Company of Wausau15555

For attachment to Policy No. WCC-Z91-471781-013 Effective Date 6/1/2023 Premium $

Issued to Southern Underground Industries Inc Endorsement No.

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PRIMARY AND NONCONTRIBUTORY – OTHER INSURANCE CONDITION

Named Insured Southern Underground Industries Inc			Endorsement Number
Policy Symbol CPW	Policy Number G71528406 005	Policy Period 06/01/2023 to 06/01/2024	Effective Date of Endorsement 06/01/2023
Issued By (Name of Insurance Company) Westchester Surplus Lines Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

THIS ENDORSEMENT MODIFIES INSURANCE PROVIDED UNDER THE FOLLOWING:

CONTRACTOR'S POLLUTION LIABILITY COVERAGE PART

The following is added to the **Other Insurance** Condition and supersedes any provision to the contrary:

Primary and Noncontributory Insurance

This policy is primary to, and will not seek contribution from, any other insurance available to an additional insured under this policy, provided that:

a. The additional insured is a named insured under such other insurance; and

b. The **named insured** has agreed in a written contract or agreement that this insurance would:

(1) act as primary insurance; and

(2) would not seek contribution from any other insurance available to the additional insured.

All other terms and conditions of this policy remain unchanged.

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ADDITIONAL INSURED ENDORSEMENT – ONGOING WORK OR OPERATIONS

Named Insured Southern Underground Industries Inc			Endorsement Number
Policy Symbol CPW	Policy Number G71528406 005	Policy Period 06/01/2023 to 06/01/2024	Effective Date of Endorsement 06/01/2023
Issued By (Name of Insurance Company) Westchester Surplus Lines Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

THIS ENDORSEMENT MODIFIES INSURANCE PROVIDED UNDER THE FOLLOWING:

CONTRACTORS POLLUTION LIABILITY COVERAGE PART

SCHEDULE:

Name of Person(s) or Organization(s): As required by written contract, prior to a loss to which this insurance applies.

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

A. SECTION II - WHO IS AN INSURED is amended to include as an additional insured the persons or organizations shown in the Schedule, but only with respect to liability for injury or damage, to which this insurance applies, caused in ,whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insureds.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following exclusion is added:

Exclusions

This insurance does not apply to injury or damage occurring after:

a. All work or operations, including materials, parts or equipment furnished in connection with such work or operations, on the project (other than service, maintenance or repairs) to be performed by you or on your behalf at the site of the covered operations has been completed; or

b. That portion of **your work** out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for the additional insured as a part of the same project.

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C. With respect to the insurance afforded to these additional insureds, the following is added to **SECTION III – LIMITS OF INSURANCE:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or

2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

All other terms and conditions of this policy remain unchanged.

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Westchester
A Chubb Company

ADDITIONAL INSURED ENDORSEMENT – PRODUCTS-COMPLETED OPERATIONS HAZARD

Named Insured Southern Underground Industries Inc			Endorsement Number
Policy Symbol CPW	Policy Number G71528406 005	Policy Period 06/01/2023 to 06/01/2024	Effective Date of Endorsement 06/01/2023
Issued By (Name of Insurance Company) Westchester Surplus Lines Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

THIS ENDORSEMENT MODIFIES INSURANCE PROVIDED UNDER THE FOLLOWING:

CONTRACTORS POLLUTION LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization(s): As required by written contract, prior to a loss to which this insurance applies.

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

A. SECTION II – WHO IS AN INSURED is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for injury or damage, to which this insurance applies, caused by or resulting from **your work** performed for that additional insured and included in the **products-completed operations hazard,** and only to the extent that such injury or damage is caused, in whole or in part, by your negligence or the negligence of those acting on your behalf.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and

2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **SECTION III - LIMITS OF INSURANCE:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or

2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

All other terms and conditions of this policy remain unchanged.

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Named Insured Southern Underground Industries Inc			Endorsement Number
Policy Symbol CPW	Policy Number G71528406 005	Policy Period 06/01/2023 to 06/01/2024	Effective Date of Endorsement 06/01/2023
Issued By (Name of Insurance Company) Westchester Surplus Lines Insurance Company			

Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
CONTRACTORS POLLUTION LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization: As required by written contract, prior to a loss to which this insurance applies.

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

The **TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US Condition** is amended by the addition of the following:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or **your work** done under a contract with that person or organization and included in the **products-completed operations hazard**. This waiver applies only to the person or organization shown in the Schedule above.

All other terms and conditions remain the same.

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Event # 154-9

Name: Annual Sewer Repair and Replacement

Description: The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, hereinafter referred to as the Contractor, to provide construction point repairs services for the City's Public Works Department, in accordance with the terms, conditions, and specifications contained in this Invitation To Bid (ITB).

This project is located City-wide, in the City of Fort Lauderdale. The work to be accomplished under this contract includes, but is not limited to, water and sewer construction, stormwater construction, and various restoration services.

Licensing Requirements: Contractor must possess a certified general contractor license OR a certified underground utility and excavation contractor license issued by the Florida Department of Business and Professional Regulation. Contractor must have proper licensing prior to submitting bid and must submit evidence of same with bid. Contractor must have a minimum of 5-years of experience working with annual sewer repair contracts. Contractor must have a minimal of (3) three active annual contracts within the last 5-years.

The initial contract term shall be Two (2) years. The City reserves the right to extend the contract for Two (2) additional One (1) year term.

NOTE: Payment on this contract will be made by Visa or MasterCard

Buyer: Turner, Paulette
Status: Pending Award
Event Type: IFB
Currency: USD

Sealed Bid: Yes
Respond To All Lines: Yes
Q & A Allowed: Yes
Number Of Amendments: 9
Display Bid Tabulation: Display When Event Closed For Bidding Or Canceled

Event Dates

Preview:
Q & A Open: 07/13/2023 02:00:00 PM
Open: 07/13/2023 02:00:00 PM
Q & A Close: 08/18/2023 05:00:00 PM
Close: 09/15/2023 02:00:00 PM
Dispute Close:

Questions

Question	Response Type	Attachment
Did you sign and attach all the required forms.	Yes No	Required Forms.pdf
Did you sign and attach the Questionnaire Form.	Yes No	Required Forms - Questionnaire Sheet.pdf

Event # 154-9: Annual Sewer Repair and Replacement

Attachments

Name	Description	Attachment
Bid Documents	Bid Documents	Event 154 Annual Sewer Repair and Replacement.pdf
Specifications	Specifications	01 Specifications Annual Point Repair.pdf
Sewer, Storm Drainage and Water Details	Sewer, Storm Drainage and Water Details	City Sewer, Storm Drainage and Water Details.pdf
Detailed Line Items	Detailed Line Items	Event 154 - Detailed Line Items.pdf
Addendum 1	Addendum 1 - Adds Line Stop Specifications	Addendum 1.pdf
Updated Line Items	Updated Line Items	Event 154 -Updated Detailed Line Item List.pdf
Addendum 2	Addendum 2 - Updated Bid Close Date	Addendum 2.pdf
Addendum 3	Addendum 3: to correct Line Items 21, 252, 261, 262 & 273.	Addendum 3.pdf

Contacts

Name	Email Address
Paulette Turner	PTurner@fortlauderdale.gov

Commodity Codes

Commodity Code	Description
670-52	Pipe Repair Clamps, Couplings, Leak Kits, etc.
910-63	Public Utilities: Water, Sewer and Gas Maintenance and Repai
913-81	Maintenance and Repair, Sewer and Storm Drain (Including Rem
934-62	Pipe and Pipe Fittings Maintenance and Repair

Line Details

Line 2: See ITB Specifications

Description: See ITB Specifications

Item: WELL POINT SYSTEM See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 3: See ITB Specifications

Description: See ITB Specifications

Item: WELL POINT SYSTEM - ADDITIONAL See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 4: See ITB Specifications

Description: See ITB Specifications

Item: BYPASS See ITB Specifications

Commodity 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Code:

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 5: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 8-INCH - 10-INCH (PVC See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 6: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 8-INCH - 10-INCH (PVC See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 7: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 8-INCH - 10-INCH (PVC See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 8: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 8-INCH - 10-INCH (PVC See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 9: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On No

Charges Allowed:

Line 10: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 11: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 12: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 13: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 12-INCH - 15-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 14: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 12-INCH - 15-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 15: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 12-INCH - 15-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 16: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 12-INCH - 15-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 17: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 18: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 19: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 20: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 21: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 18-INCH - 24-INCH (PV See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 22: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 18-INCH - 24-INCH (PV See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 23: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 18-INCH - 24-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 24: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 18-INCH - 24-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 25: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 26: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 27: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 28: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 29: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 30-INCH - 36-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 30: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 30-INCH - 36-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 31: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 30-INCH - 36-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 32: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 30-INCH - 36-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 33: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 34: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 35: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 36: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 37: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 42-INCH - 48-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 38: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 42-INCH - 48-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 39: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 42-INCH - 48-INCH (PV See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 40: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 42-INCH - 48-INCH (PV See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 41: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: LF
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 42: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 43: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 44: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 45: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 4-INCH - 6-INCH, 0 TO See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 46: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 4-INCH- 6-INCH, 5 TO See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 47: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 4-INCH- 6-INCH, 10 TO See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 48: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 49: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 50: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 51: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 8-INCH - 10-INCH, 0 T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 52: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 8-INCH - 10-INCH, 5 T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 53: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 8-INCH - 10-INCH, 10 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 54: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 55: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 56: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 57: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 12-INCH - 16-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 58: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 12-INCH - 16-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 59: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 12-INCH - 16-INCH, 10 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 60: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: LF
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 61: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 62: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 63: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 20-INCH - 24-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 64: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 20-INCH - 24-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 65: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 20-INCH - 24-INCH, 10 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 66: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (2 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 67: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (2 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 68: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (2 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 69: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 30-INCH - 36-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 70: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 30-INCH - 36-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 71: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 30-INCH - 36-INCH, 10 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 72: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 73: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 74: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 75: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 42-INCH - 48-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 76: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 42-INCH- 48-INCH, 5 T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 77: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE 42-INCH- 48-INCH, 10 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 78: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: LF
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 79: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: LF
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 80: See ITB Specifications

Description: See ITB Specifications

Item: SEWER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 81: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 4-INCH - 6-INCH, 0 TO See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 82: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 4-INCH - 6-INCH, 5 TO See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 83: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 84: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 85: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 8-INCH - 10-INCH, 0 T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 86: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 8-INCH - 10-INCH, 5 T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 87: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 88: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 89: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 12-INCH - 16-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 90: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 12-INCH - 16-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 91: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 92: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 93: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 20-INCH - 24-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 94: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 20-INCH - 24-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 95: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (2 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 96: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (2 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 97: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 30-INCH - 36-INCH, 0 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 98: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 30-INCH - 36-INCH, 5 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 99: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 100: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 101: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 4-INCH - 6-INCH, 0 TO See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 102: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 4-INCH - 6-INCH, 5 TO See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 103: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 104: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 105: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 8-INCH - 10-INCH, 0 T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 106: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 8-INCH - 10-INCH, 5 T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 107: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 108: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (8 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 109: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 12-INCH - 16-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 110: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 12-INCH - 16-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 111: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 112: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (1 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 113: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 20-INCH - 24-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 114: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 20-INCH - 24-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 115: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (2 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 116: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (2 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: LF
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 117: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 30-INCH - 36-INCH, 0 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 118: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 30-INCH - 36-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 119: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 120: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (3 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 121: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 42-INCH - 48-INCH, 0 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 122: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE 42-INCH - 48-INCH, 5 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 123: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 124: See ITB Specifications

Description: See ITB Specifications

Item: WATER PIPE ADDITIONAL FOOTAGE (4 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 125: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (5/8 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 126: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (5/8 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 127: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (3/4 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 128: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (3/4 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 129: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (1 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 130: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (1 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 131: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (1.5 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 132: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (1.5 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 133: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (2 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 134: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE SINGLE (2 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 135: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (5/8 - See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 136: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (5/8 - See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 137: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (3/4 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 138: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (3/4 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 139: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (1 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 140: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (1 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 141: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (1.5 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 142: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (1.5 - See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 143: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (2 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 144: See ITB Specifications

Description: See ITB Specifications

Item: WATER SERVICE LINE DOUBLE (2 - I See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 145: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (4 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 146: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (6 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 147: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (8 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 148: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (10 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 149: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (12 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 150: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (16 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 151: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (18 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 152: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (20 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 153: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (24 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 154: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (30 - INCH) See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: LF
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 155: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (36 - INCH) See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: LF
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 156: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (42 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 157: See ITB Specifications

Description: See ITB Specifications

Item: DIRECTIONAL BORINGS (48 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 158: See ITB Specifications

Description: See ITB Specifications

Item: PIPE LINER (6 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 159: See ITB Specifications

Description: See ITB Specifications

Item: PIPE LINER (8 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 160: See ITB Specifications

Description: See ITB Specifications

Item: PIPE LINER (10 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 161: See ITB Specifications

Description: See ITB Specifications

Item: PIPE LINER (12 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 162: See ITB Specifications

Description: See ITB Specifications

Item: PIPE LINER (14 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 163: See ITB Specifications

Description: See ITB Specifications

Item: PIPE LINER (16 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 164: See ITB Specifications

Description: See ITB Specifications

Item: PIPE LINER (18 - INCH) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 165: See ITB Specifications

Description: See ITB Specifications

Item: LATERAL See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 166: See ITB Specifications

Description: See ITB Specifications

Item: LATERAL ADDITIONAL FOOTAGE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 167: See ITB Specifications

Description: See ITB Specifications

Item: LATERAL ADDITIONAL See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 168: See ITB Specifications

Description: See ITB Specifications

Item: F&I 6-INCH CLEAN-OUT ON EXISTING See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 169: See ITB Specifications

Description: See ITB Specifications

Item: F&I 6-INCH CLEAN-OUT ON EXISTING See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 170: See ITB Specifications

Description: See ITB Specifications

Item: NEW MANHOLE - FROM 0 FEET TO 5 F See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 171: See ITB Specifications

Description: See ITB Specifications

Item: NEW MANHOLE - FROM 5 FEET TO 8 F See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 172: See ITB Specifications

Description: See ITB Specifications

Item: NEW MANHOLE - FROM 8 FEET TO 12 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 173: See ITB Specifications

Description: See ITB Specifications

Item: NEW MANHOLE - FROM 12 FEET TO 15 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 174: See ITB Specifications

Description: See ITB Specifications

Item: NEW MANHOLE - FROM 15 FEET TO 20 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 175: See ITB Specifications

Description: See ITB Specifications

Item: REMOVAL OF MANHOLE - FROM 0 FEET See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 176: See ITB Specifications

Description: See ITB Specifications

Item: REMOVAL OF MANHOLE - FROM 5 FEET See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 177: See ITB Specifications

Description: See ITB Specifications

Item: REMOVAL OF MANHOLE - FROM 8 FEET See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 178: See ITB Specifications

Description: See ITB Specifications

Item: REMOVAL OF MANHOLE - FROM 12 FEE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 179: See ITB Specifications

Description: See ITB Specifications

Item: REMOVAL OF MANHOLE - FROM 15 FEE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 180: See ITB Specifications

Description: See ITB Specifications

Item: SEWER MANHOLE REHABILITATION See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 181: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE 24-INCH MANHOLE RING AND See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 182: See ITB Specifications

Description: See ITB Specifications

Item: CORING See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 183: See ITB Specifications

Description: See ITB Specifications

Item: 24-IN X 24-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 184: See ITB Specifications

Description: See ITB Specifications

Item: 24-IN X 30-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 185: See ITB Specifications

Description: See ITB Specifications

Item: 24-IN X 36-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 186: See ITB Specifications

Description: See ITB Specifications

Item: 30-IN X 30-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 187: See ITB Specifications

Description: See ITB Specifications

Item: 30-IN X 36-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 188: See ITB Specifications

Description: See ITB Specifications

Item: 30-IN X 48-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 189: See ITB Specifications

Description: See ITB Specifications

Item: 36-IN X 36-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 190: See ITB Specifications

Description: See ITB Specifications

Item: 36-IN X 48-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 191: See ITB Specifications

Description: See ITB Specifications

Item: 42-IN X 42-IN - HEAVY DUTY (H-20 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 192: See ITB Specifications

Description: See ITB Specifications

Item: 42-IN X 48-IN - HEAVY DUTY (H-20 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 193: See ITB Specifications

Description: See ITB Specifications

Item: 48-IN X 48-IN - HEAVY DUTY (H-20 See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 194: See ITB Specifications

Description: See ITB Specifications

Item: DUCTILE IRON PIPE FITTINGS See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 195: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER GATE VALVES, 4-INC See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 196: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER GATE VALVES, 10-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 197: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER GATE VALVES, 16-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 198: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER GATE VALVES, 20-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 199: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER GATE VALVES, 30-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 200: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER GATE VALVES, 42-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 201: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER BUTTERFLY VALVES, See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 202: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER BUTTERFLY VALVES, See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 203: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER BUTTERFLY VALVES, See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 204: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER BUTTERFLY VALVES, See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 205: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE WATER BUTTERFLY VALVES, See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 206: See ITB Specifications

Description: See ITB Specifications

Item: AIR RELEASE VALVES - WATER (INST See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 207: See ITB Specifications

Description: See ITB Specifications

Item: AIR RELEASE VALVES - WATER (INST See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 208: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE SEWER PLUG VALVES, 4-INC See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 209: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE SEWER PLUG VALVES, 10-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 210: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE SEWER PLUG VALVES, 16-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 211: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE SEWER PLUG VALVES, 20-IN See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 212: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE SEWER PLUG VALVES, 30-IN See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 213: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE SEWER PLUG VALVES, 42-IN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 214: See ITB Specifications

Description: See ITB Specifications

Item: AIR RELEASE VALVES - WASTEWATER See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 215: See ITB Specifications

Description: See ITB Specifications

Item: AIR RELEASE VALVES - WASTEWATER See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 216: See ITB Specifications

Description: See ITB Specifications

Item: 6-INCH: 6 X 6 TAPPING VALVES AND See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 217: See ITB Specifications

Description: See ITB Specifications

Item: 6-INCH: 6 X 4 TAPPING VALVES AND See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 218: See ITB Specifications

Description: See ITB Specifications

Item: 8-INCH: 8 X 8 TAPPING VALVES AND See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 219: See ITB Specifications

Description: See ITB Specifications

Item: 8-INCH: 8 X 6 TAPPING VALVES AND See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 220: See ITB Specifications

Description: See ITB Specifications

Item: 8-INCH: 8 X 4 TAPPING VALVES AND See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 221: See ITB Specifications

Description: See ITB Specifications

Item: 10-INCH: 10 X 10 TAPPING VALVES See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 222: See ITB Specifications

Description: See ITB Specifications

Item: 10-INCH: 10 X 8 TAPPING VALVES A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 223: See ITB Specifications

Description: See ITB Specifications

Item: 10-INCH: 10 X 6 TAPPING VALVES A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 224: See ITB Specifications

Description: See ITB Specifications

Item: 10-INCH: 10 X 4 TAPPING VALVES A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 225: See ITB Specifications

Description: See ITB Specifications

Item: 12-INCH: 12 X 12 TAPPING VALVES See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 226: See ITB Specifications

Description: See ITB Specifications

Item: 12-INCH: 12 X 10 TAPPING VALVES See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 227: See ITB Specifications

Description: See ITB Specifications

Item: 12-INCH: 12 X 8 TAPPING VALVES A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 228: See ITB Specifications

Description: See ITB Specifications

Item: 12-INCH: 12 X 6 TAPPING VALVES A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 229: See ITB Specifications

Description: See ITB Specifications

Item: 12-INCH: 12 X 4 TAPPING VALVES A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 230: See ITB Specifications

Description: See ITB Specifications

Item: INSTALLATION OF NEW HYDRANT See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 231: See ITB Specifications

Description: See ITB Specifications

Item: REPLACEMENT OF EXISTING HYDRANT See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 232: See ITB Specifications

Description: See ITB Specifications

Item: RELOCATION OF EXISTING HYDRANT See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 233: See ITB Specifications

Description: See ITB Specifications

Item: RELOCATION OF EXISTING HYDRANT A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 234: See ITB Specifications

Description: See ITB Specifications

Item: INSTALLATION OF BACTERIOLOGICAL See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 235: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 4-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 236: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 6-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 237: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 8-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 238: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 10-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 239: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 12-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 240: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 14-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 241: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 16-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 242: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 18-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 243: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 20-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 244: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 24-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 245: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 30-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 246: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 36-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 247: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 42-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 248: See ITB Specifications

Description: See ITB Specifications

Item: LINE STOP 48-INCH See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 249: See ITB Specifications

Description: See ITB Specifications

Item: DITCH BOTTOM TYPE C (INDEX 232) See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 250: See ITB Specifications

Description: See ITB Specifications

Item: DITCH BOTTOM TYPE D (INDEX 232) See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 251: See ITB Specifications

Description: See ITB Specifications

Item: STORM MANHOLE TYPE M-4 (48 INCHE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 252: See ITB Specifications

Description: See ITB Specifications

Item: STORM MANHOLE TYPE M-5 (60 INCHE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 253: See ITB Specifications

Description: See ITB Specifications

Item: 18 INCHES ADS DRAIN BASIN OR APP See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 254: See ITB Specifications

Description: See ITB Specifications

Item: 24 INCHES ADS DRAIN BASIN OR APP See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 255: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT RCP MATERIAL ONLY R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 256: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT OPTIONAL MATERIAL R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 257: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT RCP MATERIAL ONLY R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 258: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT OPTIONAL MATERIAL R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 259: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT RCP MATERIAL ONLY R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 260: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT OPTIONAL MATERIAL R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 261: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT RCP MATERIAL ONLY R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 262: See ITB Specifications

Description: See ITB Specifications

Item: PIPE CULVERT OPTIONAL MATERIAL R See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 263: See ITB Specifications

Description: See ITB Specifications

Item: DEMUCKING See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** CY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 264: See ITB Specifications

Description: See ITB Specifications

Item: LIMEROCK BASE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 265: See ITB Specifications

Description: See ITB Specifications

Item: ASPHALTIC CONCRETE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 266: See ITB Specifications

Description: See ITB Specifications

Item: MILLING AND PAVING See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 267: See ITB Specifications

Description: See ITB Specifications

Item: MOT RESIDENTIAL ROADS See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 268: See ITB Specifications

Description: See ITB Specifications

Item: MOT STATE OR COUNTY ROADS See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: EA
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 269: See ITB Specifications

Description: See ITB Specifications

Item: TEMPORARY ASPHALT See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: SY
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 270: See ITB Specifications

Description: See ITB Specifications

Item: SOD - ST. AUGUSTINE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 271: See ITB Specifications

Description: See ITB Specifications

Item: SOD - ARGENTINE BAHIA See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 272: See ITB Specifications

Description: See ITB Specifications

Item: SHEET PILING See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 273: See ITB Specifications

Description: See ITB Specifications

Item: FLOWABLE FILL See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** CY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 274: See ITB Specifications

Description: See ITB Specifications

Item: STEEL PLATES See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 275: See ITB Specifications

Description: See ITB Specifications

Item: CONCRETE SIDEWALK REPLACEMENT See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 276: See ITB Specifications

Description: See ITB Specifications

Item: CONCRETE CURB AND GUTTER REPLACE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** LF

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 277: See ITB Specifications

Description: See ITB Specifications

Item: ASPHALT DRIVEWAY REPLACEMENT See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 278: See ITB Specifications

Description: See ITB Specifications

Item: CONCRETE DRIVEWAY REPLACEMENT See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 279: See ITB Specifications

Description: See ITB Specifications

Item: PAVERS DRIVEWAY REPLACEMENT See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 280: See ITB Specifications

Description: See ITB Specifications

Item: BRICK ROADWAYS OR CROSSWALK REPL See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 281: See ITB Specifications

Description: See ITB Specifications

Item: REPLACE CONCRETE SLABS AND/OR AP See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** SY

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 282: See ITB Specifications

Description: See ITB Specifications

Item: TESTING LABORATORY - DENSITIES See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 283: See ITB Specifications

Description: See ITB Specifications

Item: TESTING LABORATORY - CONCRETE TE See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** EA

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 284: See ITB Specifications

Description: See ITB Specifications

Item: LABOR - FOREMAN See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 285: See ITB Specifications

Description: See ITB Specifications

Item: LABOR - PIPE LAYER (LEAD) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 286: See ITB Specifications

Description: See ITB Specifications

Item: LABOR - PIPE LAYER (TAIL) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 287: See ITB Specifications

Description: See ITB Specifications

Item: LABOR - LABORER See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: HR
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 288: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - EXCAVATOR (HEAVY DUT See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: HR
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 289: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - EXCAVATOR (MEDIUM DU See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 290: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - EXCAVATOR (SMALL) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 291: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - LOADER (HEAVY DUTY) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 292: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - LOADER (MEDIUM DUTY) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 293: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - LOADER (SMALL) See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 294: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - COMBINATION BACKHOE/ See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 295: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - VIBRATORY COMPACTOR See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 296: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - ASPHALT ROLLER See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 297: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - VIBRATORY PLATE COMP See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 298: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - ROAD GRADER See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 299: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - LOW BOY 50-T See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 300: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - FLATBED TRUCK See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 301: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - WATERING TRUCK See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 302: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - PUMP TRUCK See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 303: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - VACUUM TANK TRUCK See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 304: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - CCTV TRUCK See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 305: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - PAVER See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 306: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - TRENCH BOX, 6FT.X16F See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: HR
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 307: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - TRENCH BOX, 8FT.X20F See ITB Specifications
Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai
Quantity: 1.0000
Unit of Measure: HR
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 308: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - TRENCH BOX, 8FT.X24F See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 309: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - SEDIMENT BOX, 7,000 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 310: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - SEDIMENT BOX, 9,000 See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 311: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - PUMP, 8-INCH. See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 312: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - PUMP, 6-INCH. See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 313: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - PUMP, 4-INCH. See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 314: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - PUMP, 3-INCH. See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 315: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - PUMP, 2-INCH. See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 316: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - DUMP TRUCK, SINGLE A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 317: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - DUMP TRUCK, DOUBLE A See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 318: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - CUT OFF SAW See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 319: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - HYDRAULIC CONCRETE C See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 320: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - SMALL TOOLS See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 321: See ITB Specifications

Description: See ITB Specifications

Item: EQUIPMENT - TURBIDITY SCREEN/BAR See ITB Specifications

Commodity Code: 910-63 Public Utilities: Water, Sewer and Gas Maintenance and Repai

Quantity: 1.0000 **Unit of Measure:** HR

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

CITY OF FORT LAUDERDALE
CONTRACT AND SPECIFICATIONS PACKAGE

BID NO. 154

PROJECT NO. 12849

Annual Sewer Repair and Replacement

PAULETTE HEMMINGS TURNER
SENIOR PROCUREMENT SPECIALIST

Telephone: (954) 828-5139 E-mail: PTurner@fortlauderdale.gov

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City of Fort Lauderdale Details

City Sewer Detail Standard

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Note: The following documents are available electronically for completion and must be returned with your bid along with your bid security, proof of insurance, and proof of required licenses/certifications.

CITB Prime Contractor ID
CITB Questionnaire Sheets
CITB Trench Safety
CITB Non-Collusion Statement
Non-Discrimination Certification
Contract Payment Method
CITB Construction Bid Certification

INVITATION TO BID

Sealed bids will be received electronically until **2:00 p.m.**, local time, on **August 15, 2023,** and opened online immediately thereafter, for **BID NO., 115, PROJECT NO. 12849, ANNUAL SEWER REPAIR AND REPLACEMENT.**

All openings will be held on the City's online strategic sourcing platform. Once the Procurement Specialist opens the solicitation, the bid tabulations may be viewed immediately on a computer, laptop, cell phone, or any other device with Wi-Fi access. In the event of any conflict or discrepancy between bid price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

Anyone requesting assistance or having further inquiry in this matter must contact the Procurement Specialist indicated in the solicitation, via the Question and Answer (Q&A) forum on the City's online strategic sourcing platform before the Last Day for Questions indicated in the Solicitation.

This project is located City-wide, in the City of Fort Lauderdale. The work to be accomplished under this contract includes, but is not limited to, water and sewer construction, stormwater construction, and various restoration services.

Drawing Plans: N/A.

Licensing Requirements: Contractor must possess a certified general contractor license OR a certified underground utility and excavation contractor license issued by the Florida Department of Business and Professional Regulation. Contractor must have proper licensing prior to submitting bid and must submit evidence of same with bid. Contractor must have a minimum of 5-years of experience working with annual sewer repair contracts. **Contractor must have a minimal of (3) three active annual contracts within the last 5-years.**

NOTE: Payment on this contract will be made by Visa or MasterCard

It will be the sole responsibility of the bidder to inspect the City's location(s)/facilities and become familiar with the scope of the City's requirements and systems prior to submitting a bid. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the proposer has familiarized himself with the nature and extent of the work, equipment, materials, and labor required.

Pre-Bid Meeting/Site visit: There will not be a pre-bid meeting and/or site visit for this Invitation to Bid.

However, it will be the sole responsibility of the bidder to inspect the City's location(s)/facilities and become familiar with the scope of the City's requirements and systems prior to submitting a bid. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the bidder has familiarized himself with the nature and extent of the work, equipment, materials, and labor required.

Bid Security: A certified check, cashier's check, bank officer's check or bid bond for **FIVE percent (5%)** of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each offer.

Bid Bonds:

Bidders can submit bid bonds **three** different ways.

1) Bidders may submit bid bonds **electronically** directly through ~~t~~ the City's online strategic sourcing platform using **Surety 2000**.

2) Bidders may **upload** their original executed bid bond on the City's online strategic sourcing platform to accompany their electronic bids and mail the original, signed and sealed hard copy to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Fort Lauderdale, Florida 33301-1016, **within five (5) business days** after bid opening, with the company name, bid number and title clearly indicated on the envelope.

3) Bidders can **mail** their bid bond to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Fort Lauderdale, Florida 33301-1016, **before time of bid opening**, with the company name, bid number and title clearly indicated on the envelope. NOTE: Bond must be received in Procurement and time stamped before bid opening.

It will be the sole responsibility of the bidder to ensure that - its bid is submitted prior to the bid opening date and time listed. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA THE CITY'S ONLINE STRATEGIC SOURCING PLATFORM.**

Certified Checks, Cashier's Checks and Bank Drafts:
These **CANNOT** be submitted via the City's online strategic souring platform, nor are their images allowed to be uploaded and submitted with your electronic bid. These forms of securities, as well as hard copy bid bonds, must be received on or before the Invitation to Bid (ITB) opening date and time, at the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, with the bid number and title clearly indicated on the envelope.

It is the bidder's sole responsibility to ensure that its bid bond or other bid security is received by the Procurement Services Division before time of bid opening. Failure to adhere to this requirement may be grounds to consider the bid as non-responsive.

The City of Fort Lauderdale reserves the right to waive any informality in any or all bids and to reject any or all bids.

For information concerning technical specifications, please utilize the Q&A platform provided on the City's online strategic sourcing platform. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures, will only be transmitted by written addendum. **Bidders please note:** No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the bidder has familiarized himself with the nature and extent of the work, equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation.

Information on bid results and projects currently out to bid can be obtained on the City's website – https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services
For general inquiries, please call (954) 828-5933.

INSTRUCTIONS TO BIDDERS

The following instructions are given for the purpose of guiding bidders in properly preparing their bids or proposals. These directions have equal force and weight with the specifications, and strict compliance is required with all of these provisions.

QUALIFICATIONS OF BIDDERS – No bid will be accepted from, nor will any contract be awarded to, any person who is in arrears to the City of Fort Lauderdale, upon any debt or contract, or who has defaulted, as surety or otherwise, upon any obligation to the City, or who is deemed irresponsible or unreliable by the City Commission of Fort Lauderdale.

CONCERNING SUB-CONTRACTORS, SUPPLIERS, AND OTHERS - The amount of work that is sublet by the Bidder shall be limited by the condition that the Bidder shall, with his own organization, perform at least forty percent (40%) of the total dollar amount of the Work to be performed under the Agreement.

PERSONAL INVESTIGATION - Bidders shall satisfy themselves by personal investigation, and by such other means as they may think necessary or desirable, as to the conditions affecting the proposed work and the cost. No information derived from maps, plans, specifications, or from the Engineer, or City staff, shall relieve the Contractor from any risk or from fulfilling all terms of the contract.

INCONSISTENCIES – Any inconsistency between different provisions of the plans, specifications, bid or contract, or any point requiring explanation must be inquired by the bidder, in writing, at least ten (10) days prior to the time set for opening bids. After bids are opened, the bidders shall abide by the decision of the Engineer as to such interpretation.

ADDENDA AND INTERPRETATIONS - No interpretations of the meaning of the plans, specifications or other contract documents will be made orally to any bidder. Prospective bidders must request such interpretation in writing as instructed in the bid package. To be considered, such request must be received by the Questions and Answers deadline as indicated in the City's online strategic sourcing platform. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. **It is the bidder's responsibility to verify if addenda have been issued in** the City's online strategic sourcing platform. Failure of any bidder to receive any such addenda or interpretation shall not relieve any bidder from any obligation under his bid as submitted. All addenda so issued shall become a part of the contract document. **Bidder** shall verify in the City's online strategic sourcing platform that it has all addenda before submitting a bid.

LEGAL CONDITIONS - Bidders are notified to familiarize themselves with the provisions of the laws of the State of Florida relating to hours of labor on municipal work, and with the provisions of the laws of the State of Florida and the Charter and the ordinances of the City of Fort Lauderdale.

PUBLIC ENTITY CRIMES - A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for Category Two for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.

FORMS OF BIDS - Each bid and its accompanying statements MUST BE SUBMITTED ELECTRONICALLY, IN GOOD ORDER WITH ALL BLANKS COMPLETED, and must show the name of the bidder and a statement as to its contents. In the event of any conflict or discrepancy between bid

price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

The bid must be signed by one duly authorized to do so, and in case signed by a deputy or subordinate, the principal's properly written authority to such deputy or subordinate must accompany the bid. No bid will be accepted, for any reason whatsoever, which is not submitted to the City as stated above, within the specified time.

INSURANCE - Contractor shall provide and shall require all of its sub-contractors to provide, pay for, and maintain in force at all times during the term of the Agreement, such insurance, including Property Insurance (Builder's Risk), Commercial General Liability Insurance, Business Automobile Liability Insurance, Workers' Compensation Insurance, Employer's Liability Insurance, and Umbrella/Excess Liability, as stated below. Such policy or policies shall be issued by companies authorized to do business in the State of Florida and having agents upon whom service of process may be made in the State of Florida.

BID BOND - A certified check, cashier's check or bank officer's check made payable to the City of Fort Lauderdale, or a bid bond in favor of the City of Fort Lauderdale shall accompany each bid as evidence of the good faith and responsibility of the bidder. The amount of the check or bond shall be retained by the City as liquidated damages in the event the bidder whose bid is accepted refuses to or fails to enter into a contract for the execution of the work solicited in this Invitation to Bid.

The bid bond or check shall be a guarantee that the successful bidder will promptly execute a contract satisfactory to the City for the work solicited in this Invitation to Bid and furnish good and sufficient bonds.

Following the full execution of a contract for the work solicited in this Invitation to Bid and the successful bidder's provision of good and sufficient bonds, in the event bid security was provided by check, the amount of the bid security accompanying the successful bidder's bid will be refunded to the successful bidder, or in the event bid security was provided by a bond, the bond accompanying the successful bidder's bid will be returned to the successful bidder. In the event the successful bidder fails to enter into, execute, and deliver a contract and furnish the required bonds within ten (10) days after the City provides notice to the successful bidder to deliver the executed contract and the required bonds, the bid bond shall immediately be payable to the City of Fort Lauderdale, or in the case of a check, the City shall retain the amount of the check, as liquidated damages. The City's retention of such amount shall not be construed as a penalty or forfeiture.

FILLING IN BIDS - All prices must be electronically submitted in the bid pages, and bids must fully cover all items for which prices are asked and no other. Where more than one person is interested, it is required that all persons interested or their legal representative make all verification and subscribe to the bid. In the event of any conflict or discrepancy between bid price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

PRICES QUOTED: Deduct any discount offered and quote firm net unit prices. In the case of a discrepancy in computing the amount of the bid, the unit price quoted will govern. All prices quoted shall be F.O.B. destination, freight prepaid (Bidder pays and bears freight charges, Bidder owns goods in

transit and files any claims), unless otherwise stated in Special Conditions. Each item must be bid separately. No attempt shall be made to tie any item or items contained in the ITB with any other business with the City.

BIDS FIRM FOR ACCEPTANCE: Bidder warrants, by virtue of bidding, that his bid and the prices quoted in his bid will be firm for acceptance by the City for a period of one hundred and twenty (120) days from the date of bid opening unless otherwise stated in the ITB. The City shall award contract within this time period or shall request to the recommended awarded vendor an extension to hold pricing, until products/services have been awarded.

ADDITIONAL ITEMS OR SERVICES: The City may require additional items or services of a similar nature, but not specifically listed in the contract. The Contractor agrees to provide such items or services, and shall provide the City prices on such additional items or services. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to procure those items or services from other vendors, or to cancel the contract upon giving the Contractor thirty (30) days written notice.

DELETION OR MODIFICATION OF SERVICES: The City reserves the right to delete any portion of the Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the Contractor shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion.

If the Contractor and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Contractor will submit a revised cost to the City for approval prior to proceeding with the work.

TERMINATION FOR UNAPPROPRIATED FUNDS**:** The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

CAUSES FOR REJECTION - No bid will be canvassed, considered or accepted which, in the opinion of the City is informal or unbalanced, or contains inadequate or unreasonable prices for any items. Each item must carry its own proportion of the cost as nearly as is practicable. Any alteration, erasure, interlineation, or failure to specify bids for all items called for in the schedule shall render the bid informal.

REJECTION OF BIDS - The City reserves the right to reject any bid if the evidence submitted by the bidder, or if the investigation of such bidder, fails to satisfy the City that such bidder is properly qualified to carry out the obligations and to complete the work contemplated. Any or all bids will be rejected, if there is reason to believe that collusion exists among bidders. A bid will be considered irregular and may be rejected, if it shows serious omissions, alterations in form, additions not called for, conditions or unauthorized alternates, or irregularities of any kind. The City reserves the right to reject any or all bids and to waive such technical errors as may be deemed best for the interests of the City.

BID PROTEST PROCEDURE: Any bidder who is not recommended for award of a contract and who alleges a failure by the City to follow the City's procurement ordinance or any applicable law may protest to the Procurement Division – Deputy Director of Finance, by delivering a letter of protest within five (5) days after a Notice of Intent to award is posted on the City's website at the following link: https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services/notices-of-intent-to-award

The complete protest ordinance may be found on the City's website at the following link: https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-182DIREPRAWINAW

WITHDRAWALS - Any bidder may, without prejudice to himself, withdraw its bid at any time prior to the expiration of the time during which bids may be submitted. Such request for withdrawal must be in writing and signed in the same manner and by the same person who signed the bid. After expiration of the period for receiving bids, no bid can be withdrawn, modified, or explained.

CONTRACT - The bidder to whom award is made shall execute a written contract to do the work and maintain the same in good repair until final acceptance by the proper authorities, and shall furnish good and sufficient bonds as specified within ten (10) days after receiving such contract for execution. If the bidder to whom the first award is made fails to enter into a contract as provided, the award may be annulled and the contract let to the next lowest bidder who is responsive and responsible, and that bidder shall fulfill every stipulation and obligation as if such bidder were the original party to whom award was made.

The contract shall provide that the Contractor agrees to correct any defective or faulty work or material, which may appear within one (1) year after completion of the work and receipt of final payment.

ENFORCEMENT OF SPECIFICATIONS - Copies of the specifications will be placed in the hands of all the assistants to the Engineer and Inspectors employed on the Work, who shall enforce each and every requirement of the contract. Such assistants shall have no authority to vary from such requirements.

DRAWING PLANS - Drawing plans may be obtained **free of charge** from the City's online strategic sourcing platform.

SURETY BOND – The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2022), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

The successful bidder shall furnish a performance and payment bond in compliance with Section 255.05, Florida Statutes (2022), written by a Corporate Surety company, holding a Certificate of Authority from the Secretary of the Treasury of the United States as acceptable sureties on federal bonds, in an amount equal to the total amount payable by the terms of the contract, executed and issued by a Resident Agent licensed by and having an office in the State of Florida, representing such Corporate Surety, conditioned for the due and faithful performance of the work, and providing in addition to all other conditions, that if the Contractor, or his or its subcontractors, fail to duly pay for any labor, materials, or other supplies used or consumed by such Contractor, or his or its subcontractor or subcontractors, in performance of the work contracted to be done, the Surety will pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the rate of fifteen percent (15%) per annum, and that they shall indemnify and hold harmless the City of Fort Lauderdale to the extent of any and all payments in connection with carrying out of the contract, which the City may be required to make under the law.

The Contractor is required at all times to have a valid surety bond in force covering the work being performed. A failure to have such bond in force at any time shall constitute a default on the part of the Contractor. A bond written by a surety, which becomes disqualified to do business in the State of Florida, shall automatically constitute a failure on the part of the Contractor to meet the above requirements.

Such bond shall continue in effect for one (1) year after completion and acceptance of the work with liability equal to at least twenty-five percent (25%) of contract price, or an additional bond shall be conditioned that the Contractor will correct any defective or faulty work or material which appear within one (1) year after completion of the contract, upon notification by the City, except in contracts which are concerned solely with demolition work, in which cases twenty-five percent (25%) liability will not be applicable.

AUDIT OF CONTRACTOR'S RECORDS - Upon execution of the Contract, the City reserves the right to conduct any necessary audit of the Contractor's records. Such an audit, or audits, may be conducted by the City or its representatives at any time prior to final payment, or thereafter, for a period up to three (3) years. The City may also require submittal of the records from either the Contractor, the Subcontractor, or both. For the purpose of this Section, records shall include all books of account, supporting documents and papers deemed necessary by the City to assure compliance with the contract provisions.

Failure of the Contractor or Subcontractor to comply with these requirements may result in disqualification or suspension from bidding for future contracts or disapproval as a Subcontractor at the option of the City.

The Contractor shall assure that each of its Subcontractors will provide access to its records pertaining to the project upon request by the City.

PERIODIC ESTIMATE FOR PARTIAL PAYMENT - After the Contractor has submitted a periodic estimate for partial payment, approved and certified by the Public Works Department, the City shall make payment in the manner provided in the Contract Documents and in accordance with Florida's Prompt Payment Act, Section 218, Florida Statutes (2022).

RESERVATION FOR AWARD AND REJECTION OF BIDS - The City reserves the right to accept or reject any or all bids, part of bids, and to waive minor irregularities or variations to specifications contained in bids, and minor irregularities in the bidding process. The City also reserves the right to award the contract on a split order basis, lump sum basis, individual item basis, or such combination as shall best serve the interest of the City. The City reserves the right to make an award to the responsive and responsible bidder whose product or service meets the terms, conditions, and specifications of the ITB and whose bid is considered to best serve the City's interest. In determining the responsiveness of the offer and the responsibility of the Bidder, the following shall be considered when applicable: the ability, capacity and skill of the Bidder to perform as required; whether the Bidder can perform promptly, or within the time specified, without delay or interference; the character, integrity, reputation, judgment, experience and efficiency of the Bidder; the quality of past performance by the Bidder; the previous and existing compliance by the Bidder with related laws and ordinances; the sufficiency of the Bidder's financial resources; the availability, quality and adaptability of the Bidder's supplies or services to the required use; the ability of the Bidder to provide future maintenance, service or parts; the number and scope of conditions attached to the bid.

LOCAL BUSINESS PREFERENCE **-** Section 2-186, Code of Ordinances of the City of Fort Lauderdale, provides for a local business preference. In order to be considered for a local business preference, a proposer must include the Local Business Preference Certification Statement of this ITB, as applicable to the local business preference class claimed at the time of Proposal submittal.

Upon formal request of the City, based on the application of a Local Business Preference, the Proposer shall, within ten (10) calendar days, submit the following documentation to the Local Business Preference Class claimed:

a. Copy of City of Fort Lauderdale current year business tax receipt, or Broward County current year business tax receipt, and

b. List of the names of all employees of the proposer and evidence of employees' residence within the geographic bounds of the City of Fort Lauderdale or Broward County, as the case may be, such as current Florida driver license, residential utility bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of proposal submittal shall result in the Proposer being found ineligible for the local business preference.

Definitions:

a. The term "Class A business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the city, and shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.

b. The term "Class B business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the city, or shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.

c. The term "Class C business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of Broward County.

c. The term "Class D business" shall mean any business that does not qualify as a Class A, Class B, or Class C business.

The complete local business preference ordinance may be found on the City's web site at the following link:
https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-186LOBUPR

DISADVANTAGED BUSINESS ENTERPRISE PREFERENCE - Section 2-185, Code of Ordinances of the City of Fort Lauderdale, provides for a disadvantaged business preference. In order to be considered for a disadvantaged business preference, a proposer must include a certification from a government agency, as applicable to the disadvantaged business preference class claimed at the time of Proposal submittal:

Upon formal request of the City, based on the application of a Disadvantaged Business Preference the Proposer shall within ten (10) calendar days submit the following documentation to the Disadvantaged Business Enterprise Preference Class claimed:

a. Copy of City of Fort Lauderdale current year business tax receipt, or the Tri-County (Broward, Dade, West Palm Beach) current year business tax receipt, or proof of active Sunbiz status and

b. List of the names of all employees of the proposer and evidence of employees' residence within the geographic bounds of the City of Fort Lauderdale or the Tri-County, as the case may be, such as current Florida driver license, residential utility bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of proposal submittal shall result in the Proposer being found ineligible for the Disadvantaged Business Enterprise Preference business preference.

The complete Disadvantaged Business Preference ordinance may be found on the City's website at the following link: https://www.fortlauderdale.gov/home/showpublisheddocument?id=56883

DEBARRED OR SUSPENDED BIDDERS OR PROPOSERS - The bidder or proposer certifies, by submission of a response to this solicitation, that neither it nor its principals and subcontractors are presently debarred or suspended by any Federal department or agency.

LOBBYING ACTIVITIES - **ALL CONTRACTORS PLEASE NOTE**: Any contractor submitting a response to this solicitation must comply, if applicable, with City of Fort Lauderdale Ordinance No. C-11-42 & Resolution No. 07-101, Lobbying Activities. Copies of Ordinance No., C-11-42, and Resolution No. 07-101 may be obtained from the City Clerk's Office on the 7th Floor of City Hall, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301. The Ordinance may also be viewed on the City's website at https://www.fortlauderdale.gov/home/showdocument?id=6036.

GENERAL CONDITIONS

Unless otherwise modified in the Project's Special Conditions, the following General Conditions shall be part of the Contract:

GC - 01 - DEFINITIONS - The following words and expressions, or pronouns used in their stead, shall wherever they appear in the Contract and the Contract Documents, be construed as follows:

"Addendum" or "Addenda" - shall mean the additional Contract provisions issued in writing, by the Engineer, prior to the receipt of bids.

"Bid" – shall mean the offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

"Bidder" – shall mean any person, firm, company, corporation or entity submitting a bid for the Work.

"Bonds" –shall mean bid, performance and payment bonds and other instruments of security, furnished by Contractor and his surety in accordance with the Contract Documents.

"City" – shall mean the City of Fort Lauderdale, Florida, a Florida municipal corporation. In the event the City exercises its regulatory authority as a government body, the exercise of such regulatory authority and the enforcement of any rules, regulations, codes, laws and ordinances shall be deemed to have occurred pursuant to City's authority as a governmental body and shall not be attributable in any manner to the City as a party to this Contract.

"Consultant" – shall mean a person, firm, company, corporation or other entity employed by the City to perform the professional services for the project.

"Contractor" – shall mean the successful Bidder who has been employed by the City to perform the construction and related services for the project.

"Contract Work" - shall mean everything expressed or implied to be required to be furnished and furnished by the Contractor by any one or more of the parts of the Contract Documents referred to in the Contract hereof. In the case of any inconsistency in or between any parts of this Contract, the Project Manager shall determine which shall prevail.

"Design Documents" – shall mean the construction plans and specifications included as part of a Bid/Proposal Solicitation prepared either by the City or by the Consultant under a separate Agreement with the City.

"Engineer" - shall include the terms "professional engineer" and "licensed engineer" and means a person who is licensed to engage in the practice of engineering under Florida Statute, Chapter 471. An Engineer may be a City employee or a consultant hired by the City.

"Extra Work" - shall mean work other than that required by the Contract.

"Inspector" – shall mean an authorized representative of the City assigned to make necessary inspections of materials furnished by Contractor and of the Work performed by Contractor.

"Notice" - shall mean written notice sent by certified United States mail, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or via fax or email, or by hand delivery with a request for a written receipt of acknowledgment of delivery and shall be served upon the Contractor either personally or to its place of business listed in the Bid.

“Owner” - shall mean the City of Fort Lauderdale.

“Project Manager” - shall mean a professional designated by the City to manage the Project under the supervision and direction of the Public Works Director or designee.

"Public Works Director" – shall mean the Public Works Director of the City of Fort Lauderdale.

"Site" - shall mean the area upon or in which the Contractor's operations are carried out and such other areas adjacent thereto as may be designated as such by the Project Manager.

"Sub-contractor" - shall mean any person, firm, company, corporation or other entity, other than employees of the Contractor, who or which contracts with the contractor, to furnish, or actually furnishes labor and materials, or labor and equipment, or labor, materials and equipment at the site.

"Surety" - shall mean any corporation or entity that executes, as Surety, the Contractor's performance and payment bond securing the performance of this Contract.

GC - 02 - SITE INVESTIGATION AND REPRESENTATION - The Contractor acknowledges that it has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Site, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, field conditions, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

The Contractor acknowledges that it has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, moisture conditions and all year-round local weather and climate conditions (past and present), and, in reliance on such tests, examination and investigations conducted by Contractor and the Contractor’s experts, has determined that no conditions exist that would in any manner affect the Bid Price and that the project can be completed for the Bid Price submitted.

Any failure by the Contractor to acquaint itself with all the Site conditions shall not relieve Contractor from responsibility for properly estimating the difficulty or cost thereof under the Contract Documents.

GC - 03 - SUBSTITUTIONS - If the Contractor desires to use materials and/or products of manufacturer's names different from those specified in the Contract Documents, the Bidder requesting the substitution shall make written application as described herein. The burden of proving the equality of the proposed substitution rests on the Contractor making the request. To be acceptable, the proposed substitution shall meet or exceed all expressed requirements of the Contract Documents and shall be submitted upon the Contractor's letterhead. The following requirements shall be met in order for the substitution to be considered:

1. Requests for substitution shall be accompanied by such technical data, as the party making the request desires to submit. The Project Manager will consider reports from

reputable independent testing laboratories, verified experience records from previous users and other written information valid in the circumstances; and

2. Requests for substitution shall completely and clearly indicate in what respects the materials and/or products differ from those indicated in the Contract Documents; and

3. Requests for substitution shall be accompanied by the manufacturer's printed recommendations clearly describing the installation, use and care, as applicable, of the proposed substitutions; and

4. Requests for substitution shall be accompanied by a complete schedule of changes in the Contract Documents, if any, which must be made to permit the use of the proposed substitution.

If a proposed substitution is approved by the Project Manager, an addendum will be issued to prospective bidders not less than three (3) working days prior to the date set for opening of bids. Unless substitutions are received and approved as described above, the successful Bidder shall be responsible for furnishing materials and products in strict accordance with the Contract Documents.

GC- 04 – CONSTRUCTION RESOURCES – Contractor shall provide all labor and equipment necessary to complete the installation within a timely manner. Contractor shall provide details as to manpower and equipment to be dedicated to the project in its Work Plan. Contractor is responsible for making arrangements, obtaining and purchasing construction water services if required to complete the work.

GC - 05 - CONTROL OF THE WORK - The Project Manager shall have full control and direction of the Work in all respects. The Project Manager and/or his authorized designee(s) shall, at all times, have the right to inspect the Work and materials. The Contractor shall furnish all reasonable facilities for obtaining such information, as the Project Manager may desire respecting the quality of the Work and materials and the manner of conducting the Work. Should the Contractor be permitted to perform night Work, or to vary the period which work is ordinarily carried on in the daytime, he shall give ample notice to the Project Manager so that proper and adequate inspection may be provided. Such Work shall be done only under such regulations as are furnished in writing by the Project Manager, and no extra compensation shall be allowed to the Contractor therefore. In the event of night work, the Contractor shall furnish such light, satisfactory to the Project Manager, as will ensure proper inspection. Nothing herein contained shall relieve the Contractor from compliance with any and all City ordinances relating to noise or Work during prohibited hours.

GC - 06 - SUB-CONTRACTOR - The Contractor shall not sublet, in whole or any part of the Work without the written consent and approval of the Project Manager. Within ten (10) days after official notification of starting date, the Contractor must submit in writing, to the Project Manager, a list of all Sub-contractors. No Work shall be done by any sub-contractor until such Sub-contractor has been officially approved by the Project Manager. A sub-contractor not appearing on the original list will not be approved without written request submitted to the Project Manager and approved by the Public Works Director. In all cases, the Contractor shall give his personal attention to the Work of the Sub-contractors and the Sub-contractor is liable to be discharged by the Contractor, at the direction of the Project Manager, for neglect of duty, incompetence or misconduct.

Acceptance of any sub-contractor, other person, or organization by the Project Manager shall not constitute a waiver of any right of Project Manager to reject defective Work or Work not in conformance with the Contract Documents.

Contractor shall be fully responsible for all acts and omissions of its Sub-contractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between City and any sub-contractor or other person or organization having a direct contract with Contractor, nor shall it create any obligation on the part of City to pay or to see to the payment of any moneys due to any sub-contractor or other person, or organization, except as may otherwise be required by law.

GC - 07 - QUANTITIES - Contractor recognizes and agrees that the quantities shown on plans and Bid/Price Schedule are estimates only and may vary during actual construction. No change shall be made involving any departure from the general scheme of the Work and that no such change involving a material change in cost, either to the City or Contractor, shall be made, except upon written permission of the City. However, the Project Manager shall have the right to make minor alternations in the line, grade, plan, form or materials of the Work herein contemplated any time before the completion of the same. That if such alterations shall diminish the quantity of the Work to be done, such alterations shall not constitute a claim for damages or anticipated profits. That if such alterations increase the amount of the Work to be done, such increase shall be paid for according to the quantity actually performed and at the unit price or prices stipulated therefore in the Contract. The City shall, in all cases of dispute, determine the amount or quantity of the several kinds of Work which are to be paid for under this Contract, and shall decide all questions relative to the execution of the same, and such estimates and decisions shall be final and binding.

Any Work not herein specified, which might be fairly implied as included in the Contract, of which the City shall judge, shall be done by the Contractor without extra charge. However, such cost increases shall be authorized either by the Public Works Director or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC - 08 - NO ORAL CHANGES - Except to the extent expressly set forth in the Contract, no change in, or modification, termination or discharge of the Contract in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the parties charged, therewith or their duly authorized representative.

GC - 09 - PERMITS AND PROTECTION OF PUBLIC – Permits on file with the City and/or those permits to be obtained by the Contractor, shall be considered directive in nature, and will be considered a part of this Contract. A copy of all permits shall be given to the City and become part of the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

Contractor shall secure all permits and licenses required for completing the Project. Contractor will obtain the necessary State, County, and City construction/work permits if required.

The Contractor shall comply with all applicable Codes, Standards, Specifications, etc. related to all aspects of the Project.

Where there are telephones, light or power poles, water mains, conduits, pipes or drains or other construction, either public or private, in or on the streets or alleys, the Work shall be so conducted that no interruption or delay will be caused in the operation or use of the same. Proper written notice shall be given to all affected parties prior to proceeding with the Work.

The Contractor shall not be permitted to interfere with public travel and convenience by grading or tearing up streets indiscriminately, but the Work of constructing the various items in this contract shall proceed in an orderly, systematic and progressive manner.

GC - 10 - DISEASE REGULATIONS - The Contractor shall enforce all sanitary regulations and take all precautions against infectious diseases as the Project Manager may deem necessary. Should any infectious or contagious diseases occur among his employees, he shall arrange for the immediate removal of the employee from the Site and isolation of all persons connected with the Work.

GC - 11 - CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, AND DATA - The Contractor shall verify all dimensions, quantities, and details shown on the plans, supplementary drawings, schedules, and shall notify the Project Manager of all errors, omissions, conflicts and discrepancies found therein within three (3) working days of discovery. Failure to discover or correct errors, conflictions, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work, faulty construction, or improper operation resulting therefrom nor from rectifying such condition at its own expense.

GC - 12 - MATERIALS AND WORKMANSHIP - All material shall be new and the workmanship shall, in every respect, be in conformity with approved modern practice and with prevailing standards of performance and quality. In the event of a dispute, the Project Manager's decision shall be final. Wherever the Plans, Specifications, Contract Documents, or the directions of the Project Manager are unclear as to what is permissible and/or fail to note the quality of any Work, that interpretation will be made by the Project Manager, which is in accordance with approved modern practice, to meet the particular requirements of the Contract.

GC - 13 - SAFEGUARDING MARKS - The Contractor shall safeguard all points, stakes, grade marks, monuments, and benchmarks made or established on the Work, bear the cost of re-establishing same if disturbed, or bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or for removing without authorization, such established points, stakes and marks. The Contractor shall safeguard all existing and known property corners, monuments and marks not related to the Work and, if required, shall bear the cost of having them re-established by a licensed Professional surveyor registered in the State of Florida if disturbed or destroyed during the course of construction.

GC - 14 - RESTROOM FACILITIES - Contractor shall provide portable toilet facilities for employee's use at a location within the Work site to be determined by the City.

GC - 15 - PROGRESS MEETINGS - Weekly Status meetings will be conducted with representatives from the City and the Contractor. Contractor shall budget time to participate in such meetings. A well-run Project should result in short meetings.

GC - 16 - ISSUE RESOLUTION - Should Contractor become engaged in a dispute with a resident or a City employee, the Contractor shall report the situation to the Project Manager immediately. It shall be mandatory that the City participate in any dispute resolution. Failure of Contractor personnel to notify the City shall obligate Contractor to replace the offending employee immediately if requested by the City.

GC - 17 - CITY SECURITY-CONTRACTOR AND SUBCONTRACTOR EMPLOYEE INFORMATION - Prior to commencing work, Contractor shall provide to the City a list of all personnel and sub-contractors on site. The list will include the name, address, birth date and driver's license number for all personnel. All personnel and subcontractors on site will have on their person a company

photo ID during all stages of the construction. Contractor shall provide standard required personal information per current City procedures.

GC - 18 - POST-CONSTRUCTION SURVEY - The Contractor shall provide as-built survey, sealed and signed by a registered surveyor in the State of Florida, as a condition of final payment.

GC – 19 - KEY PERSONNEL - Contractor shall provide as part of the Work Plan, resumes for all key project personnel providing supervision and project management functions. Resumes shall include work history and years of experience performing this type of work.

GC - 20 - EXISTING UTILITY SERVICE - All existing utility service shall be maintained with a minimum of interruption at the expense of the Contractor.

GC - 21 - JOB DESCRIPTION SIGNS – Contractor, at Contractor's expense, shall furnish, erect, and maintain suitable weatherproof signs on jobs over $100,000 containing the following information:

1. City Seal (in colors)
2. Project or Improvement Number
3. Job Description
4. Estimated Cost
5. Completion Date

Minimum size of sign shall be four feet high, eight feet wide and shall be suitably anchored. The entire sign shall be painted and present a pleasing appearance. Exact location of signs will be determined in the field. Two (2) signs will be required, one at each end of the job. All costs of this work shall be included in other parts of the work.

GC - 22 - FLORIDA EAST COAST RIGHT-OF-WAY - Whenever a City contractor is constructing within the Florida East Coast Railway Company's Right-of-Way, it will be mandatory that the contractor carry bodily injury and property damage insurance in amounts satisfactory to the Florida East Coast Company. This insurance requirement shall be verified by the contractor with the Florida East Coast Company prior to commencing work and maintained during the life of the Contract.

GC - 23 - ACCIDENTS - The Contractor shall provide such equipment and facilities as are necessary and/or required, in the case of accidents, for first aide services to be provided to a person who may be injured during the project duration. The Contractor shall also comply with the OSHA requirements as defined in the United States Labor Code 29 CFR 1926.50.

In addition, the Contractor must report immediately to the Project Manager every accident to persons or damage to property, and shall furnish in writing full information, including testimony of witnesses regarding any and all accidents.

GC - 24 - SAFETY PRECAUTIONS - Contractor must adhere to the applicable environmental protection guidelines for the duration of a project. If hazardous waste materials are used, detected or generated at any time, the Project Manager must be immediately notified of each and every occurrence. The Contractor shall comply with all codes, ordinances, rules, orders and other legal requirements of public authorities (including OSHA, EPA, DERM, the City, Broward County, State of Florida, and Florida Building Code), which bear on the performance of the Work.

The Contractor shall take the responsibility to ensure that all Work is performed using adequate safeguards, including but not limited to: proper safe rigging, safety nets, fencing, scaffolding, barricades, chain link fencing, railings, barricades, steel plates, safety lights, and ladders that are necessary for the protection of its employees, as well as the public and City employees. All riggings

and scaffolding shall be constructed with good sound materials, of adequate dimensions for their intended use, and substantially braced, tied or secured to ensure absolute safety for those required to use it, as well as those in the vicinity. All riggings, scaffolding, platforms, equipment guards, trenching, shoring, ladders and similar actions or equipment shall be OSHA approved, as applicable, and in accordance with all Federal, State and local regulations.

GC - 25 - DUST PREVENTION - The Contractor shall, by means of a water spray, or temporary asphalt pavement, take all necessary precautions to prevent or abate a dust nuisance arising from dry weather or Work in an incomplete stage. All costs of this Work shall be included in the cost of other parts of the Work.

Should the Contractor fail to abate a dust nuisance the Project Manager may stop the Work until the issue is resolved to the City's satisfaction.

GC - 26 - SITE CLEANUP AND RESTORATION – The Contractor shall remove all debris and unused or discarded materials from the work site daily. Contractor shall clean the work site to remove all directional drilling "Driller's Mud" materials. No "Driller's Mud" residue shall be allowed to remain in the soil or on the surface of the land or vegetation. All debris and drilling materials must be disposed of offsite at an approved location.

The Contractor shall promptly restore all areas disturbed that are outside the Project limits in equal or better condition at no additional cost to the City.

GC - 27 - COURTEOUS BEHAVIOR AND RESPECT FOR RESIDENTS AND PROPERTY – The Contractor and its employees, associates and sub-contractors shall maintain courteous behavior at all times and not engage in yelling, loud music, or other such activities. Contractor's employees shall not leave trash or other discarded items at the Work Site, especially on any private property. In the event complaints arise, Contractor shall immediately remove such offending employees from the project if requested to do so by the Project Manager. Contractor's employees shall not trespass on any private property unless necessary to complete the work but with prior permission from the owner.

Contractor shall notify and obtain permission from the residents 24 hours in advance when planning to work within the resident's property. In addition, Contractor shall notify the resident prior to entering their property to perform work or inspect/investigate the work site. Contractor shall not block residents' driveways unnecessarily. Contractor shall not park equipment on landscaped areas when the vehicle is not needed for the current construction activities. Contractor shall be responsible for repair and/or replacement of all damaged landscaping within 48 hours including repairing vehicle wheel impressions, irrigation systems, lighting systems, structures, or any other items of resident's property. Contractor shall not destroy, damage, remove, or otherwise negatively impact any landscaping within or outside the right-of-way without prior approval from the Project Manager.

GC - 28 - PLACING BARRICADES AND WARNING LIGHTS - The Contractor shall furnish and place, at Contractor's own expense, all barricades, warning lights, automatic blinker lights and such devices necessary to properly protect the work and vehicular and pedestrian traffic. Should the Contractor fail to erect or maintain such barricades, warning lights, etc., the Project Manager may, after 24 hours' notice to the Contractor, proceed to have such barricades and warning lights placed and maintained by City or other forces and all costs incurred thereof charged to the Contractor and may be retained by the City from any monies due, or to become due, to the Contractor.

GC - 29 - TRAFFIC CONTROL - The Contractor shall coordinate all Work and obtain, through the City's Transportation and Mobility Department, Broward County, Florida Department of Transportation, as applicable, any permits required to detour traffic or close any street before starting to work in the road.

All traffic control devices, flashing lights, signs and barricades shall be maintained in working condition at all times and conform to Manual of Uniform Traffic Control Devices (MUTCD), latest edition.

GC - 30 - COORDINATION - The Contractor shall notify all utilities, transportation department, etc., in writing, with a copy to the Project Manager before construction is started and shall coordinate its Work with them. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal, construction and rearrangement operations in order that services rendered by these parties will not be unnecessarily interrupted.

The Contractor shall arrange its Work and dispose of its materials so as to not interfere with the operation of other contractors engaged upon adjacent work, and to join its Work to that of others in a proper manner, and to perform its Work in the proper sequence in relation to that of other contractors as may be directed by the Project Manager.

Each Contractor shall be responsible for any damage done by it or its agents to the work performed by another contractor.

GC - 31 - WATER - Bulk water used for construction, flushing pipelines, and testing shall be obtained from fire hydrants. Contractor shall make payment for hydrant meter at Treasury Billing Office, 1st Floor, City Hall, 100 N. Andrews Avenue. With the paid receipt, contractor can pick up hydrant meter at the utility location office. No connection shall be made to a fire hydrant without a meter connected.

GC - 32 - PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES - Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2022), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2022), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2022), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2022), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2022), as may be amended or revised.

By submitting a bid or response, the company, principals, or owners certify that it is not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

GC - 33 - USE OF FLORIDA LUMBER TIMBER AND OTHER FOREST PRODUCTS - In accordance with Florida Statute 255.20 (3), the City specifies that lumber, timber, and other forest products used for this Project shall be produced and manufactured in the State of Florida if such products are available and their price, fitness, and quality are equal. This requirement does not apply to plywood specified for monolithic concrete forms, if the structural or service requirements for timber for a particular job cannot be supplied by native species, or if the construction is financed in whole or in part from federal funds with the requirement that there be no restrictions as to species or place of manufacture.

The Bidder affirms by submitting a bid response to this solicitation that they will comply with section 255.20 (3) Florida Statutes.

GC - 34 - PUBLIC RECORDS/TRADE SECRETS/COPYRIGHT: The Proposer's response to the Solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this Solicitation and the Contract to be executed for this Solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Bidder's response to the Solicitation purporting to require confidentiality of any portion of the Bidder's response to the Solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Bidder submits any documents or other information to the City which the Bidder claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Bidder shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Bidder must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Bidder's response to the Solicitation constitutes a Trade Secret. The City's determination of whether an exemption applies shall be final, and the bidder agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. In addition, the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as exempt from disclosure or confidential. Proposals purporting to be subject to copyright protection in full or in part will be rejected. The bidder authorizes the City to publish, copy, and reproduce any and all documents submitted to the City bearing copyright symbols or otherwise purporting to be subject to copyright protection.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES (2022), TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

Telephone Number: (954) 828-5002

Mailing Address: **City Clerk's Office**
100 N. Andrews Avenue
Fort Lauderdale, Florida 33301-1016

E-mail: **prrcontract@fortlauderdale.gov**

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2022), as may be amended or revised, or as otherwise provided by law.

3. 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 this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, 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 public records upon completion of this Agreement, 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's custodian of public records, in a format that is compatible with the information technology systems of the City.

SPECIAL CONDITIONS

01. PURPOSE

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, for construction services in accordance with the terms, conditions, and specifications contained in this Invitation To Bid (ITB).

02. TRANSACTION FEES

The City uses the City's online strategic sourcing platform, INFOR (www.INFOR.com) to distribute and receive bids and proposals. There is no charge to vendors/contractors to register and participate in the solicitation process, nor will any fees be charged to the awarded contractor.

03. SUBMISSION OF BIDS

It is the sole responsibility of the Contractor to ensure that its bid is submitted electronically through the City's online strategic sourcing platform, www.INFOR.com, and that any bid security reaches the City of Fort Lauderdale, Procurement Services Division, 6th floor, Suite 619, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301-1016, in a sealed envelope marked on the outside with the ITB solicitation number and Contractor's name, no later than the time and date specified in this solicitation. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. PLEASE SUBMIT YOUR BID RESPONSE ELECTRONICALLY.** In the event of any conflict or discrepancy between bid price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

04. INFORMATION OR CLARIFICATION

For information concerning procedures for responding to this solicitation, contact Paulette Hemings Turner, **Senior Procurement Specialist**, at (954) 828-5139 or email PTurner@fortlauderdale.gov. Such contact shall be for clarification purposes only.

For information concerning technical specifications please utilize the Question/Answer forum provided in the City's online strategic sourcing platform. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. **Bidders please note**: No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the bidder has familiarized himself with the nature and extent of the work, and the equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation. The questions and answers submitted in the City's online strategic sourcing platform shall become part of any contract that is created from this ITB.

05. CONTRACT TIME

5.1 The initial contract term shall commence upon date specified in the Notice To Proceed given by the City and shall expire **Two (2)** years from that date. The City reserves the right to extend the contract for **Two (2)** additional **One (1)** year terms, providing all terms, conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

5.2 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work on each Task Order shall commence immediately upon the Contractor's receipt of an executed Task Order.

5.3 The Contractor shall mobilize to the project site and begin construction activities within **N/A** calendar days of receipt of the executed Task Order or by the specific date noted within the Task Order (whichever applies).

5.4 The Work on each Task Order shall be substantially completed within the timeframe agreed upon and noted in each executed Task Order.

5.5 The Work on each Task Order shall be finally completed on or before the Final Completion Date and ready for final payment in accordance with Final Completion Date agreed upon and noted in each executed Task Order.

5.6 In the event services are scheduled to end because of the expiration of this contract, the Contractor shall continue the service upon the request of the City as authorized by the awarding authority. The extension period shall not extend for more than two hundred and seventy (270) days beyond the expiration date of the existing contract. The Contractor shall be compensated for the service at the rate in effect when this extension clause is invoked by the City. No new Task Orders will be assigned after the contract's expiration nor will any new work be performed after that date.

5.7 The termination date for issuance of Task Orders shall be when the funds are depleted or two (2) years from effective date of the agreement, whichever comes first. All task orders issued before the contract termination must be completed under this contract even if contract has expired.

06. BID SECURITY

A certified check, cashier's check, bank officer's check or bid bond for **Five percent (5%)** of the bid amount, made payable to the City of Fort Lauderdale, shall accompany each offer.

07. REQUIRED LICENSES/CERTIFICATIONS

Contractor must possess the following licenses/certifications to be considered for award: Contractor must possess a certified general contractor license OR a certified underground utility and excavation contractor license issued by the Florida Department of Business and Professional Regulation. Contractor must have proper licensing prior to submitting bid and must submit evidence of same with bid. Contractor must have a minimum of 5-years of experience working with annual repair contracts. **Contractor must have a minimal of (3) three active annual contracts within the last 5-years.**

Note: Contractor must have proper licensing and shall submit evidence of same with its bid response.

08. SPECIFIC EXPERIENCE REQUIRED

The following expertise is required to be considered for this Contract. Specific references attesting to this expertise must be submitted with the bid response.

The Contractor and/or Subcontractor shall each have a minimum of 5-years' experience repairing/replacing water, stormwater, wastewater or reclaimed water pressure/gravity pipelines of the same size diameter or larger, including the same minimum linear footage as the project, or greater linear footage using open cut methodology, including mainlines, lateral connections, stack singles or double wye lateral installations.

NOTE: REFERENCES SHALL NOT INCLUDE ONLY CITY OF FORT LAUDERDALE EMPLOYEES OR WORK PERFORMED FOR THE CITY. THE CITY IS ALSO INTERESTED IN WORK EXPERIENCE AND REFERENCES FROM ENTITIES OTHER THAN THE CITY OF FORT LAUDERDALE.

By signing this bid solicitation, contractor is affirming that this expertise will be provided for this Contract at no additional charge.

09. BID ALLOWANCE

Allowance for permits: Payments will be made to the contractor based on the actual cost of permits upon submission of paid permit receipts. The City shall not pay for other costs related to obtaining or securing permits.

The amount indicated is intended to be sufficient to cover the entire Project. If the City's permit fees exceed the allowance indicated, the City will reimburse the contractor the actual amount of the City's permit fees required for project completion.

Allowances	$
Permit Allowance	$15,000.00
Maintenance of Traffic Allowance	$25,000.00
Restoration Allowance	$10,000.00
Bonds Allowance	$20,000.00
Storm Drainage Repair Allowance	$20,000.00
Total	**$90,000.00**

Note: The City will add this allowance to your bid.

10. INSURANCE REQUIREMENTS *(See Article 10, Bonds and Insurance, of the Contract for details)*

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of Contractor. Contractor shall provide the City a certificate of insurance evidencing such coverage. Contractor's insurance coverage shall be primary insurance for all applicable policies, in respect to the City's interests. The limits of coverage under each policy maintained by Contractor shall not be interpreted as limiting Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by Contractor for assessing the extent or determining appropriate types and limits of coverage to protect Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipality, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If Contractor does not own vehicles, Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability
Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

Contractor waives, and Contractor shall ensure that Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

Contractor must be in compliance with all applicable State and Federal workers' compensation laws, including the U.S. Longshore and Harbor Workers' Compensation Act and the Jones Act, if applicable.

Insurance Certificate Requirements

a) Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
b) Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
c) In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
d) In the event the Agreement term or any surviving obligation of Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
e) The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
f) The City shall be covered as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
g) The City shall be granted a Waiver of Subrogation on Contractor's Workers' Compensation insurance policy.
h) The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:
City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the application of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at Contractor's expense.

If Contractor's primary insurance policy/policies do not meet the minimum requirements as set forth in this Agreement, Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

Contractor's insurance coverage shall be primary insurance in respect to the City's interests, a Florida municipality, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage may be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate of insurance should any policies expire prior to the

expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to Contractor's insurance company or companies and the City's Risk Management office as soon as practical.

It is Contractor's responsibility to ensure that any and all of Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of Contractor. The City reserves the right to adjust insurance limits from time to time at its discretion with notice to Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

A Sample Insurance Certificate shall be included with the bid to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

11. PERFORMANCE AND PAYMENT BOND: 100%

12. NUMBER OF AWARDS ANTICIPATED

The City may award up to five (5) Contracts to responsive and responsible contractors providing the lowest bid amounts in sequential order. The selected contractors will receive Task Orders during the effective term of the contract. Each Task Order shall require surety bonds equal to 100% of the Task Order total. (See complete Performance bond requirements under Article 10 of the Sample Agreement.

13. CITY PROJECT MANAGER

The Project Manager is hereby designated by the City as Herbert Stanley whose address is 949 NW 38th Street, Fort Lauderdale, Florida 33309, Telephone number: (954) 828-6801, and e-mail address is HStanley@fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

14. LIQUIDATED DAMAGES *(See Article 16, Liquidated Damages, of the Contract for details)*

Upon failure of the Contractor to complete the Work of an executed task order within the agreed upon and approved time for said Task Order, the Contractor shall pay to the City the sum of **Three Hundred Dollars ($300.00)** for each and every calendar day that the completion of the Task Order is delayed beyond the time agreed upon for said Task Order, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. (See Article 16, Liquidated Damages Clause, of the Contract)

15. PAYMENT (*See Article 7, Payment, of the Contract for other details*)

The City shall make payment to the Contractor through utilization of the City's P-Card Program. The City has implemented a Purchasing Card (P-Card) Program utilizing both the VISA and MASTERCARD networks. Purchases from this contract will be made utilizing the City's Purchasing Card. Contractor will receive payment from the purchasing card in the same manner as other credit card purchases. Accordingly, Contractor must presently have the ability to accept these credit cards or take whatever steps necessary to implement the ability before the start of the contract term, or contract award by the City. All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

Payment Card Industry (PCI) Compliance

Contractor agrees to comply with all applicable state, federal and international laws, as well as industry best practices, governing the collection, access, use, disclosure, safeguarding and destruction of Protected Information.

Contractor and/or any subcontractor that handles credit card data must be, and remain, PCI compliant under the current standards and will provide documentation confirming compliance upon request by the City of Fort Lauderdale, failure to produce documentation could result in termination of the contract.

16. WORK SCHEDULE (including overtime hours):

Regular work hours: **8:00 am to 5:00 pm, Monday through Friday.**
City Inspector Hours: **8:00 am to 4:30 pm, Monday through Friday.**

Any inspection requested by the contractor outside those hours will be considered overtime to be paid by the Contractor.

17. INSPECTION OVERTIME COST: $100/hr.

CITY OF FORT LAUDERDALE
CONSTRUCTION AGREEMENT

THIS Agreement made and entered into this _____ day of _____, 20__, by and between the City of Fort Lauderdale, a Florida municipal corporation ("City") and _____, a Florida _____ company/corporation ("Contractor"), ("Party" or collectively "Parties");

WHEREAS, the City desires to retain a contractor for the Project as expressed in its Invitation to Bid No. _____, Project Number _____, which was opened on _____; and

WHEREAS, the Contractor has expressed its willingness and capability to perform the necessary work to accomplish the Project;

NOW, THEREFORE, the City and the Contractor, in consideration of the mutual covenants and conditions contained herein and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, agree as follows:

ARTICLE 1 – DEFINITIONS

Whenever used in this Agreement or in other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural forms:

1.1 Agreement – This written Agreement between the City and the Contractor covering the work to be performed including other Contract Documents that are attached to or incorporated in the Agreement.

1.2 Application for Payment – The form accepted by the City which is to be used by the Contractor in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

1.3 Approve – The word approve is defined to mean review of the material, equipment or methods for general compliance with design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the City to verify in every detail conformance with plans and specifications.

1.4 Bid – The offer or Bid of the Contractor submitted on the prescribed form setting forth the total prices for the Work to be performed.

1.5 Bid Documents – Advertisement for Invitation to Bids, the Instructions to Bidders, the Bid Form (with supplemental affidavits and sample agreements), the Contract Forms, General Conditions, the Supplementary Conditions, the Specifications, and the Plans, which documents all become an integral part of the Contract Documents.

1.6 Certificate of Substantial Completion - Certificate provided by the City certifying that all Work, excluding the punch list items, has been completed, inspected, and accepted by the City.

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1.7 Change Order - A written document executed by both Parties ordering a change in the Contract Price or Contract Time or a material change in the Work.

1.8 City – The City of Fort Lauderdale, Florida including but not limited to its employees, agents, officials, representatives, contractors, subcontractors, volunteers, successors and assigns, with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.

1.9 Contract Documents – The Contract Documents shall consist of this Agreement, Exhibits to this Agreement, Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance, Notice of Award and Notice to Proceed, Task Orders, General Conditions, Special Conditions, Technical Specifications, Plans/Drawings, Addenda, Bid Form and supplement Affidavits and Agreements, all applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement, Invitation to Bid, Instructions to Bidders and Bid Bond, Contractor's response to the City's Invitation to Bid, Schedule of Completion, Schedule of Values, all amendments, modifications and supplements, work directive changes issued on or after the Effective Date of the Agreement, as well as any additional documents that are required to be submitted under the Agreement.

Permits on file with the City and/or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement. A copy of all permits shall be given to the City for inclusion in the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

1.10 Contract Price – The amount established in the bid submittal and award by the City's City Commission, as may be amended by Change Order.

1.11 Contract Time – The number of calendar days stated in the Agreement for the completion of the Work. The dates on which the work shall be started and shall be completed as stated in the Notice to Proceed and each subsequent Task Order.

1.12 Contractor – The person, firm, company, or corporation with whom the City has entered into the Agreement, including but not limited to its employees, agents, representatives, contractors, subcontractors, their subcontractors and their other successors and assigns.

1.13 Day – A calendar day of twenty-four (24) hours ending at midnight.

1.14 Defective – 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, test or approval referred to in the Contract Documents, or has been damaged prior to the Project Manager's recommendation of final payment.

1.15 Effective Date of the Agreement – The effective date of the Agreement shall be the date the City Commission approves the work.

SAMPLE CONSTRUCTION AGREEMENT

1.16 Final Completion Date – The date the Task Order Work is completed, including completion of the final punch list, and delivered along with those items specified in the Contract Documents and is accepted by the City.

1.17 Hazardous Materials (HAZMAT) - Any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive, or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment defined in Section 101(14) of Comprehensive Environmental Response, Compensation and Liability Act of 1980 and in 40 CFR 300.6. Also defined by 49 CFR 171.8 as a substance or material designated by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

1.18 Hazardous Substance - As defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act; any substance designated pursuant to Section 311(b) (2) (A) of the Clean Water Act; any element, compound, mixture, solution or substance designated pursuant to Section 102 identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act {but not including any waste listed under Section 307[a] of the Clean Water Act}; any hazardous air pollutant listed under Section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture pursuant to Section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas}.

1.19 Hazardous Waste - Those solid wastes designated by OSHA in accordance with 40 CFR 261 due to the properties of ignitability, corrosivity, reactivity, or toxicity. Any material that is subject to the Hazardous Waste Manifest requirements of the EPA specified in 40 CFR Part 262.

1.20 Holidays - Those designated non-work days as established by the City Commission of the City of Fort Lauderdale.

1.21 Inspection – The term “inspection” and the act of inspecting as used in this Agreement is defined to mean the examination of construction to ensure that it conforms to the design concept expressed in the plans and specifications. This term shall not be construed to mean supervision, superintending and/or overseeing.

1.22 Notice of Award - The written notice by City to the Contractor stating that upon compliance by the Contractor with the conditions precedent enumerated therein, within the time specified that the City will sign and deliver this Agreement.

1.23 Notice to Proceed – A written notice given by the City to the Contractor authorizing the commencement of the activities identified in the notice or as described in the Contract Documents. Task Orders executed under this Contract will contain set timeframes in which the Task Order work shall be started and completed.

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1.24 Plans - The official graphic representations of this Project that are a part of the Contract Documents and/or are referred to in the Contract Documents and/or Task Orders.

1.25 Premises (otherwise known as Site or Work Site) – means the land, buildings, facilities, etc. upon which the Work is to be performed.

1.26 Project – The construction project described in the Contract Documents, including the Work described therein, and each executed Task Order.

1.27 Project Manager - The employee of the City, or other designated individual who is herein referred to as the Project Manager, will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the contract Documents in connection with completion of the Work in accordance with this Agreement. The Project Manager, or designee, shall be the authorized agent for the City unless otherwise specified.

1.28 Punch List - The City's list of Work yet to be done or be corrected by the Contractor, before the Final Completion date can be determined by the City.

1.29 Record Documents - A complete set of all specifications, drawings, addenda, modifications, shop drawings, submittals and samples annotated to show all changes made during the construction process.

1.30 Record Drawings or "As-Builts" - A set of drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the Contractor. These documents will be signed and sealed by a Professional Engineer or a Professional Land Surveyor licensed in the State of Florida and employed by the Contractor at no cost to the City.

1.31 Substantially Completed Date – A date when written notice is provided by the City to the Contractor stating that the Work is substantially completed. If, at the time of inspection, it is determined the project is substantially completed, the City will also issue a letter of Substantial Completion along with a punch list of incomplete or deficient items to be completed prior to requesting a Final Completion inspection.

1.32 Task Order – A written agreement between the City and Contractor defining the particular scope of work to be performed under this Contract. When necessary, plans, permits and specifications may be provided by the City to clarify the requirements of the Task Order work. Each Task Order will contain a timeframe in which the work shall be completed in order for the Contractor to avoid being subjected to liquidated damages.

1.33 Work – The construction and services required by the Contract Documents required to be furnished under the Contract Documents and/or Task Order, whether completed or partially completed, and includes all labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.

SAMPLE CONSTRUCTION AGREEMENT

ARTICLE 2 – SCOPE OF WORK

2.1 The Contractor shall complete all Work as specified or indicated in the Contract Documents. The Project for which the Work under the Contract Documents may be the whole or only part is generally described as follows:

ANNUAL SEWER REPAIR AND REPLACEMENT
ITB# Event 154 PROJECT # 12849

2.2 All Work for the Project shall be constructed in accordance with the approved plans and Specifications. The Work generally involves:

PROJECT DESCRIPTION

This Project is located City-wide, in the City of Fort Lauderdale. The work to be accomplished under this agreement includes, but is not limited to, water and sewer construction, stormwater construction, and various restoration services

2.3 Within ten (10) days of the execution of this Agreement on each Task Order, the Contractor shall submit a Construction Schedule, Schedule of Values and a listing of all personnel employed. The general sequence of the Work shall be submitted by the Contractor and approved by the City before any work commences. The City reserves the right to issue construction directives necessary to facilitate the Work or to minimize any conflict with operations.

ARTICLE 3 – PROJECT MANAGER

3.1 The Project Manager is hereby designated by the City as **949 N.W. 38th Street, Fort Lauderdale, FL 33309**, telephone number: **(954) 828 - 6801**and email address is HStanley@fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

ARTICLE 4 – CONTRACT DOCUMENTS

The Contract Documents which comprise the entire Agreement between the City and Contractor are incorporated herein and attached to this Agreement, and consist of the following:

4.1 This Agreement.

4.2 Exhibits to this Agreement [Plans (sheets [ ] to [ ] inclusive)].

4.3 Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance.

4.4 Notice of Award and Notice to Proceed.

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4.5 General Conditions as amended by the Special Conditions.

4.6 Technical Specifications.

4.7 Plans/Drawings.

4.8 Addenda number_____ through _____, inclusive.

4.9 Bid Form and supplement Affidavits and Agreements.

4.10 All applicable provisions of State and Federal Law.

4.11 Invitation to Bid No. _____, Instructions to Bidders and Bid Bond.

4.12 Contractor's response to the City's Invitation to Bid No. _____, dated _____.

4.13 Schedule of Completion.

4.14 All amendments, modifications, supplements, Task Orders, change orders, and work directive changes, issued on or after the Effective Date of the Agreement.

4.15 Any Additional documents that are required to be submitted under the Agreement.

4.16 Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement.

In the event of any conflict between the documents or any ambiguity or missing specification or instruction, the following priority is established:

a. Approved change orders, addenda or amendments.

b. Specifications and Drawings.

c. Special Conditions.

d. General Conditions.

e. This Agreement dated _____, and any attachments.

f. Invitation to Bid No. _____, and the specifications prepared by the City.

g. Contractor's response to the City's Invitation to Bid No._____, dated _____.

h. Schedule of Values.

SAMPLE CONSTRUCTION AGREEMENT

i. Schedule of Completion.

If during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to the Project Manager, in writing, within five (5) calendar days, and before proceeding with the Work affected shall obtain a written interpretation or clarification from the City.

Any Work that may reasonably be inferred from the specifications or plans as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such works shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or associations, or to the code of any governmental authority whether such reference be specific or implied, shall mean the latest standard specification, manual or code in effect as of the Effective Date of this Agreement, 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 change the duties and responsibilities of the City, the Contractor, or any of their agents or employees from those set forth in the Contract Documents.

ARTICLE 5 – CONTRACT TIME

5.1 The initial contract term shall commence upon the date of award by the City and shall expire two (2) years from that date. The City reserves the right to extend the contract for two (2) additional one (1) year terms, providing all terms, conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

5.2 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work on each Task Order shall commence immediately upon the Contractor's receipt of an executed Task Order.

5.3 The Contractor shall mobilize to the project site and begin construction activities upon receipt of the executed Task Order or by the specific date noted within the Task Order (whichever applies).

5.4 The Work on each Task Order shall be substantially completed within the timeframe agreed upon and noted in each executed Task Order.

5.5 The Work on each Task Order shall be finally completed on or before the Final Completion Date and ready for final payment in accordance with the Final Completion Date agreed upon and noted in each executed Task Order.

5.6 In the event services are scheduled to end because of the expiration of this contract, the Contractor shall continue the service upon the request of the City as authorized by the awarding authority. The extension period shall not extend for more than two hundred and seventy (270) days beyond the expiration date of the existing contract. The Contractor shall be compensated for the service at the rate in effect when this extension clause is invoked by the City. No new Task Orders will be assigned after the contract's expiration nor will any new work be performed after that date.

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ARTICLE 6 – CONTRACT PRICE

6.1 City shall pay Contractor for performance of the Work in accordance with Article 7 based on the value of the executed Task Orders issued for this Contract.

6.2 The Parties expressly agree that the Contract Price is a unit price contract, in accordance with those line items' unit prices contained in the Contractor's ITB response and incorporated by reference herein. The quantities of work in the Proposal are a rough approximation only. The total quantities of work to be included in this Contract and actually performed may vary widely depending upon the work that will be authorized by the City through Task Orders during the period of this Contract.

6.3 The Contract Price constitutes the total compensation payable to Contractor for the cumulative value of each executed Task Order. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the Contract Price.

ARTICLE 7 – PAYMENT

7.1 Contractor shall submit Applications for Payment for each executed Task Order, in accordance with the Contract Documents. Applications for Payment will be processed by the City as provided for in the General Conditions.

7.2 Progress Payments. City shall make progress payments on account of the Contract Price on the basis of Contractor's executed Task Order and corresponding Application for Payment, which shall be submitted by the Contractor between the first (1st) and the tenth (10th) day after the end of each calendar month for which payment is requested, or upon completion of the work of the executed Task Order. All progress payments will be made on the basis of the progress of the Work completed on the executed Task Order.

7.3 Prior to Final Completion of each Task Order, progress payments will be made in an amount equal to ninety-five percent (95%) of the value of Work completed less in each case the aggregate of payments previously made.

7.4 Final Payment: Upon final completion of the Work under each Task Order, the City shall pay Contractor an amount sufficient to increase total payments to one hundred percent (100%) of the Contract Price. However, not less than five percent (5%) of the Contract Price shall be retained until Record Drawings (as-builts), specifications, addenda, modifications and shop drawings, including all manufacturers' instructional and parts manuals are delivered to and accepted by the City.

7.5 City may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

7.5.1 Defective work not remedied.
7.5.2 Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or City because of Contractor's performance.
7.5.3 Failure of Contractor to make payments properly to subcontractors or for material or labor.
7.5.4 Damage to another contractor not remedied.

SAMPLE CONSTRUCTION AGREEMENT

7.5.5 Liquidated damages and costs incurred by Consultant for extended construction administration, if applicable.
7.5.6 Failure of Contractor to provide any and all documents required by the Contract Documents.

When the above grounds are removed or resolved satisfactory to the Project Manager, payment shall be made in whole or in part.

7.6 The City shall make payment to the Contractor in accordance with the Florida Prompt Payment Act, Section 218.70, Florida Statutes (2022), as amended or revised, provided however, complete and error free pay application is submitted.

7.7 The City shall make payment to the Contractor through utilization of the City's Purchasing Card (P-Card) Program. The City has implemented a P-Card Program utilizing the MASTERCARD and VISA networks. Purchases from this contract will be made utilizing the City's P-Card. Contractor will receive payment from the purchasing card in the same manner as other credit card purchases. Accordingly, Contractor must presently have the ability to accept these credit cards or take whatever steps necessary to implement the ability before the start of the contract term, or contract award by the City. All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

7.8 Payment Card Industry (PCI) Compliance

Contractor agrees to comply with all applicable state, federal and international laws, as well as industry best practices, governing the collection, access, use, disclosure, safeguarding and destruction of Protected Information.

Contractor and/or any subcontractor that handles credit card data must be, and remain, PCI compliant under the current standards and will provide documentation confirming compliance upon request by the City of Fort Lauderdale. Failure to produce documentation could result in termination of the contract.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement, and prior to agreeing to and execution of each Task Order under this Contract, Contractor makes the following representations upon which the City has relied:

8.1 Contractor is qualified in the field of public construction and in particular to perform the Work and services set forth in this Agreement.

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8.2 Contractor has visited the Work Site, has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of each Task Order and associated Contract Documents, the Work, locality, soil conditions, water table condition, moisture conditions and all year-round local weather and climate conditions (past and present), and examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any manner affect the Proposed Price and that the project can be completed for the Proposed Price submitted within the Contract Time as defined in each Task Order.

Furthermore, Contractor warrants and confirms that it is totally familiar with, understands and obligates Contractor to comply with all federal, state and local laws, ordinances, rules, regulations and all market conditions that affect or may affect the cost and price of materials and labor needed to fulfill all provisions of this Agreement or that in any manner may affect cost, progress or performance of the Work.

8.3 The Contractor has satisfied itself as to the nature and location of the Work under each Task Order, the general and local conditions of the Project, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed preliminary to and during the prosecution of the Task Order and all other matters which can in any way affect the Work, schedule, or the cost thereof under the Task Order and associated Contract Documents.

8.4 The Contractor has also studied on its own, investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Works, and finds and has further determined that no conditions exist that would in any manner affect the Proposed Price and that the Task Order Work can be completed for the Proposed Price submitted and within the timeframe agreed upon within each Task Order.

8.5 Contractor has made or cause to be made, examinations, investigations, tests and studies of such reports and related data in addition to those referred to in Paragraphs 8.2, 8.3 and 8.4 above as it deems necessary for the performance of the Work under each Task Order at the Contract Prices, within the Contract Time of the specified Task Order and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor for such purposes.

8.6 Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data related to each Task Order with the terms and conditions of the Contract Documents.

8.7 Contractor has given City written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents related to each Task Order and the written resolution by City is acceptable to the Contractor.

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8.8 Labor

8.8.1 The Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents for each Task Order. The Contractor shall at all times maintain good discipline and order at the site.

8.8.2 The Contractor shall, at all times, have a competent superintendent, capable of reading and thoroughly understanding the drawings and specifications, as the Contractor's agent on the Work, who shall, as the Contractor's agent, supervise, direct and otherwise conduct the Work under each Task Order.

8.8.3 The Contractor shall designate the superintendent on the job to the City, in writing, immediately after receipt of each Task Order. The Contractor understands and agrees that the superintendent's physical presence on the job site is indispensable to the successful completion of the Work. If the superintendent is frequently absent from the job site, the Project Manager may deliver written notice to the Contractor to stop work or terminate the Agreement in accordance with Article 17.

8.8.4 Where required and necessary, the Contractor shall, at all times, have a certified "competent person" assigned to the job site for each Task Order. The Contractor shall assign personnel to the job site that have successfully completed training programs related to trench safety, confined space work, and maintenance of traffic (MOT). Personnel certified by the International Municipal Signal Associations with Florida Department of Transportation qualifications are required relative to MOT. Any other certifications that may be required by applicable permitting agencies for the Work assigned under each Task Order shall also be complied with by the Contractor. Failure to pursue the Work with the properly certified supervisory staff may result in a notice to stop work on a Task Order or terminate the Agreement in accordance with Article 17.

8.9 Materials:

8.9.1 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of Work under each Task Order.

8.9.2 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. Suppliers shall be selected and paid by the Contractor; the City reserves the right to approve all suppliers and materials.

8.10 Work Hours: 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 Supplementary Conditions, all work at the site shall be performed during regular working hours between 8 a.m. and 5:00 p.m., Monday through Friday.

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Unless approved by the City in advance, the Contractor will not perform work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy-two (72) hours in advance of starting such work. For any overtime inspection required by City personnel, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. **It shall be noted that the City's Inspector work hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday, and any work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime at a rate of $100.00 per hour.** The cost to the Contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the Contractor at the actual rate accrued.

8.11 Patent Fee and Royalties: The 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, or any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. The Contractor hereby expressly binds itself to indemnify and hold harmless the City from all such claims and fees and from any and all suits and action of every name and description that may be brought against City on account of any such claims, fees, royalties, or costs for any such invention or patent, and from any and all suits or actions that may be brought against said City for the infringement of any and all patents or patent rights claimed by any person, firm corporation or other entity.

8.12 Permits: The Contractor shall obtain and pay for all permits and licenses. There shall be no allowance for Contractor markup, overhead or profit for permits and licenses.

The Contractor shall pay all government charges which are applicable at the time of opening of proposals. It shall be the responsibility of the Contractor to secure and pay for all necessary licenses and permits of a temporary nature necessary for the prosecution of Work.

8.13 Law and Regulations: The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the Contractor observes that the specifications or plans are in conflict, the Contractor shall give the Project Manager prompt written notice thereof within five (5) calendar days, and any necessary changes shall be adjusted by any appropriate modifications. If the Contractor performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules, standards, specifications and regulations, and without such notice to the Project Manager, the Contractor shall bear all costs arising therefrom.

8.14 Taxes: The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the laws of the City of Fort Lauderdale, County of Broward, and the State of Florida.

SAMPLE CONSTRUCTION AGREEMENT

8.15 Contractor Use of Premises: The Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits and/or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

The Contractor shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the Project Manager with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for storage or staging by the Contractor.

The Contractor shall conduct its work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures of work of any kind, including permanent reference markers or property corner markers, or the interruption of a utility service, shall be repaired or restored promptly at no expense to the City or property owner.

The Contractor will preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction, as determined by the Project Manager. The Contractor will be responsible for repairing or replacing any trees, shrubs, lawns and landscaping that may be damaged due to careless operation of equipment, stockpiling of materials, tracking of grass by equipment or other construction activity. The Contractor will be liable for, or will be required to replace or restore at no expense to the City, all properties and areas not protected or preserved as may be required that is destroyed or damaged.

During the progress of the Work, the Contractor shall keep the premises free from accumulation of waste materials, rubbish and debris resulting from the Work. At the completion of the Work, the 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 the City. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents at no cost to the City.

8.16 Project Coordination: The Contractor shall provide for the complete coordination of the construction effort. This shall include, but not necessarily be limited to, coordination of the following:

8.16.1 Flow of material and equipment from suppliers.
8.16.2 The interrelated work with affected utility companies.
8.16.3 The interrelated work with the City where tie-ins to existing facilities are required.
8.16.4 The effort of independent testing agencies.
8.16.5 Notice to affected property owners as may be directed by the Project Manager.
8.16.6 Coordination with and scheduling of all required inspections from all permitting agencies.

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8.17 Project Record Documents and Final As-Builts (Record Drawings): Contractor shall be responsible for maintaining up-to-date redline as-built drawings, on site, at all times during construction. All as-built information shall be surveyed and verified by a professional land surveyor registered in the State of Florida. Contractor shall provide the City with a minimum of three (3) sets of signed and sealed record drawings (Final As-builts) and a CD of the electronic drawing files created in AutoCAD 2014 or later. All costs associated with survey work required for construction layout and as-built preparation shall be the responsibility of the Contractor.

8.18 Safety and Protection:

8.18.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

8.18.1.1 All employees working on the project and other persons who may be affected thereby.

8.18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

8.18.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

8.18.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders 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. The Contractor shall notify owners of adjacent property and utilities when execution of the Work may affect them at least seventy-two (72) hours in advance (unless otherwise required). All damage, injury or loss to any property caused, directly or indirectly, in whole or in part by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for safety and protection of the Work shall continue until such time as all the Work is completed and accepted by the City.

8.19 Emergencies: In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the City, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

8.20 Risk of Loss: The risk of loss, injury or destruction shall be on the Contractor until acceptance of the Work by the City. Title to the Work shall pass to the City upon acceptance of the Work by the City.

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8.21 Environmental: The Contractor has fully inspected the Premises and agrees, except as to the presence of any asbestos, to accept the Premises in an "as is" physical condition, without representation or warranty by the City of any kind, including, without limitation, any and all existing environmental claims or obligations that may arise from the presence of any "contamination" on, in or about the Premises. Further, Contractor and all entitles claiming by, through or under the Contractor, releases and discharges the City, from any claim, demand, or cause of action arising out of or relating to the Contractor's use, handling, storage, release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of any hazardous substances including asbestos on, under, from or about the Premises. The Contractor shall have no liability for any pre-existing claims or "contamination" on the Premises.

The Contractor shall not use, handle, store, discharge, treat, remove, transport, or dispose of Hazardous Substances including asbestos at, in, upon, under, to or from the Premises until receipt of instructions from the City. At such time, a City approved Change Order, which shall not include any profit, shall authorize the Contractor to perform such services.

The Contractor shall immediately deliver to the Project Manager complete copies of all notices, demands, or other communications received by the Contractor from any governmental or quasi-governmental authority or any insurance company or board of fire underwriters or like or similar entities regarding in any way alleged violations or potential violations of any Environmental Law or otherwise asserting the existence or potential existence of any condition or activity on the Premises which is or could be dangerous to life, limb, property, or the environment.

For other and additional consideration, the Contractor hereby agrees, at its sole cost and expense, to indemnify and protect, defend, and hold harmless the City and its respective employees, agents, officials, officers, representatives, contractors and subcontractors, successors, and assigns (hereafter the "City") from and against any and all claims, demands, losses, damages, costs, expenses, including but not limited to mitigation, restoration, and natural restoration expenses, liabilities, assessments, fines, penalties charges, administrative and judicial proceedings and orders, judgments, causes of action, in law or in equity, remedial action requirements and/or enforcement actions of any kind (including, without limitation, attorneys' fees and costs) directly or indirectly arising out of or attributable to, in whole or in part, the Contractor's use, handling, storage, release, threatened release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of a Hazardous Substance (excluding asbestos) on, under, from, to or about the Premises or any other activity carried on or undertaken on or off the Premises by the Contractor or its employees, agents or subcontractors, in connection with the use, handling, storage, release, threatened release, discharge, treatment, mitigation, natural resource restoration, removal, transport, decontamination, cleanup, disposal and/or presence or any Hazardous Substance including asbestos located, transported, or present on, undue, from, to, or about the Premises. This indemnity is intended to be operable under 42 U.S.C. Section 9607, as amended or revised, and any successor section.

The scope of the indemnity obligations includes, but is not limited to: (a) all consequential damages; (b) the cost of any required or necessary repair, cleanup, or detoxification of the applicable real estate and the preparation and implementation of any closure, remedial or other required plan, including without limitation; (i) the costs of

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removal or remedial action incurred by the United States government or the State of Florida or response costs incurred by any other person, or damages from injury to destruction of, or loss of, natural resources, including the cost of assessing such injury, destruction, or loss, incurred pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended; (ii) the clean-up costs, fines, damages, or penalties incurred pursuant to any applicable provisions of Florida law; and (iii) the cost and expenses of abatement, correction or cleanup, fines, damages, response costs, or penalties which arise from the provisions of any other statute, law, regulation, code ordinance, or legal requirement state or federal; and (c) liability for personal injury or property damage arising under any statutory or common law tort theory, including damages assessed for the maintenance of a public private nuisance, response costs, or for the carrying on of an abnormally dangerous activity.

8.22 No Extended Damages : For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any other reason or allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

8.23 No Liens: If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the Work is performed or any part or against any personal property or improvements or claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any Change Order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within twenty (20) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining such. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments.

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8.24 Weather Emergencies: Upon issuance of a hurricane watch by the National Weather Service, the Contractor shall submit to the City a plan to secure the work area in the event a hurricane warning is issued. The plan shall detail how the Contractor will secure the Premises, equipment and materials in a manner as to prevent damage to the Work and prevent materials and equipment from becoming a hazard to persons and property on and around the Premises. The plan shall include a time schedule required to accomplish the hurricane preparations and a list of emergency contacts that will be available, and in the City before, during and immediately after the storm.

Upon issuance of a hurricane warning by the National Weather Service, if the Contractor has not already done so, the Contractor shall implement its hurricane preparedness plan. Cost of development and implementation of the hurricane preparedness plan shall be considered as incidental to construction. Cost of any clean up and rework required after the storm will be considered normal construction risk within Florida and shall not entitle the Contractor to any additional compensation. Contractor shall be entitled to request an extension in time for completion of the Work, in accordance with the provisions of Article 15 of this Agreement, equal to the time it is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

8.25 Force Majeure: No Party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other Party or that could not have been reasonably foreseen and prevented. For this purpose, such acts or circumstances shall include, but not be limited to weather conditions affecting performance, floods, epidemics, pandemics, war, act of Governmental Authority, state of emergency, riots, strikes, lockouts, or other industrial disturbances, or protest demonstrations. Should such acts or circumstances occur, the Parties shall use their best efforts to overcome the difficulties arising therefrom and to resume the Work as soon as reasonably possible with the normal pursuit of the Work.

Inclement weather, continuous rain for less than three (3) days or the acts or omissions of subcontractors, third-party contractors, materialmen, suppliers, or their subcontractors, shall not be considered acts of force majeure.

No Party shall be liable for its failure to carry out its obligations under the Agreement during a period when such Party is rendered unable by force majeure to carry out its obligation, but the obligation of the Party or Parties relying on such force majeure shall be suspended only during the continuance of the inability and for no longer period than the unexpected or uncontrollable event.

The Contractor further agrees and stipulates, that its right to excuse its failure to perform by reason of force majeure shall be conditioned upon giving written notice of its assertion that a Force Majeure delay has commenced within ninety-six (96) hours after such an occurrence. The Contractor shall use its reasonable efforts to minimize such delays. The Contractor shall promptly provide an estimate of the anticipated additional time required to complete the Project.

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8.26 Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assisted Contracts: The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this Agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this Agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 *et seq.*).

Additionally, the Contractor assures that it, the sub-recipient or its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate. This additional language must be included in each subcontract the prime Contractor signs with a subcontractor.

ARTICLE 9 – CITY'S RESPONSIBILITIES

9.1 The City shall furnish the data required of the City under the Contract Documents promptly and shall make payments to the Contractor promptly after they are due as provided in Article 7.

9.2 The City shall provide public rights-of-way and easement, where available, for the installation of conduits, transformers pads and related appurtenances only.

9.3 Technical Clarifications and Interpretations:

9.3.1 The City shall issue, with reasonable promptness, such written clarifications or interpretations of the Contract Documents as it may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Should the Contractor fail to request interpretation of questionable items in the Contract Documents, the City shall not entertain any excuse for failure to execute the Work in a satisfactory manner.

9.3.2 The City shall interpret and decide matters concerning performance under the requirements of the Contract Documents, and shall make decisions on all claims, disputes or other matters in question. Written notice of each claim, dispute or other matter will be delivered by claimant to the other Party but in no event later than five (5) days after the occurrence of event, and written supporting data will be submitted to the other Party within five (5) days after such occurrence. All written decisions of the City on any claim or dispute will be final and binding.

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9.4 The Contractor shall perform all Work to the reasonable satisfaction of the City in accordance with the Contract Documents. In cases of disagreement or ambiguity, the City shall decide all questions, difficulties, and disputes of whatever nature, which may arise under or by reason of this Agreement or the quality, amount and value of the Work, and the City's decisions on all claims, questions and determination are final.

9.5 Cancellation For Unappropriated Funds**:** The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the Agreement into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

ARTICLE 10 – BONDS AND INSURANCE

10.1 Public Construction and Other Bonds: The Contractor shall furnish Public Construction or Performance and Payment Bonds ("Bond"), in an amount equal to 100% of the value of each Task Order issued as security for the faithful performance and payment of all the Contractor's obligations under the Contract Documents. These Bonds shall remain in effect until at least one (1) year after the date of final payment, except as otherwise provided by law. All Bonds shall be furnished and provided by the surety and shall be in substantially the same form as prescribed by the Contract Documents and be executed by such sureties as (i) are licensed to conduct business in the State of Florida, and (ii) are named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department and (iii) otherwise meet the requirements set forth herein that apply to sureties. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

10.1.1 Performance Bond: The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2022), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

A Corporate Surety Bond legally issued, meeting the approval of, and running to the City in an amount not less than the Contract Price of such improvements, conditioned that the Contractor shall maintain and make all repairs to the improvements constructed by the Contractor at their own expense and free of charge to the City, for the period of one (1) year after the date of acceptance of the Work within such period by reason of any imperfection of the material used or by reason of any defective workmanship, or any improper, imperfect or defective preparation of the base upon which any such improvement shall be laid.

10.2 Disqualification of Surety: If the Surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of Paragraph 10.1, the Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to the City.

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10.3 Insurance: As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of Contractor. Contractor shall provide the City a certificate of insurance evidencing such coverage. Contractor's insurance coverage shall be primary insurance for all applicable policies, in respect to the City's interests. The limits of coverage under each policy maintained by Contractor shall not be interpreted as limiting Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by Contractor for assessing the extent or determining appropriate types and limits of coverage to protect Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipality, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If Contractor does not own vehicles, Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability
Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

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Contractor waives, and Contractor shall ensure that Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

Contractor must be in compliance with all applicable State and Federal workers' compensation laws, including the U.S. Longshore and Harbor Workers' Compensation Act and the Jones Act, if applicable.

Insurance Certificate Requirements

i) Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.

j) Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.

k) In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.

l) In the event the Agreement term or any surviving obligation of Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.

m) The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.

n) The City shall be covered as an Additional Insured on all liability policies, with the exception of Workers' Compensation.

o) The City shall be granted a Waiver of Subrogation on Contractor's Workers' Compensation insurance policy.

p) The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:
City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the application of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at Contractor's expense.

If Contractor's primary insurance policy/policies do not meet the minimum requirements as set forth in this Agreement, Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

Contractor's insurance coverage shall be primary insurance in respect to the City's interests, a Florida municipality, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City shall be non-contributory.

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Any exclusion or provision in any insurance policy maintained by Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage may be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate of insurance should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to Contractor's insurance company or companies and the City's Risk Management office as soon as practical.

It is Contractor's responsibility to ensure that any and all of Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of Contractor. The City reserves the right to adjust insurance limits from time to time at its discretion with notice to Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

ARTICLE 11- WARRANTY AND GUARANTEE, TESTS AND INSPECTIONS, CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

11.1 Warranty: The Contractor warrants and guarantees to the 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 the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

11.1.1 Warranty of Title: The Contractor warrants to the City that it possesses good, clear and marketable title to all equipment and materials provided and that there are no pending liens, claims or encumbrances against the equipment and materials.

11.1.2 Warranty of Specifications: The Contractor warrants that all equipment, materials and workmanship furnished, whether furnished by the Contractor, its subcontractors or suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a workmanlike manner.

11.1.3 Warranty of Merchantability: The Contractor warrants that any and all equipment to be supplied pursuant to this Agreement is merchantable, free from defects, whether patent or latent in material or workmanship, and fit for the ordinary purposes for which it is intended.

11.2 Tests and Inspections: Contractor shall retain the services of an independent, certified, testing lab to perform all testing as required by the specifications, contract drawings, and any applicable permitting agency. Contractor shall provide evidence of certification to

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the City before the work and testing is done. Testing results shall be submitted to the Project Manager for review and approval at the time the results are provided to the Contractor. The Contractor shall give the Project Manager and City Inspector a minimum of twenty-four (24) hours' advanced notice of readiness of the Work for all required inspections, tests, or approvals and shall notify all applicable permitting agencies in a timely manner based on requirements set forth in the permit documents.

11.2.1 Neither observations by the Project Manager nor inspections, tests or approvals by others shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.

11.3 Uncovering Work: If any work that is to be inspected, tested or approved is covered without approval or consent of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation and/or testing. Such uncovering and replacement shall be at the Contractor's sole expense unless the Contractor has given the Project Manager timely notice of the Contractor's intention to cover such Work and the Project Manager has not acted with reasonable promptness in response to such notice.

11.3.1 If the Project Manager considers it necessary or advisable that Work covered in accordance with Paragraphs 11.2.1 be observed by the City or inspected or tested by others, the Contractor at the City's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager 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, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection testing and reconstruction if it makes a claim therefore as provided in Articles 14 and 15.

11.4 City May Stop the Work: If the Work is defective, or the Contractor fails to supply sufficient skilled supervisory personnel or workmen or suitable materials or equipment or the work area is deemed unsafe, the City may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other Party. The City will not award any increase in Contract Price or Contract Time if the Work is stopped due to the circumstances described herein.

11.5 Correction or Removal of Defective Work Before Final Payment: If required by the Project Manager, the Contractor shall promptly, without cost to the City and as specified by the Project Manager, either correct any defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by the City, remove it from the site and replace it with non-defective Work.

11.6 One Year Correction Period After Final Payment: If, within one (1) year after the date of final acceptance of work on each Task Order, or such longer period of time as may

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be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, the Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or, if it has been rejected by the City, remove it from the site and replace it with non-defective Work.

If the 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, the City may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs for such removal and replacement, including compensation for additional professional services, shall be paid by the Contractor.

11.7 Acceptance of Defective Work, Deductions: If, instead of requiring correction or removal and replacement of defective Work, the City, at the City's sole option, prefers to accept it, the City may do so. In such a case, if acceptance occurs prior to the Project Manager's recommendation of final payments, a Change Order shall be issued incorporating the necessary revisions in the Contract's Documents, including appropriate reduction in the Contract Price; or if the acceptance occurs after such recommendation, an appropriate amount shall be paid by the Contractor to the City.

11.8 City May Correct Defective Work: If the Contractor fails within a reasonable time after written notice of the Project Manager to proceed to correct defective Work or to remove and replace rejected Work as required by the Project Manager in accordance with Paragraph 11.5, or if the Contractor fails to perform the Work in accordance with the Contract Documents, the City may, after seven (7) days' written notice to the Contractor, correct and remedy any such deficiency. In exercising its rights under this paragraph, the City shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the City may exclude the Contractor from all or part of the site, take possession of all or part of the Work, suspend the Contractor's services related thereto and take possession of the Contractor's tools, construction equipment and materials stored at the site or elsewhere. The Contractor shall allow the City's representative agents and employees such access to the site as may be necessary to enable the City to exercise its rights under this paragraph. All direct and indirect costs of the City in exercising such rights shall be charged against the Contractor in an amount verified by the Project Manager, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the Contractor's defective Work. The 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 the City of the City's right hereunder.

ARTICLE 12 – INDEMNIFICATION

12.1 Disclaimer of Liability: The City shall not at any time, be liable for injury or damage occurring to any person or property from any cause, whatsoever, arising out of Contractor's construction and fulfillment of this Agreement.

12.2 Indemnification: For other, additional good valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

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12.2.1 Contractor shall, at its sole cost and expense, indemnify and hold harmless the City, its representatives, employees and elected and appointed officials from or on account of all claims, damages, losses, liabilities and expenses, direct, indirect or consequential including but not limited to fees and charges of engineers, architects, attorneys, consultants and other professionals and court costs arising out of or in consequence of the performance of this Agreement at all trial and appellate levels. Indemnification shall specifically include but not be limited to claims, damages, losses, liabilities and expenses arising out of or from (a) the negligent or defective design of the project and Work of this Agreement; (b) any act, omission or default of the Contractor, its subcontractors, agents, suppliers, employees, or laborers; (c) any and all bodily injuries, sickness, disease or death; (d) injury to or destruction of tangible property, including any resulting loss of use; (e) other such damages, liabilities, or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this Project including the warranty period; (f) the use of any improper materials; (g) any construction defect including both patent and latent defects; (h) failure to timely complete the work; (i) the violation of any federal, state, county or City laws, ordinances or regulations by Contractor, its subcontractors, agents, servants, independent contractors or employees; (j) the breach or alleged breach by Contractor of any term of the Agreement, including the breach or alleged breach of any warranty or guarantee.

12.2.2 Contractor agrees to indemnify, defend, and hold harmless the City, its officers, agents and employees, from all damages, liabilities, losses, claims, fines and fees, and from any and all suits and actions of every name and description that may be brought against City, its officers, agents and employees, on account of any claims, fees, royalties, or costs for any invention or patent and/or for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

12.2.3 Contractor shall pay all claims, losses, liens, settlements or judgments of any nature in connection with the foregoing indemnifications including, but not limited to, reasonable attorney's fees and costs for trials and appeals.

12.2.4 If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the work is performed or any part or against any personal property or improvements thereon or make a claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any change order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within five (5) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining the discharge. If

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Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments, and which shall be deducted from any amount owing to Contractor. In the event the amount due Contractor is less than the amount required to satisfy Contractor's obligation under this, or any other article, paragraph or section of this Agreement, the Contractor shall be liable for the deficiency due the City.

12.2.5 The Contractor and the City agree that Section 725.06(2), Florida Statutes (2022), as may be amended or revised, controls the extent and limits of the indemnification and hold harmless provisions of this Agreement, if any, and that the Parties waive any defects in the wording of this Article that runs afoul of said statutory section.

ARTICLE 13 – CHANGES IN THE WORK

13.1 Without invalidating this Agreement, the City may, at any time or from time to time order additions, deletions or revisions in the Work through the issuance of Task Order Amendments. Upon receipt of a fully executed Task Order Amendment, the Contractor shall proceed with the Work involved. All Work shall be executed under the applicable conditions of the Contract Documents. The City reserves the right to add, delete or modify any or all pay items and/or quantities. All adjustments shall be made on the per unit price basis where unit prices are quoted. Other adjustments, if any, shall be based on a fair and equitable manner per the Contract Documents or mutually negotiated price between the Contractor and City. In the event the Contractor and City cannot come to an agreement on a price or price adjustment, the City shall have the right to complete that item or work by other means without invalidating the Contract. No claim of loss of profit shall be made against the City.

13.2 The Project Manager may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. Such changes must be in writing and signed by the City and the Contractor.

13.3 If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be the Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City.

ARTICLE 14 – CHANGE OF CONTRACT PRICE

Contract Price shall not exceed that which is agreed to in this Agreement. Any increase to the Contract Price shall be executed through an Amendment to this Agreement and approved by the City Commission.

14.1 Time for the City to Approve Contract Amendment: Should the cumulative amount of the executed Task Orders exceed the Contract Price, a Contract Amendment must be

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approved by the City Commission authorizing additional funding for this Contract if it exceeds the threshold established in the City Code.

ARTICLE 15 – CHANGE OF THE CONTRACT TIME

15.1 The Contract Time shall be for two (2) years from the date of Commission award subject to two (2) one (1) year renewal terms.

15.2 All time limits stated in the Contract Documents and within each executed Task Order are of the essence. The provisions of this Article 15 shall not exclude recovery for damages for delay by the Contractor.

15.3 Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor (non-affiliated Contractors) shall not give rise to a claim by the Contractor for damages for increases in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T and Florida East Coast Railway, LLC.

15.4 Rights of Various Interests: Whenever work being done by City's forces or by other contractors is contiguous to or within the limits of work covered by this Agreement, the respective rights of the various interests involved shall be established by the Project Manager to secure the completion of the various portions of the Work in general harmony.

ARTICLE 16 – LIQUIDATED DAMAGES

16.1 Upon failure of the Contractor to complete the Work of an executed Task Order within the agreed upon and approved time for said Task Order, the Contractor shall pay to the City the sum of **Three Hundred/Thousand Dollars ($300.00)** for each and every calendar day that the completion of the Task Order is delayed beyond the time agreed upon for said Task Order, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. Should an act of God or the acts or omissions of the City, its agents or representatives, in derogation to the terms of this Agreement cause the delay, the Contractor shall not be responsible for the delay nor liquidated damages. Liquidated damages are fixed and agreed upon between the Parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the City as a consequence of such delay and both Parties desiring to obviate any question of dispute concerning the amount of damages and the cost and effect of the failure of the Contractor to complete the Work on time. Liquidated damages shall apply separately to each Task Order for which a time of completion is given. The City shall have the right to deduct from or retain any compensation which may be due or which may become due and payable to the Contractor the amount of liquidated damages, and if the amount retained by the City is insufficient to pay in full such liquidated damages, the Contractor shall pay all liquidated damages in full. The Contractor shall be responsible for reimbursing the City, in addition to liquidated damages or other damages for delay, for all costs of engineering, architectural fees, and inspection and other costs incurred in administering the construction of the Project beyond the completion date specified or beyond an approved extension of time granted to the Contractor whichever is later. Delays caused by or resulting from entities,

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contractors or subcontractors who are not affiliated with the Contractor shall not give rise to a claim by Contractor for damages for increase in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T, and Florida East Coast Railway, LLC.

16.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 17 – SUSPENSION OF WORK AND TERMINATION

17.1 City May Suspend Work: The City may, at any time and without cause, suspend the Work or any portion of the Work for a period of not more than ninety (90) days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor shall resume the Work on the date fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension, if the Contractor makes a claim as provided in Articles 14 and 15.

17.2 City's Right to Terminate Task Order: The City may terminate this Agreement as well as any task order upon fifteen (15) calendar days' notice upon the occurrence of any one or more of the following events:

17.2.1 If the Contractor makes a general assignment for the benefit of creditors.

17.2.2 If a trustee, receiver, custodian or agent of the Contractor is appointed under applicable law or under Agreement, whose appointment or authority to take charge of property of the 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 the Contractor's creditors.

17.2.3 If Contractor fails to begin the Work within fifteen (15) calendar days after the date set forth in the Notice to Proceed, or fails to perform the Work with sufficient workers and equipment or with sufficient materials to ensure the prompt completion of the Work, or shall perform the Work unsuitably, or cause it to be rejected as defective and unsuitable, or shall discontinue the prosecution of the Work pursuant to the accepted schedule or if Contractor shall fail to perform any material term set forth in the Contract Documents, or from any other cause whatsoever shall not carry on the Work in an acceptable manner, Project

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Manager may give notice in writing to Contractor and its Surety of such delay, neglect or default, specifying the same.

17.2.4 If the Contractor repeatedly fails to make prompt payments to subcontractors or for labor, material or equipment.

17.2.5 If the Contractor repeatedly disregards proper safety procedures.

17.2.6 If the Contractor disregards any local, state or federal laws or regulations.

17.2.7 If the Contractor otherwise violates any provisions of this Agreement.

17.3 If Contractor, within a period of ten (10) calendar days after such notice, shall not proceed in accordance therewith, the City may exclude the Contractor from the Work site and take the prosecution of the Work out of the hands of the Contractor, and take possession of the Work and all of the Contractor's tools, appliances, construction equipment and machinery at the site and use them without liability to the City for trespass or conversion, incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City may deem expedient. In this instance, the Contractor shall not be entitled to receive any further compensation until the Work is finished.

17.3.1 If after notice of termination of Contractor's notice to proceed, it is determined for any reason that Contractor was not in default, the rights and obligations of City and Contractor shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause as set forth in Section 17.5 below.

17.3.2 Upon receipt of Notice of Termination pursuant to Sections 17.2 or 17.5, Contractor shall promptly discontinue all affected work unless the Notice of Termination directs otherwise and deliver or otherwise make available to City all data, drawings, specifications, reports, estimates, summaries and such other information as may have been required by the Contract Documents whether completed or in process.

17.4 If the Contractor commits a default due to its insolvency or bankruptcy, the following shall apply:

17.4.1 Should this Agreement be entered into and fully executed by the Parties, funds released and the Contractor (Debtor) files for bankruptcy, the following shall occur:

17.4.1.1 In the event the Contractor files a voluntary petition under 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303, the Contractor shall acknowledge the extent, validity, and priority of the lien recorded in favor of the City. The Contractor further agrees that in the event of this default, the City shall, at its option, be entitled to seek relief from the automatic stay pursuant to 11 U.S.C. 362. The City shall be entitled to relief from the automatic stay pursuant to 11 U.S.C. 362(d) (1) or (d) (2), and the Contractor agrees to waive the notice

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provisions in effect pursuant to 11 U.S.C. 362 and any applicable Local Rules of the United States Bankruptcy Court. The Contractor acknowledges that such waiver is done knowingly and voluntarily.

17.4.1.2 Alternatively, in the event the City does not seek stay relief, or if stay relief is denied, the City shall be entitled to monthly adequate protection payments within the meaning of 11 U.S.C. 361. The monthly adequate protection payments shall each be in an amount determined in accordance with the Note and Mortgage executed by the Contractor in favor of the City.

17.4.1.3 In the event the Contractor files for bankruptcy under Chapter 13 of Title 11, United States Code in addition to the foregoing provisions, the Contractor agrees to cure any amounts in arrears over a period not to exceed twenty-four (24) months from the date of the confirmation order, and such payments shall be made in addition to the regular monthly payments required by the Note and mortgage. Additionally, the Contractor shall agree that the City is over secured and, therefore, entitled to interest and attorney's fees pursuant to 11 U.S.C. 506(b). Such fees shall be allowed and payable as an administrative expense. Further, in the event the Contractor has less than five (5) years of payments remaining on the Note, the Contractor agrees that the treatment afforded to the claim of the City under any confirmed plan of reorganization shall provide that the remaining payments shall be satisfied in accordance with the Note, and that the remaining payments or claim shall not be extended or amortized over a longer period than the time remaining under the Note.

17.4.2 Should this Agreement be entered into and fully executed by the Parties, and the funds have not been forwarded to Contractor, the following shall occur:

17.4.2.1 In the event the Contractor files a voluntary petition pursuant to 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303., the Contractor acknowledges that the commencement of a bankruptcy proceeding constitutes an event of default under the terms of this Agreement. Further, the Contractor acknowledges that this Agreement constitutes an executory contract within the meaning of 11 U.S.C. 365. The Contractor acknowledges that this Agreement is not capable of being assumed pursuant to 11 U.S.C. 365(c)(2), unless the City expressly consents in writing to the assumption. In the event the City consents to the assumption, the Contractor agrees to file a motion to assume this Agreement within ten (10) days after receipt of written consent from the City, regardless of whether the bankruptcy proceeding is pending under Chapter 7, 11, or 13 of Title 11 of the United States Code. The Contractor further acknowledges that this Agreement is not capable of being assigned pursuant to 11 U.S.C. 365(b)(1).

17.5 Termination for Convenience: This Agreement may be terminated for convenience in writing by City upon thirty (30) days' written notice to Contractor (delivered by certified mail, return receipt requested) of intent to terminate and the date on which such termination becomes effective. In such case, Contractor shall be paid for all work

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executed and accepted by the City and costs reasonably incurred by Contractor relating to commitments which had become firm prior to the termination. No payment shall be made for profit for work/services which have not been performed or accepted.

17.6 Where the Contractor's service has been so terminated by the City, the termination shall not affect any rights of the City against the Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due the Contractor by the City will not release the Contractor from liability.

17.7 The Contractor has no right, authority or ability to terminate the Work except for the wrongful withholding of any payments due the Contractor from the City.

ARTICLE 18 – DISPUTE RESOLUTION

18.1 Resolution of Disputes: Questions, claims, difficulties and disputes of whatever nature which may arise relative to the technical interpretation of the Contract Documents and fulfillment of this Agreement as to the character, quality, amount and value of any work done and materials furnished, or proposed to be done or furnished under, or by reason of, the Contract Documents which cannot be resolved by mutual agreement of City Project Manager and Contractor shall be submitted to the City Manager or his designee and Contractor's representative for resolution. Prior to any litigation being commenced, for any disputes which remain unresolved, within sixty (60) days after final completion of the Work, the Parties shall participate in mediation to address all unresolved disputes to a mediator agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies provided under the laws of Florida. Failure by a Party to comply in strict accordance with the requirements of this Article, then said Party specifically waives all of its rights provided hereunder, including its rights and remedies under the laws of Florida.

18.1.1 All non-technical administrative disputes (such as billing and payment) shall be determined by Contract Administrator.

18.1.2 During the pendency of any dispute and after a determination thereof, Contractor and Contract Administrator shall act in good faith to mitigate any potential damages including utilization of construction schedule changes and alternate means of construction. During the pendency of any dispute arising under this Agreement, other than termination herein, Contractor shall carry on the Work and adhere to the progress schedule. The Work shall not be delayed or postponed pending resolution of any disputes or disagreements.

18.1.3 For any disputes which remain unsolved, within sixty (60) calendar days after Final Completion of the Work, the Parties shall participate in mediation to address all unresolved disputes. A mediator shall be mutually agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies under applicable law. If a Party objecting to a determination, fails to comply in strict accordance with the requirements of this Article, said Party specifically waives all of its rights provided hereunder, including its rights and remedies under applicable law.

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ARTICLE 19 – NOTICES

19.1 All notices required by any of the Contract Documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested to the following:

To the City:

_____
Project Manager
City of Fort Lauderdale
100 North Andrews Avenue, 4th Floor
Fort Lauderdale, Florida 33301-1016
Telephone: (954-828_____
E-mail: _____

with copies to:

City Manager and City Attorney
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, Florida 33301-1016

To the Contractor:

_____
_____
_____
Telephone: _____
E-mail: _____

ARTICLE 20 – LIMITATION OF LIABILITY

20.1 The City desires to enter into this Agreement only if in so doing the City can place a limit on the City's liability for any cause of action arising out of this Agreement, so that the City's liability for any breach never exceeds the sum of $1,000. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor expresses its willingness to enter into this Agreement with the knowledge that the Contractor's recovery from the City to any action or claim arising from the Agreement is limited to a maximum amount of $1,000, which amount shall be reduced by the amount actually paid by the City to the Contractor pursuant to this Agreement, for any action or claim arising out of this Agreement. Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the limitation placed upon the City's liability as set forth in Section 768.28, Florida Statutes (2022), as may be amended or revised , or to extend the City's liability beyond the limits established in said Section 768.28 (2022), as may be amended or revised; and no claim or award against the City shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

20.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and

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agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 21 – GOVERNING LAW; WAIVER OF JURY TRIAL

21.1 The Agreement shall be interpreted and construed in accordance with, and governed by, the laws of the state of Florida. The Parties agree that the exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claims arising from, related to, or in connection with this Agreement must be litigated in federal court, the Parties agree that the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **BY ENTERING INTO THIS AGREEMENT, THE PARTIES HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS EITHER PARTY MIGHT HAVE TO A TRIAL BY JURY OF ANY ISSUES RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

ARTICLE 22 – MISCELLANEOUS

22.1 The duties and obligations imposed by this Agreement and the rights and remedies available to the Parties and, in particular but without limitation, the warranties, guaranties and obligations imposed upon the Contractor and all of the rights and remedies available to the City, 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, and the provisions of this Paragraph will survive final payment and termination or completion of this Agreement.

22.2 The Contractor shall not assign or transfer this Agreement or its rights, title or interests. The obligations undertaken by the Contractor pursuant to this Agreement shall not be delegated or assigned to any other person or firm. Violation of the terms of this Paragraph shall constitute a material breach of Agreement by the Contractor and the City any, at its discretion, cancel this Agreement and all rights, title and interest of the Contractor which shall immediately cease and terminate.

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22.3 The Contractor and its employees, volunteers and agents shall be and remain an independent contractor and not agents or employees of the City with respect to all of the acts and services performed by and under the terms of this Agreement. This Agreement shall not in any way be constructed to create a partnership, association or any other kind of joint undertaking or venture between the Parties.

22.4 The City reserves the right to audit the records of the Contractor relating in any way to the Work to be performed pursuant to this Agreement at any time during the performance and term of this Agreement and for a period of three (3) years after completion and acceptance by the City. If required by the City, the Contractor agrees to submit to an audit by an independent certified public accountant selected by the City. The Contractor shall allow the City to inspect, examine and review the records of the Contractor at any and all times during normal business hours during the term of this Agreement.

22.5 The remedies expressly provided in this Agreement to the City shall not be deemed to be exclusive but shall be cumulative and in addition to all other remedies in favor of the City now or later existing at law or in equity.

22.6 Should any part, term or provisions of this Agreement be decided by the courts to be invalid, illegal or in conflict with any state or federal law, the validity of the remaining portion or provision shall not be affected.

22.7 Prohibition Against Contracting With Scrutinized Companies: Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2022), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2022), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2022), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2022), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2022), as may be amended or revised.

By submitting a proposal or response, the company, principals, or owners certify that it is not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

22.8 Public Entity Crimes: In accordance with the Public Crimes Act, Section 287.133, Florida Statutes (2021), as may be amended or revised, a person or affiliate who is a

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contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes (2021), as may be amended or revised, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

22.9 Attorney Fees: If City or Contractor incurs any expense in enforcing the terms of this Agreement through litigation, the prevailing Party in that litigation shall be reimbursed for all such costs and expenses, including but not limited to court costs, and reasonable attorney fees incurred during litigation.

22.10 Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES (2022), TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 100 N. ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA 33301.

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2022), as may be amended or revised, or as otherwise provided by law.

3. 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 this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, 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

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public records upon completion of this Agreement, 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's custodian of public records, in a format that is compatible with the information technology systems of the City.

22.11 Non-Discrimination

The Contractor shall not discriminate against its employees based on the employee's race, color, religion, gender, gender identity, gender expression, marital status, sexual orientation, national origin, age, disability, or any other protected classification as defined by applicable law.

1. The Contractor certifies and represents that the Contractor offers the same health benefits to the domestic partners of its employees as are offered its employees' spouses or offers its employees the cash equivalent of such health benefits because it is unable to provide health benefits to its employees' domestic partners, and that the Contractor will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as may be amended or revised, ("Section 2-187"), during the entire term of this Agreement.

2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.

4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.

5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in Section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

22.12 E-Verify

As a condition precedent to the effectiveness of this Agreement, pursuant to Section 448.095, Florida Statutes (2022), as may be amended or revised, the Contractor and its subcontractors shall register with and use the E-Verify system to electronically verify the employment eligibility of newly hired employees.

1. The Contractor shall require each of its subcontractors, if any, to provide the Contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. The Contractor shall maintain a copy of the subcontractor's affidavit for the duration of this Agreement and in accordance with the public records requirements of this Agreement.

2. The City, the Contractor, or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated Section 448.09(1), Florida Statutes (2022), as may be amended or revised, shall terminate the Agreement with the person or entity.

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3. The City, upon good faith belief that a subcontractor knowingly violated the provisions of Section 448.095(2), Florida Statutes (2022), as may be amended or revised, but that the Contractor otherwise complied with Section 448.095(2), Florida Statutes (2022), as may be amended or revised, shall promptly notify Contractor and order the Contractor to immediately terminate the contract with the subcontractor, and the Contractor shall comply with such order.

4. An Agreement terminated under Sections 448.095(2)(c)1. or 2., Florida Statutes (2022), as may be amended or revised, is not a breach of contract and may not be considered as such. If the City terminates this Agreement under Section448.095(2)(c), Florida Statutes (2022), as may be amended or revised, the Contractor may not be awarded a public contract for at least one year after the date on which the Agreement was terminated. The Contractor is liable for any additional costs incurred by the City as a result of termination of this Agreement.

5. Contractor shall include in each of its subcontracts, if any, the requirements set forth in this Section, including this subparagraph, requiring any and all subcontractors, as defined in Section 448.095(1)(j), Florida Statutes (2022), as may be amended or revised, to include all of the requirements of this Section in its subcontracts. Contractor shall be responsible for compliance by any and all subcontractors, as defined in Section 448.095(1)(j), Florida Statutes (2022), as may be amended or revised, with the requirements of Section 448.095, Florida Statutes (2022), as may be amended or revised.

[THIS SPACE WAS INTENTIONALLY LEFT BLANK]

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CITY

IN WITNESS OF THE FOREGOING, the Parties have set their hands and seals the day and year first written above.

CITY OF FORT LAUDERDALE, a Florida municipal corporation

By: _____
GREG CHAVARRIA
City Manager

Date: _____

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

Approved as to Legal Form:
D/Wayne M. Spence, Interim City Attorney

By: _____
RHONDA MONTOYA HASAN
Assistant City Attorney

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CONTRACTOR

WITNESSES:

CONTRACTOR.,
a Florida company/corporation.

_____ By:_____

_____ Print Name:_____
Print Name

Title:_____

ATTEST:

_____

_____
Print Name

By:_____
Secretary

(CORPORATE SEAL)

STATE OF _____:

COUNTY OF _____:

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 2023, by _____, (NAME OF AUTHORIZED OFFICER), as _____ (TITLE OF AUTHORIZED OFFICER,) for _____(NAME OF COMPANY), a Florida _____(TYPE OF COMPANY).

_____
(Signature of Notary Public - State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known_____ OR Produced Identification_____
Type of Identification Produced: _____

SAMPLE CONSTRUCTION AGREEMENT

DETAILED SPECIFICATIONS

GENERAL: The work consists of furnishing all labor, tools, material, equipment, supplies and incidentals necessary for the construction of the contract items indicated on the Proposal. Mobilization and demobilization, sanitary facilities, barricades, insurance and bonds, and any other costs relating to performing the work shall be borne by the Contractor and included in the line items unit cost pricing. Work will be performed on City, County, or State roadways, right-of-ways, residential streets and City-owned property.

Contractor will be required to respond to emergency situations that may arise within the City at any time, i.e.: sewer force main break, water main break, structure failure, etc. Contractor is expected to be available 24 hours a day 7 days a week to respond and perform emergency repair work as needed, including holidays.

Refer to specification section 221316 Sanitary Waste and Vent Piping and section 221313 Facility Sanitary Sewers for additional information and requirements.

PROCEDURE FOR ASSIGNMENT OF WORK: All work is scheduled through the Public Works Department. An official form (Work Order) with the location and amount of work to be done, including any necessary plans/sketches or back up information will be given to the contractor. Upon receipt of a Work Order, the contractor shall provide a cost estimate, based on the line items in the Contract, within three (3) working days. **Work order estimate(s) will be used to prepare the Task Order(s) for approval by the City Manager. The contractor will be provided with executed Task Order(s) upon approval by the City Manager, and notified to proceed with the work**.

The contractor shall commence work of each executed task order within five (5) working days of a notice to proceed for the specific task order. Prior to commencing work, the contractor shall submit a schedule to the Project Manager, identifying the number of working days that will be required to complete the scope of work for the specific task order. The work shall be completed within the time period identified in the approved schedule, subject to approved extensions authorized by the Project Manager. Failure to complete the work of any task order, within the agreed to and approved schedule timeframe, shall subject the contractor to Article 16 Liquidated Damages, provision of the contract.

WORK IN MAJOR STREETS: Where the repair is located on streets under the jurisdiction of FDOT or Broward County, or on city streets with a classification of collector street or higher, the work may be directed by the authority having jurisdiction, to be executed at nighttime, weekends, or legal holidays, to mitigate traffic impacts and/or reduce inconvenience to the travelling public.

The contractor is hereby informed that there shall be no additional compensation for executing work orders outside of normal working hours, where required as a permit condition by the authority having jurisdiction or where required by the city because of the nature of the location, e.g. business/commercial district, as in a downtown area.

INSPECTOR OVERTIME: The contractor's attention is directed to Article 8.10, Sheet C-10 of the Construction Agreement, concerning regular work hours and inspector overtime charges. Unless incurred as a result of a permit condition, the contractor shall pay for additional charges

to the city for inspector overtime work. Such additional charges shall be a subsidiary obligation of the contractor and no extra payment shall be made to the contractor for overtime work. The cost to the contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the contractor at the actual rate accrued.

QUANTITIES OF WORK: The quantities of work in the Proposal are a rough approximation only. The total quantities of work to be included in this contract and actually performed may vary widely depending upon the work that will be authorized by the City during the period of this contract.

CONTRACT DATE: This contract shall run for **two (2)** year, commencing on the date of Commission approval. All task orders executed before the actual termination date must be completed under this contract.

CONTRACTOR EXTENSION: The City reserves the right to extend the contract for **2** additional **1** year terms, providing all terms, conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

CONTRACTOR EXPERIENCE: Contractor shall have been performing underground pipeline repair/replacement for a minimum of five (5) years. The qualifier for the Contractor's firm must be an officer or principal of that firm. In addition, Contractor shall have three (3) years' experience working on public agency projects.

The work anticipated under this contract occasionally involves working in difficult ground conditions, involving deep excavations, high water table, well-pointing, etc. The successful contractor must be able to show experience with pressure pipe and gravity sewer work in similar type conditions. Contractor must also have successfully completed permitted work not only in roads under local jurisdictions but also in county and state jurisdictions.

SPECIFICATIONS: All work shall be done in accordance with GENERAL CONDITIONS, except where noted otherwise in these detailed specifications.

REMOVAL OF PIPE: Contractor shall excavate down to the existing pipe with a backhoe; however, sections of pipe shall be removed by hand excavation around the pipe. Special care shall be used to prevent damage to existing sections of pipe.

CONNECTION TO EXISTING PIPE: Contractor shall visually check the existing pipeline (minimum 20') to determine physical condition. The contractor shall provide a lamp for this inspection. No pipe shall be connected to another which has a crack or any damage. The existing pipe shall be cut with a saw or pipe cutter. After the existing pipe is cut and cleaned, contractor shall check condition of pipe and adjacent pipe for any damage, verify elevation of existing pipe, and notify the City's Project Manager that pipe is ready for inspection, prior to making connection. Connection shall not be made until authorized by the City's Project Manager. Upstream connection shall be made so that gap between pipe ends is less than ½-inch.

POINT REPAIR ITEMS

ITEM 1 – WELL POINT SYSTEM: Shall include well point pumps, header pipe, and points, up to 40LF installed around excavation with discharge pipe to drainage structure and/or sedimentation box as required by the permitting jurisdiction and City's Project Manager.

ITEM 2: If header pipe and points are required in excess of 40LF of excavation. Extension shall mean on both sides; i.e., 10-feet header pipe and points each side paid for as 1-10 foot increase. **NOTE: Additional header lengths must be 5-feet or greater beyond the 10-foot increment to count as an additional 10-foot increase.**

ITEM 3 – BYPASS PUMP: Contractor shall provide all required pipe, hose, plugs, and pump to re-route wastewater or storm water around repair location during construction.
Dependent on the location, the contractor may be required to build an enclosure around pumps or use an electric pump as primary bypass for noise abatement issues. On sewer lines with minimum flow, as authorized by the City's Project Manager and utility, the upstream manhole may be plugged and wastewater pumped out by the Public Services Department vacuum truck.

ITEMS 4-7 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the repair and replacement of existing sanitary sewer pipe 8-inch or 10-inch diameter, up to 20LF. Contractor shall remove (carefully) existing vitrified clay or other pipe and replace with 8-inch or 10-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

The ends of the new pipe shall be connected to existing pipe with Atlas or Fernco couplings with stainless steel shear band.

ITEMS 8-11 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary sewer pipe 8-inch or 10-inch diameter, **in excess of 20LF**, as specified in ITEMS 4-7. See line items on proposal for specified depths of excavation.

ITEMS 12-15 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the repair and replacement of existing sanitary sewer pipe 12-inch or 15-inch diameter, up to 20LF. Contractor shall remove (carefully) existing vitrified clay or other pipe and replace with 12-inch or 15-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

The ends of the new pipe shall be connected to existing pipe with Atlas or Fernco couplings with stainless steel shear band.

ITEMS 16-19 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary sewer pipe 12-inch or 15-inch diameter, **in excess of 20LF**, as specified in ITEMS 12-15. See line items on proposal for specified depths of excavation.

ITEMS 20-23 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the repair and replacement of existing sanitary sewer pipe 18-inch or 24-inch diameter, up to 20LF. Contractor shall remove (carefully) existing vitrified clay or other pipe and replace with 18-inch or 24-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable

soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

The ends of the new pipe shall be connected to existing pipe with Atlas or Fernco couplings with stainless steel shear band.

ITEMS 24-27 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary sewer pipe 18-inch or 24-inch diameter, **in excess of 20LF**, as specified in ITEMS 20-23. See line items on proposal for specified depths of excavation.

ITEMS 28-31 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the repair and replacement of existing sanitary sewer pipe 30-inch or 36-inch diameter, up to 20LF. Contractor shall remove (carefully) existing vitrified clay or other pipe and replace with 30-inch or 36-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

The ends of the new pipe shall be connected to existing pipe with Atlas or Fernco couplings with stainless steel shear band.

ITEMS 32-35 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary sewer pipe 30-inch or 36-inch diameter, **in excess of 20LF**, as specified in ITEMS 28-31. See line items on proposal for specified depths of excavation.

ITEMS 36-39 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the repair and replacement of existing sanitary sewer pipe 42-inch or 48-inch diameter, up to 20LF. Contractor shall remove (carefully) existing vitrified clay or other pipe and replace with 42-inch or 48-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

The ends of the new pipe shall be connected to existing pipe with Atlas or Fernco couplings with stainless steel shear band.

ITEMS 40-43 – REPAIR OR REPLACE EXISTING SANITARY SEWER PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary sewer pipe 42-inch or 48-inch diameter, **in excess of 20LF**, as specified in ITEMS 36-39. See line items on proposal for specified depths of excavation.

ITEM 44-46 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the repair and replacement of existing sanitary sewer force main pipe 4-inch or 6-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 4-inch or 6-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed

suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and epoxy lined with Protecto 401 or approved equal.

ITEM 47-49 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary force main pipe **4-inch or 6-inch diameter**, as specified in ITEMS 44-46, See line items on proposal for specified depths of excavation.

ITEM 50-52 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the repair and replacement of existing sanitary sewer force main pipe 8-inch or 10-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 8-inch or 10-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and epoxy lined with Protecto 401 or approved equal.

ITEM 53-55 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary force main pipe **8-inch or 10-inch diameter**, as specified in ITEMS 50-52, See line items on proposal for specified depths of excavation.

ITEM 56-58 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the repair and replacement of existing sanitary sewer force main pipe 12-inch or 16-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 12-inch or 16-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and epoxy lined with Protecto 401 or approved equal.

ITEM 59-61 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary force main pipe **12-inch or 16-inch diameter**, as specified in ITEMS 56-58, See line items on proposal for specified depths of excavation.

ITEM 62-64 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the repair and replacement of existing sanitary sewer force main pipe 20-inch or 24-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 20-inch or 24-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and epoxy lined with Protecto 401 or approved equal.

ITEM 65-67 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary force main pipe **20-inch or 24-inch diameter**, as specified in ITEMS 62-64, See line items on proposal for specified depths of excavation.

ITEM 68-70 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the repair and replacement of existing sanitary sewer force main pipe 30-inch or 36-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 30-inch or 36-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and epoxy lined with Protecto 401 or approved equal.

ITEM 71-73 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary force main pipe **30-inch or 36-inch diameter**, as specified in ITEMS 68-70, See line items on proposal for specified depths of excavation.

ITEM 74-76 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the repair and replacement of existing sanitary sewer force main pipe 42-inch or 48-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 42-inch or 48-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and epoxy lined with Protecto 401 or approved equal.

ITEM 77-79 – REPAIR OR REPLACE EXISTING SANITARY SEWER FORCE MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing sanitary force main pipe **42-inch or 48-inch diameter**, as specified in ITEMS 74-76, See line items on proposal for specified depths of excavation.

ITEM 80-81 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 4-inch or 6-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 4-inch or 6-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

ITEM 82-83 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **4-inch or 6-inch diameter**, as specified in ITEMS 80-81, See line items on proposal for specified depths of excavation.

ITEM 84-85 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 8-inch or 10-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 8-inch or 10-inch diameter C-900 150 psi

rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

ITEM 86-87 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **8-inch or 10-inch diameter**, as specified in ITEMS 84-85, See line items on proposal for specified depths of excavation.

ITEM 88-89 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 12-inch or 16-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 12-inch or 16-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

ITEM 90-91 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **12-inch or 16-inch diameter**, as specified in ITEMS 88-89, See line items on proposal for specified depths of excavation.

ITEM 92-93 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 20-inch or 24-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 20-inch or 24-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

ITEM 94-95 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **20-inch or 24-inch diameter**, as specified in ITEMS 92-93, See line items on proposal for specified depths of excavation.

ITEM 96-97 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 30-inch or 36-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 30-inch or 36-inch diameter C-900 150 psi rated PVC. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

ITEM 98-99 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **30-inch or 36-inch diameter**, as specified in ITEMS 96-97, See line items on proposal for specified depths of excavation.

ITEM 100-101 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 4-inch or 6-inch diameter, up to 20LF.

Contractor shall remove (carefully) existing pipe and replace with 4-inch or 6-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and cement lined.

ITEM 102-103 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **4-inch or 6-inch diameter**, as specified in ITEMS 100-101, See line items on proposal for specified depths of excavation.

ITEM 104-105 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 8-inch or 10-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 8-inch or 10-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and cement lined.

ITEM 106-107 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **8-inch or 10-inch diameter**, as specified in ITEMS 104-105, See line items on proposal for specified depths of excavation.

ITEM 108-109 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 12-inch or 16-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 12-inch or 16-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and cement lined.

ITEM 110-111 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **12-inch or 16-inch diameter**, as specified in ITEMS 108-109, See line items on proposal for specified depths of excavation.

ITEM 112-113 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 20-inch or 24-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 20-inch or 24-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and cement lined.

ITEM 114-115 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **20-inch or 24-inch diameter**, as specified in ITEMS 112-113, See line items on proposal for specified depths of excavation.

ITEM 116-117 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 30-inch or 36-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 30-inch or 36-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and cement lined.

ITEM 118-119 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the **additional cost** to repair or replace existing water main pipe **30-inch or 36-inch diameter**, as specified in ITEMS 116-117, See line items on proposal for specified depths of excavation.

ITEM 120-121 – REPAIR OR REPLACE EXISTING WATER MAIN PIPE: Shall be used for the repair and replacement of existing water main pipe 42-inch or 48-inch diameter, up to 20LF. Contractor shall remove (carefully) existing pipe and replace with 42-inch or 48-inch diameter ductile iron pipe, pressure Class 350. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts). The ductile iron pipe should be restrained and cement lined.

ITEM 124-143 – Water Service Lines: Shall be used for the repair and replacement of existing water service lines.

ITEM 144-156 – Directional Boring: Shall be used for the Directional Boring new piping for water and sewer.

ITEM 157-163 – Pipe Liner: Shall be used for the Pipe Liner of existing pipes for water and sewer.

ITEM 164- LATERALS: Shall be used for the installation of new 6-inch diameter laterals, and repair or replacement of existing 6-inch diameter laterals. This item shall include all materials, wye (or tee), bends, lateral pipe (PVC SDR26), up to 20LF beyond centerline of main.

ITEM 165 – LATERALS: Shall be used for the **additional cost** of installing new 6-inch diameter laterals, and repair or replacement of existing 6-inch diameter laterals in excess of 20LF from centerline of main, as specified in ITEM 164.

ITEM 166 – LATERALS: Shall be used for the **additional cost** for repair, replacement, or relocation, of existing lateral stacks (single or double), or lateral lines at locations already under repair under this contract. A new wye or tee shall be installed in the main sewer. The lateral line shall be installed so that it makes a maximum angle of 45˚ with the horizontal plane. Where existing lateral is a stack connection, the lateral shall be removed or re-laid to less than 45˚ angle. This item shall include all materials, wye (or tee), bends, 6-inch lateral pipe and coupling to reconnect to existing lateral line. This item shall include, lateral stack, lateral line, replacing

damaged pipe and fittings with new C-900, Class 150 pipe, fittings, Atlas couplings (or equal) and compacted backfill.

Existing lateral lines damaged by the contractor will not be paid for by the City. The contractor shall use care in removing existing lateral lines when repairing main line. Contractor is advised that work for new lateral construction may be reduced or even eliminated.

ITEM 167-168 – CLEAN-OUT: Shall be used for the **installation of** 6-inch diameter cleanout on existing laterals on City right of way, including concrete collar when installed on swales.

ITEM 169-173 – NEW MANHOLES: Shall be used to furnish and install 4-ft. diameter precast concrete sanitary sewer manholes. This item shall include cast iron frame and cover, and all necessary tie-ins for a complete installation. Contractor shall submit shop drawings of manhole to City's Project Manager for approval prior to purchase and installation of manhole. See specific line item in proposal for height of structures.

ITEM 174-178 - REMOVAL OF MANHOLES: Shall be used for the removal and proper disposal of existing 4-ft. diameter precast concrete or brick sanitary sewer manholes. See specific line item in proposal for height of structures.

ITEM 179 – SEWER MANHOLE REHABILITATION: Shall be used for repair and rehabilitation of existing sanitary sewer manhole structures.

ITEM 180 – REPLACE 24-inch MANHOLE RING AND COVER: Shall be used for removal and installation of new 24-inch manhole ring and cover on existing manhole structures.

ITEM 181 – CORING: Shall be used for coring existing structures for pipe tie-ins. This item shall include saw-cutting, bricks and mortar, and all necessary tools and equipment for a complete tie-in to an existing structure.

ITEM 182-192 – HEAVY DUTY (H-20 RATED) HATCH INCLUDING FRAME AND COVER: Shall be used for the installation of new heavy duty (H-20 Rated) vapor tight (gasket) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others. Contractor shall submit shop drawings of hatches to City's Project Manager for approval prior to purchase and installation of these. See specific line item in proposal for dimensions. Model EJ 8218 or approved equal.

ITEM 193 – DUCTILE IRON PIPE FITTINGS: Shall be used to furnish and install coated ductile iron pipe fittings, 350 rating in sizes 4-inch to 36-inch diameter.

ITEM 194-228 – VALVES: Shall be used to furnish and install ductile iron valves, 350 rating in sizes 4-inch to 48-inch diameter, in compliance with AWWA Specifications.

ITEM 229-232 – FIRE HYDRANTS: Shall be used to furnish and install breakaway fire hydrants Mueller Super Centurion Model 200 or American Darling Model B84B, or approved equal. Fire hydrants shall be installed with the center of the nozzle 18 inches above finished grade.

ITEM 233 – Installation of bacteriological sampling points: Shall be used for the Installation of bacteriological sampling points.

ITEM 234-247 – Line Stop: Shall be used for the installation of line stops for watermain and forcemain pipes.

ITEM 248-251 – Storm Drainage Structures : Shall be used to furnish and install precast concrete storm drainage structures. This item shall include cast iron frame and cover, and all necessary tie-ins for a complete installation. Contractor shall submit shop drawings of storm drainage structures to City's Project Manager for approval prior to purchase and installation of storm drainage structures. See specific line item in proposal for height of structures.

ITEMS 252-261 – REPAIR OR REPLACE EXISTING STORM DRAINAGE PIPE: Shall be used for the repair and replacement of storm drainage pipe 12-inch or 36-inch diameter, up to 20LF. Contractor shall remove (carefully) existing storm drainage pipe. New pipe shall be laid on undisturbed suitable soil at bottom of excavation to permit the pipe to be properly laid. Granular material (e.g. ¾ inch washed rock) may be used as an alternate bedding material. See line items on proposal for specified depths of excavation. This item should include but is not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts).

ITEM 262 – DE-MUCKING: When unstable soil or unsuitable material is encountered at the proposed sewer elevation, it shall be removed to a depth that is suitable, and replaced with ¾" washed rock (#57 stone) to provide a suitable bedding foundation for the pipe. Work shall include removal and disposal of muck, debris, organic, or other deleterious material. Clean fill shall also be provided under structures to provide a stable base to set structure. The contractor may utilize select on-site excavated material as fill, if determined suitable by the City. The contractor shall be aware that the basis of payment for the work will be the volume of fill or stone hauled-in and installed by the contractor at the unit price bid in the proposal.The contractor and the City's Project Manager shall, agree in advance, on the capacity of each truck delivering fill and or stone. The contractor shall provide the Project Manager with tickets to substantiate the quantities submitted for payment.

ITEM 263 – 12-INCH LIMEROCK: Contractor shall square off existing lime rock base and stabilized sub-base and install 12-inch thickness of lime rock. Lime rock to be installed in 6-inch compacted lifts.

ITEM 264 – ASPHALTIC CONCRETE: Contractor shall saw-cut existing asphalt minimum 1-foot behind new lime rock base. A minimum 1-1/2-inch-thick (or up to 2" if in Collector, County, or State road, or if required to match existing pavement) asphaltic concrete surface shall be installed over the trench area between saw-cuts. Work shall also include application of prime coat or tack coat as applicable.

ITEM 265 – MILLING AND PAVING: Shall be used for milling and paving existing asphalt to a depth of 2-inches.

ITEM 266-267 – MAINTENANCE OF TRAFFIC: Shall be used for traffic control on local city streets and residential roads, county or state road as applicable. Contractor shall provide a traffic control plan prepared by a certified ATSSA certified technician and obtain MOT permit from the City of Fort Lauderdale or regulatory jurisdiction with all required signatories.

ITEM 268 – Temporary Asphalt: Contractor shall furnish all labor, materials, accessories, equipment and tools necessary to install temporary asphalt pavement, including striping, or as required by the jurisdiction.

ITEM 269-270 – SOD: Shall be used for sod replacement within the work limits. Damaged areas by the contractor's operations, outside the work limits, shall not be paid for under Item 269 or Item 270. St. Augustine "Floritam" shall be used in irrigated areas or when required to match existing turf; Bahia sod shall be used in non-irrigated areas.

ITEM 271 – SHEET PILING: Payment for sheet piling (Z) piles shall be based on square foot of contact area within the supported trench/excavation. Contractor will not be paid for un-driven sheet-piling above the top level of the excavation.

ITEM 272 – FLOWABLE FILL: Flowable fill is an alternative for general backfill or compacted granular fill, to be used dependent on site conditions, as authorized by the City's Project Manager. Fill shall be excavatable type, maximum 100 PSI, 28 day compressive strength and shall conform to FDOT standard Specifications for Road and Bridge Construction, Section 121.

ITEM 273 – STEEL PLATES: Furnish and install temporary traffic bearing plates, 1" x 10' x 20', when required. Include asphalt transition to secure plates in place, remove and haul away upon completion. Unit cost shall be per location.

ITEM 274-280 - RESTORATION: Shall include all labor, materials, accessories, equipment and tools necessary to remove and install concrete sidewalks, curb and gutter, driveways, slabs and crossings. If existing brick pavers are used, Contractor shall remove these by hand, and re-install them once work is completed. If existing cannot be saved, Contractor shall install new ones using the same type as the existing.

ITEM 281-282 - TESTING LABORATORY: Shall be used for compaction and concrete testing to be performed by a certified laboratory, as required by the State/County/City. Contractor shall include soil compaction testing and concrete testing under the pipe installation and restoration items mentioned above. Items 166 and 167 shall only be used when work is not included under items mentioned above.

ITEM 283 to 320 – TIME AND MATERIAL: **TIME AND MATERIAL RATES ARE FOR COMPENSATION RELATED TO WORK NOT COVERED UNDER THE PROPOSAL LINE ITEMS PORTION OF THE CONTRACT. THIS LINE ITEM SHALL BE USED ONLY AT THE AUTHORIZATION OF THE CITY IN ADVANCE OF THE WORK BEING PERFORMED.**
Time and material shall include:

(a) Labor costs, including fringe benefits such as workers compensation, social security, vacation pay, overhead, profit; Line Items 283 – 286 will be utilized for this item.

Labor rates are for the types of classifications normally used in underground utility work. The minimum billing time per workman shall be three (3) hours. Labor rates should represent both direct and indirect costs such as workman's compensation, sick pay, social security, vacation, etc. There will be no additional compensation when work is outside of normal working hours, such as nights, weekends, and holidays.

(b) Equipment costs. Costs shall be the actual time on the job. Rates shall be per the latest edition of the "Rental Rate Blue Book for Construction Equipment"; Line Items 287 - 320 will be utilized for this item.

Equipment rates shall include cost of operator and represent all costs associated with operation of the equipment. Billing for equipment shall be for the time the equipment is used for productive purposes on the job site. All equipment used shall be in proper working condition. Contractor shall not be paid for equipment downtime caused by breakages, repairs, accidents, etc. Once the piece of equipment has completed its function on the job, its time-on-the-job shall be terminated and not billed. Minimum billing time shall be three (3) hours.

(c) Contractor's markup shall be 5% on the above cost centers, in accordance with Section 14.1 of the Construction Agreement.

The same limitations apply to subcontractor work.

Work performance, manpower, usage of subcontractors, and estimated costs assigned under this item shall be agreed upon in advance between the Contractor and the City's Project Manager. It shall be the contractor's responsibility to notify the City's Project Manager prior to the performance of any facet of work under this item. The contractor shall provide documentation in support of claims for reimbursement, including receipts and invoices for these line items.

ALLOWANCE – ADDITIONAL MATERIAL ALLOWANCE: Shall only be used for additional materials not covered under the line items mentioned above. Provide copy of approved MOT plan to City Project Manager. Make a copy available on site at all times. The contractor shall provide documentation in support of claims for reimbursement, including receipts and invoices for this line item.

ALLOWANCE – MAINTENANCE OF TRAFFIC ALLOWANCE: Shall be use for roadways classified as collector, county, or state roadways, Maintenance of Traffic shall be in accordance with a Maintenance of Traffic Plan certified by an ATSSA technician and approved by the appropriate jurisdictional authority – City, County, State. Provide copy of approved MOT plan to City Project Manager. Make a copy available on site at all times.

ALLOWANCE – RESTORATION ALLOWANCE: There are locations where sewer mains have been installed along easements between private properties, and the contractor must access across private property to perform repairs in the easement. Scope of restoration work which is above and beyond sod or planting replacement shall be reviewed and agreed upon by the City's Project Manager and Contractor prior to proceeding with the work of this line item.

ALLOWANCE – BONDS ALLOWANCE: Broward County may require separate bonds for repair locations that are within County roadways. This item is for reimbursement to the contractor, who shall submit all supporting documentation to the Project Manager required for payment under this line item. This is a cost "pass-thru" item, and no "mark-up" is allowed.

ALLOWANCE – STORM DRAINAGE ALLOWANCE: Shall be utilized for storm drainage restoration work which is incidental to work at other locations under this contract. It includes replacing and repair of existing RCP, CMP and HDPE pipe, temporary plugs, restoration or replacement of catch basins or storm water manholes. The contractor shall provide documentation in support of claims for reimbursement, including receipts and invoices for this line item.

SECTION 02200
SITE PREPARATION

PART 1 GENERAL

1.1 DEFINITIONS

A. Interfering or Objectionable Material: Trash, rubbish, and junk; vegetation and other organic matter, whether alive, dead, or decaying; topsoil.

B. Clearing: Removal of interfering or objectionable material lying on or protruding above ground surface.

C. Scalping: Removal of sod without removing more than upper 3 inches of topsoil.

D. Project Limits: Areas, as specified, within which Work is to be performed.

1.2 QUALITY ASSURANCE

A. Obtain PROJECT MANAGER's approval of staked clearing, grubbing, and stripping limits, prior to commencing clearing, grubbing, and stripping.

1.3 SCHEDULING AND SEQUENCING

A. Prepare site only after adequate erosion and sediment controls are in place. Limit areas exposed uncontrolled to erosion during installation of temporary erosion and sediment controls.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. Clear and strip areas actually needed for site improvements within limits specified.

B. Property obstructions which are to remain in-place, such as buildings, sewers, drains, water or gas pipes, bridges, etc., are to be carefully protected from damage.

C. Do not injure or deface vegetation that is not designated for removal. All branches potentially interfering with construction operations shall be pruned prior to starting work and following approval of the PROJECT MANAGER and the City of Fort Lauderdale Urban Forester.

3.2 LIMITS

A. As Follows, but not to extend beyond project limits.

1. Excavation Including Trenches: 5 feet beyond top of cut slopes or shored wall.
2. Other Areas: As shown.

B. Remove rubbish, trash, and junk from entire area within Project limits.

3.3 TEMPORARY REMOVAL OF INTERFERING PLANTINGS

A. Remove and store shrubs and trees that are not designated for removal but do interfere with construction or could be damaged by construction activities.

B. Photograph and document location, orientation, and condition of each plant prior to its removal. Record sufficient information to uniquely identify each plant removed and to assure accurate replacement.

3.4 SCALPING

A. Do not remove sod until after clearing is completed and resulting debris is removed.

B. Scalp areas within limits specified.

3.5 DISPOSAL

A. Clearing and Debris:

1. Woody debris may be chipped. Chips may be sold to CONTRACTOR's benefit or used for landscaping onsite as mulch or uniformly mixed with topsoil, provided that resulting mix will be fertile and not support combustion. Maximum dimensions of chipped material used onsite shall be 1/4-inch by 2 inch**.** Dispose of chips that are unsaleable or unsuitable for landscaping or other uses with unchipped debris.
2. Limit offsite disposal of clearing and grubbing debris to locations that are approved by federal, state, and local authorities, and that will not be visible from Project.

B. Scalpings: As specified for clearing and grubbing debris.

END OF SECTION

SECTION 02240
DEWATERING

PART 1 GENERAL (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. The Contractor shall be responsible for design, installation, and operation of a dewatering system to dewater specified excavations.

1. The dewatering system shall be designed in accordance with the Best Management Practices (BMP's) adopted by FDEP.
2. Inspection and control of dewatering system operations will be in accordance with the FDEP guidelines established in the Florida Erosion and Sediment Control Inspector's Manual (current edition).

B. Continuously manage and control excavation water recharge in order to facilitate and not impede construction activities at all times, including weekends, holidays, and during periods of work stoppages, and furnish and install, and operate, a contingency backup dewatering system to maintain control of excavation water levels to facilitate construction (i.e.; no construction delays).

3.2 SUBMITTALS

A. Provide name, address, and phone numbers of all subcontractors.

B. The Contractor shall submit a Dewatering Best Management Practices (BMP) Plan prior to the start of excavation expected to include dewatering operations. The Plan shall provide detailed descriptions of dewatering procedures to be utilized to meet the requirements of this Section. Methodologies to control dewatering discharge contamination include, but are not limited to:

1. Holding tanks of adequate size and volume.
2. Wellpointing systems.
3. Sump pumping systems.
4. Chemical precipitation of particulates.
5. Filter systems and siltation controls.
6. Outfall booms.

C. The Contractor shall provide a Site Health and Safety Plan and Activity Hazard Analysis (AHA) for contaminated soil and/or groundwater as specified in this Section, to include the following:

1. A written description of the proposed method for temporary stockpiling, transportation, and disposal of all wastes.
2. Copy of permits of disposal facilities.
3. Certification of disposal of all wastes.
4. Directions to the nearest hospital and phone number.
5. Emergency contact phone numbers.
6. Laboratory analyses and sampling plan required for transportation and disposal of all wastes in accordance with applicable federal, state, and local requirements.

D. Upon Completion of Remediation Activities, the Following shall be Provided:

1. Copy of manifests for all wastes leaving the site.
2. Copy of the laboratory analyses results from all sampling activities.
3. Copy of closure reports that may be required.

3.3 SURFACE WATER CONTROL

A. Remove surface runoff controls when no longer needed.

B. Seal off or berm catch basins in the area of construction to prevent discharge of untreated dewatering effluent or runoff from unstabilized construction areas into storm drains.

C. All drain inlets or catch basins used for dewatering discharge shall be provided with silt and sediment removal barriers as approved by the Engineer.

1. All barriers shall be cleaned regularly to avoid sediment discharge into the storm drain system.
2. Construction activities will be stopped at no cost to the Owner until sediment controls are properly maintained, installed, and in compliance with the dewatering permit.
3. All barriers shall be removed upon issuance of a hurricane warning.

3.4 DEWATERING SYSTEMS

A. Design, furnish, and install, operate, and maintain a dewatering system of sufficient size and capacity to permit excavation and subsequent construction activities in water-free conditions, and to lower and maintain the excavation area groundwater level a minimum of 2 feet below the lowest point of excavation. The dewatering system shall be designed and operated such that the system continuously maintains excavations water levels so as to maintain the excavation water level in order to allow for the initiation and completion of excavation backfill compaction and restoration activities.

B. Dewatering systems shall include, but is not limited to, furnishing and installing

wells or well points, and or other equipment and appurtenances as may be necessary, including system components or equipment, installed outside the outermost perimeter of the excavation limits, and sufficiently below lowest point of excavation, to maintain the specified or required groundwater elevation.

C. Open trench pumping maybe permitted upon the approval of the Engineer.

D. Design and Operate Dewatering Systems:

1. To prevent loss of ground as water is removed.
2. To avoid inducing settlement or damage to existing facilities, completed Work, or adjacent property.
3. Avoid surface water pollution or discharge of sediment to storm drain systems or waterways.

E. Provide supplemental ditches and sumps only as necessary to collect water from local seeps. Do not use ditches and sumps as primary means of dewatering. The Contractor shall not direct any flow of water over pavement surfaces. Discharge of water shall be conducted as approved by the local, state, and federal agencies and the Engineer.

F. Provide controls to prevent surface water from entering excavation pits, trenches, or stockpiled materials.

3.5 PIPELINES CONSTRUCTED UNDER WATER

A. In the event that it is found that the water in a trench cannot be lowered by ordinary means, i.e., well points and pumps, an alternate construction method may be proposed by the Contractor. Complete details, specifications, manufacturer's descriptive literature, installation lists and any other pertinent data regarding the proposed alternate method shall be submitted as an alternate by the Contractor to the Engineer within 5 calendar days of the time that the Contractor anticipates using such alternate method.

B. If the Engineer approves the alternate method in writing, it may be used, so long as the Work is performed in a manner which, in the opinion of the Engineer, conforms to the method and procedure as set forth in the information supplied by the Contractor in his original application for use of an alternate method. The Engineer may revoke approval of the alternate method if at any time, in his opinion, the Work is not conforming to any applicable portion of these Specifications.

C. No pipeline shall be laid under water without approval of the Engineer.

D. If the dewatering system is eliminated or the effort reduced, and the pipe is laid underwater, additional pipe zone material will be required as backfill to the water table elevation, or to the level it was reduced to.

3.6 DISPOSAL OF WATER

A. All water generated, pumped, or removed from excavations as a result of

excavation dewatering activities shall be collected, containerized, and managed prior to discharge and or treatment at an approved discharge point or facility, in accordance with Broward County Code of Regulation, Sections 27-27, 27-193(a), 27-193(b)(3)a and 27-196. Contractor shall secure, obtain, and pay for all necessary local, state, and federal permits, licenses, fees, and or approvals to discharge water or perform onsite or offsite treatment and disposal. Treat water collected by dewatering operations as required by regulatory agencies, prior to discharge.

B. Discharge water as permitted, and in regulatory compliance with Contractor obtained discharge permits/licenses.

1. All discharge activities shall be performed so as to prevent silt and sediment discharge and eliminate any soil erosion or flooding, or otherwise damage existing facilities, completed Work, or adjacent property.
2. Maximum allowable turbidity of discharges to surface waters or storm drains will be 10 NTU's.
3. Sump discharges cannot be discharged directly to storm drains or surface waters without treatment.

C. Affected storm sewer outfalls shall be protected with floating silt booms as approved by the Broward County Department of Environmental Planning and Protection (BCDPEP) and the Engineer. All accumulated debris resulting from the dewatering discharge collecting in the boom shall be removed on a daily basis.

D. Visible silt plumes emanating from the area around the outfalls will be considered a failure of the silt and sediment removal measures and may result in a Notice of Violation issued by BCDPEP. The Contractor will be responsible for all fines associated with the violation of the dewatering permit conditions issued to the Contractor.

E. Failure to control dewatering discharges as described above and as detailed in the Florida Erosion and Sediment Control Inspector's Manual, may result in an order to cease dewatering operations until the discharge problems are corrected. No claims will be accepted for costs or delays associated with unacceptable dewatering discharge practices.

3.7 WELL POINT REMOVAL

A. Well point holes shall be filled with sand which shall be washed into the hole.

B. Well point holes located within asphalt pavement surfaces or concrete pavements, shall be filled with sand to the subgrade. The remaining hole shall be filled with nonshrink grout.

3.8 CONTAMINATED GROUNDWATER AND DISPOSAL REQUIREMENTS

A. If Contractor suspects, witnesses, or identifies, groundwater contamination at any time during the performance of the Work, Contractor shall notify the

Engineer immediately. Results will be obtained by the onsite mobile laboratory.

B. If analytical testing (by Engineer or Engineer-designated laboratory or subcontractor) documents and indicates elevated concentrations above FDEP action levels (Chapter 62-777, Florida Administrative Code) as verified by the Engineer, dewatering operations will be suspended until appropriate treatment and or construction measures can be implemented. Contractor shall not resume operations until notified to do so in writing by the Engineer and construction of the remaining sewer pipelines in that area will be installed in the wet or normal construction activities shall be resumed in another areas determined by the ENGINNER. There shall be no delay or mobilization claim associated with moving to another project area, unless all other Work has been completed. In addition, the local agency will be immediately notified via telephone and in writing by the Engineer. Dewatering activities in the area will not proceed until review of the matter with the local agency is resolved and written authorization is issued.

C. Treatment of the groundwater will include three options depending on the magnitude of the contamination in the trench or as determined by the Engineer: Granular Activated Carbon (GAC) Treatment Vessels**,** Mobile Air Stripping Units, or Vacuum Truck Removal and Disposal or other method as approved by the Engineer. The Contractor will provide a submittal list of all qualified groundwater remediation subcontractors for GAC vessel treatment/portable air stripping unit and vacuum truck disposal including phone numbers, contact names, and addresses prior to start of construction. The selected groundwater treatment/recycling facility for hauling contaminated groundwater shall also be identified.

D. If contaminated groundwater in the dewatering trench is encountered, the remediation operations will begin once local agency approval is obtained. Contaminated water will be disposed first into a high volume holding (FRAC) tank and then treated through a GAC unit/portable air stripper or recovered into vacuum hauling trucks for disposal.

E. Effluent water from the treatment system will be analyzed by the onsite mobile laboratory to confirm that concentrations are below regulatory limits. Effluent water will then be directed to a pre-approved alternative location as determined by local agency and/or the Engineer.

F. A Dewatering Plan describing the dewatering approach, groundwater monitoring, and remediation alternative is attached.

END OF SECTION

SECTION 02260
EXCAVATION SUPPORT AND PROTECTION

PART 1 GENERAL (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. The Contractor shall be responsible to design, provide, and maintain shoring, sheeting, and bracing as necessary to support the sides of excavations and to prevent detrimental settlement and lateral movement of existing facilities, adjacent property, and completed Work.

3.02 REMOVAL OF EXCAVATION SUPPORT

A. Remove excavation support in a manner that will maintain support as excavation is backfilled.

B. Do not begin to remove excavation support until support can be removed without damage to existing facilities, completed Work, or adjacent property.

C. Remove excavation support in a manner that does not leave voids in the backfill.

3.03 TRENCHES

A. For trench excavation exceeding 5 feet in depth, provide adequate safety system meeting requirements of the Occupational Safety and Health Administration's (OSHA), Trench Safety Standards, 29 C.F.R., S.1926.650, Subpart P, and all subsequent revisions or updates adopted by the Department of Labor and Employment Security.

END OF SECTION

SECTION 02315
FILL AND BACKFILL

PART 1 GENERAL

1.1 DEFINITIONS

A. Prepared Ground Surface: Ground surface after completion of required demolition, clearing and grubbing, scalping of sod, stripping of topsoil, excavation to grade, and subgrade preparation.

B. Completed Course: A course or layer that is ready for next layer or next phase of Work.

C. Lift: Loose (uncompacted) layer of material.

D. Geosynthetics: Geotextiles, geogrids, or geomembranes.

E. Well-Graded:

1. A mixture of particle sizes with no specific concentration or lack thereof of one or more sizes.
2. Does not define numerical value that must be placed on coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters.
3. Used to define material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids.

F. Influence Area: Area within planes sloped downward and outward at 60-degree angle from horizontal measured from:

1. 1-foot outside outermost edge at base of foundations or slabs.
2. 1-foot outside outermost edge at surface of roadways or shoulder.
3. 0.5-foot outside exterior at spring line of pipes or culverts.

G. Borrow Material: Material from required excavations or from designated borrow areas on or near site.

H. Selected Backfill Material: Materials available onsite that ENGINEER determines to be suitable for specific use.

I. Imported Material: Materials obtained from sources offsite, suitable for specified use.

J. Structural Fill: Fill materials as required under structures, pavements, and other facilities.

K. Embankment Material: Fill materials required to raise existing grade in areas other than under structures.

PART 2 PRODUCTS

2.1 EARTHFILL

A. Excavated material from required excavations and designated borrow sites, free from rocks larger than 3 inches, from roots and other organic matter, ashes, cinders, trash, debris, and other deleterious materials.

B. Material containing more than 10 percent gravel, stones, or shale particles is unacceptable.

C. Provide imported material of equivalent quality, if required to accomplish Work.

2.2 GRANULAR FILL

A. Use graded aggregate base material of uniform quality throughout, substantially free from vegetable matter, shale, lumps and clay balls, and having a Limerock Bearing Ratio value of not less than 100.

B. Aggregates is composed of limestone, marble, or dolomite.

C. Use material retained on the No. 10 sieve composed of aggregate meeting the following requirements:

1. Soundness Loss, Sodium, Sulfate: AASHTO T 104, 15 percent.
2. Percent Wear: AASHTO T 96 (Grading A) 45 percent.

Sieve Size	Percent by Weight Passing
2 inch	100
1-1/2 inch	95 to 100
¾ inch	65 to 90
3/8 inch	45 to 75
No. 4	35 to 60
No. 10	25 to 45
No. 50	5 to 25
No. 200	0 to 10

2.3 WATER FOR MOISTURE CONDITIONING

A. Free of hazardous or toxic contaminates, or contaminants deleterious to proper compaction.

2.4 FOUNDATION STABILIZATION ROCK

A. General: Materials may be limerock, shell rock, cemented coquina, or shell base sources approved by the Department.

B. Specific Requirements for Limerock: For limerock, carbonates of calcium and magnesium shall be at least 70 percent. Materials having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer. The gradation of limerock shall be such that 97 percent of these materials will pass a 3-1/2 inch sieve.

C. Crushed Shell: Crushed shell for this use shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina). Steamed shell will not be permitted.

1. This shell shall Meet the Following Requirements:
   a. Material having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer.
   b. At least 97 percent by weight of the total material shall pass a 3-1/2 inch sieve and at least 50 percent by weight of the total material shall be retained on the No. 4 sieve.
   c. Not more than 20 percent by weight of the total material shall pass the No. 200 sieve. The determination of the percentage passing the No. 200 sieve shall be by washing only.
   d. In the event that the shell meets the above requirements without crushing, crushing will not be required.

PART 3 EXECUTION

3.1 GENERAL

A. Keep placement surfaces free of water, debris, and foreign material during placement and compaction of fill and backfill materials.

B. Place and spread fill and backfill materials in horizontal lifts of uniform thickness, in a manner that avoids segregation, and compact each lift to specified densities prior to placing succeeding lifts. Slope lifts only where necessary to conform to final grades or as necessary to keep placement surfaces drained of water.

C. During filling and backfilling, keep level of fill and backfill around each structure and buried tank even.

D. If Pipe, Conduit, Duct Bank, or Cable is to be Laid Within Fill or Backfill:

1. Fill or backfill to an elevation 2 feet above top of item to be laid.
2. Excavate trench for installation of item.
3. Install bedding, if applicable, as specified in Section 02320, TRENCH BACKFILL.
4. Install item.
5. Backfill pipe zone and remaining trench, as specified in Section 02320 TRENCH BACKFILL, before resuming filling or backfilling specified in this Section.

E. Tolerances:

1. Final Lines and Grades: Within a tolerance of 0.1 foot, unless dimensions or grades are shown or specified otherwise.

2. Grade to establish and maintain slopes and drainage as shown. Reverse slopes are not permitted.

F. Settlement: Correct and repair any subsequent damage to structures, pavements, curbs, slabs, piping, and other facilities, caused by settlement of fill or backfill material.

3.2 BACKFILL UNDER AND AROUND STRUCTURES

A. Under Facilities: Within influence area beneath structures, slabs, pavements, curbs, piping, conduits, duct banks, and other facilities, backfill with granular fill, unless otherwise shown. Place granular fill in lifts of 6-inch maximum thickness and compact each lift to a density of at least 100 percent of the maximum density as determined by AASHTO T99, Method C.

3.3 FILL

A. Outside Influence Areas Beneath Structures, Pavements, Curbs, Slabs, Piping, and Other Facilities: Unless otherwise shown, place earthfill as follows:

1. Allow for proper thickness of topsoil where required.
2. Maximum 8-inch thick lifts.
3. Place and compact fill across full width of embankment.
4. Compact to a density of at least 80 percent of the maximum density as determined by AASHTO T99, Method C.
5. For the outer layer of all fill where plant growth will be established, DO NOT COMPACT. Leave this layer in a loose condition to a minimum depth of 6 inches.
6. Dress completed embankment with allowance for topsoil, crest surfacing, and slope protection, where applicable.

3.4 SITE TESTING

A. Gradation:

1. One sample from each 1,500 tons of finished product or more often as determined by ENGINEER, if variation in gradation is occurring, or if material appears to depart from Specifications.
2. If test results indicate material does not meet Specification requirements, terminate material placement until corrective measures are taken.
3. Remove material placed in Work that does not meet Specification requirements.

B. In-Place Density Tests: In accordance with AASHTO T99, Method C. During placement of materials, test as follows:

1. Earthfill: One test per 400 feet of pipe run.
2. Granular Fill: One test per 400 feet of pipe run.
3. Foundation Stabilization Rock: One test per lift.

3.5 REPLACING OVEREXCAVATED MATERIAL

A. Replace excavation carried below grade lines shown or established by ENGINEER as follows:

1. Beneath Footings: Granular fill.
2. Beneath Fill or Backfill: Same material as specified for overlying fill or backfill.
3. Beneath Slabs-On-Grade: Granular fill.
4. Trenches:
    a. Unauthorized Overexcavation: Either foundation stabilization rock or granular pipe base material.
    b. Authorized Overexcavation: Foundation stabilization rock.
5. Permanent Cut Slopes (Where Overlying Area is Not to Receive Fill or Backfill):
    a. Flat to Moderate Steep Slopes (3 to 1, Horizontal Run: Vertical Rise or Flatter): Earthfill.
    b. Steep Slopes (Steeper than 3 to 1):
        1) Correct over-excavation by transitioning between over-cut areas and designed slope adjoining areas, provided such cutting does
        not extend offsite or outside easements and right-of-ways, or adversely impacts existing facilities, adjacent property, or completed Work.
        2) Backfilling overexcavated area is prohibited unless, in ENGINEER's opinion, backfill will remain stable, and overexcavated material is replaced as compacted earthfill.

END OF SECTION

SECTION 02316
EXCAVATION

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Provide adequate survey control to avoid unauthorized over-excavation.

1.2 WEATHER LIMITATIONS

A. Material excavated during inclement weather shall not be used as fill or backfill until after material drains and dries sufficiently for proper compaction.

1.3 SEQUENCING AND SCHEDULING

A. Clearing and Stripping: Complete applicable Work specified in Section 02200, SITE PREPARATION, prior to excavating.

B. CONTRACTOR shall call the utility companies at least 2 business days before excavation, see Section 01040, COORDINATION for each utility company phone number and contact person.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. Excavate to lines, grades, and dimensions shown and as necessary to accomplish Work. Excavate to within tolerance of plus or minus 0.1 foot except where dimensions or grades are shown or specified as maximum or minimum. Allow for forms, working space, granular base, topsoil, and similar items, wherever applicable. Trim to neat lines where concrete is to be deposited against earth.

B. It shall be the CONTRACTOR's responsibility to notify business establishments and residents not less than 72 hours prior to construction. CONTRACTOR shall, wherever necessary, provide temporary sidewalks and driveway entrances at his own expense, including safe bridges over trenches and fencing around excavations for pedestrian protection.

C. Provide adequate survey control to avoid unauthorized overexcavation. Do not overexcavate without written authorization of ENGINEER. If the CONTRACTOR excavates beyond the limits shown or specified, the CONTRACTOR shall replace such excavation at his own expense. Replace overexcavated material as specified in Section 02315, FILL AND BACKFILL.

D. Where muck, rock, clay, or other material within the limits of excavation is unsuitable in its original position, excavate such material to the cross-sections

shown or specified. Backfill with suitable material and shape to the required cross-section.

E. Remove or protect obstructions as shown on the Drawings.

3.2 UNCLASSIFIED EXCAVATION

A. Excavation is unclassified. Complete all excavation regardless of the type, nature, or condition of the materials encountered.

3.3 TRENCH WIDTH

A. Minimum Width of Trenches:

1. Single Pipes, Conduits, Direct-Buried Cables, and Duct Banks:
   a. Less than 4-Inch Outside Diameter or Width: 18 inches.
   b. Greater than 4-Inch Outside Diameter or Width: 18 inches greater than outside diameter or width of pipe, conduit, direct-buried cable, or duct bank.
2. Multiple Pipes, Conduits, Cables, or Duct Banks in Single Trench: 18 inches greater than aggregate width of pipes, conduits, cables, duct banks, plus space between.
3. Increase trench widths by thicknesses of sheeting, if used.
4. The maximum trench width shall not exceed the minimum stated width of the trench unless approved by the ENGINEER. Restoration for excavation beyond the minimum required width shall be at the CONTRACTOR's sole expense.

3.4 EMBANKMENT AND CUT SLOPES

A. Shape, trim, and finish cut slopes to conform with lines, grades, and cross-sections shown, with proper allowance for topsoil or slope protection, where shown.

B. Remove stones and rock that exceed 3-inch diameter and that are loose and may roll down slope. Remove exposed roots from cut slopes.

C. Round tops of cut slopes in soil to not less than a 6-foot radius, provided such rounding does not extend offsite or outside easements and right-of-ways, or adversely impacts existing facilities, adjacent property, or completed Work.

3.5 STOCKPILING EXCAVATED MATERIAL

A. Stockpile excavated material that is suitable for use as fill or backfill until material is needed.

B. Post signs indicating proposed use of material stockpiled. Post signs that are readable from all directions of approach to each stockpile. Signs should be clearly worded and readable by equipment operators from their normal seated position.

C. Confine stockpiles to within easements, rights-of-way, and approved work areas. Do not obstruct roads, streets, public thoroughfares, or access to fire hydrants.

D. Do not stockpile excavated material adjacent to trenches and other excavations unless excavation sideslopes and excavation support systems are designed, constructed, and maintained for stockpile loads.

E. Do not stockpile excavated materials near or over existing facilities, adjacent property, or completed Work, if weight of stockpiled material could induce excessive settlement.

3.6 DISPOSAL OF SPOIL

A. Dispose of excavated materials, which are unsuitable or exceed quantity needed for fill or backfill, offsite.

B. Dispose of debris resulting from removal of organic matter, trash, refuse, and junk as specified in Section 02200, SITE PREPARATION, for clearing and grubbing debris.

END OF SECTION

SECTION 02320
TRENCH BACKFILL

PART 1 GENERAL

1.1 DEFINITIONS

A. Base Rock: Granular material upon which manhole bases and other structures are placed.

B. Bedding Material: Granular material upon which pipes, conduits, cables, or duct banks are placed.

C. Imported Material: Material obtained by the Contractor from source(s) offsite.

D. Lift: Loose (uncompacted) layer of material.

E. Pipe Zone: Backfill zone that includes full trench width and extends from prepared trench bottom to an upper limit above top outside surface of pipe, conduit, cable or duct bank.

F. Prepared Trench Bottom: Graded trench bottom after excavation and installation of stabilization material, if required, but before installation of bedding material.

G. Selected Backfill Material: Material available onsite that Engineer determines to be suitable for a specific use.

H. Well-Graded: A mixture of particle sizes that has no specific concentration or lack thereof of one or more sizes producing a material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids. Well-Graded does not define any numerical value that must be placed on the coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters.

PART 2 PRODUCTS

2.1 GEOTEXTILE

NOT USED

2.2 MARKING TAPE

A. Plastic:

1. Inert polyethylene, impervious to known alkalis, acids, chemical reagents, and solvents likely to be encountered in soil.

2. Thickness: Minimum 4 mils.
3. Minimum Width: 2 inches.
4. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.
5. Manufacturers and Products:
   a. Reef Industries; Terra Tape.
   b. Allen; Markline.

B. Metallic:

1. Solid aluminum foil, visible on unprinted side, encased in a protective high visibility, inert polyethylene plastic jacket.
2. Foil Thickness: Minimum 5.5 mils.
3. Width: 2 inches.
4. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.
5. Joining Clips: Tin or nickel-coated furnished by tape manufacturer.
6. Manufacturers and Products:
   a. Reef Industries; Terra ”D”.
   b. Allen; Detectatape.

C. Color: In accordance with APWA Uniform Color Code for Temporary Marking of Underground Facilities.

Color[a]	Facility
Red	Electric power lines, cables, conduit, and lightning cables
Orange	Communicating alarm or signal lines, cables, or conduit
Yellow	Gas, oil, steam, petroleum, or gaseous materials
Green	Sewers and drain lines
Blue	Water, irrigation, and slurry lines
[a]As specified in ANSI Z53.1, Safety Color Code.	

2.3 TRENCH STABILIZATION MATERIAL

A. Foundation stabilization rock as specified in Section 02315, Fill and Backfill.

2.4 BEDDING MATERIAL AND PIPE ZONE MATERIAL

A. Granular fill as specified in Section 02315, Fill and Backfill.

2.5 EARTH BACKFILL

A. Earth fill as specified in Section 02315, Fill and Backfill.

PART 3 EXECUTION

3.1 TRENCH PREPARATION

A. Water Control:

1. As specified in Section 02240 dewatering.
2. Remove water in a manner that minimizes soil erosion from trench sides and bottom.
3. Provide continuous water control until trench backfill is complete.

B. Remove foreign material and backfill contaminated with foreign material that falls into trench.

C. Where the trench has been dewatered, backfilling must be done before the pumps are shut off so that the pipe will not float. Any pipe which has been displaced because of floatation will be removed and installed correctly at the Contractor's expense.

3.2 TRENCH BOTTOM

A. Firm Subgrade: Grade with hand tools, remove loose and disturbed material, and trim off high areas and ridges left by excavating bucket teeth. Allow space for bedding material if shown or specified.

B. Soft Subgrade: If subgrade is encountered that may require removal to prevent pipe settlement, notify Engineer. Engineer will determine depth of overexcavation, if any, required.

3.3 TRENCH STABILIZATION MATERIAL INSTALLATION

A. Rebuild trench bottom with trench stabilization material as directed by the Engineer.

B. Place material over full width of trench in 6-inch lifts to required grade, providing allowance for bedding thickness.

C. Compact each lift so as to provide a firm, unyielding support for the bedding material prior to placing succeeding lifts.

3.4 BEDDING

A. Furnish granular fill or imported bedding material as directed by the Engineer.

B. Place over the full width of the prepared trench bottom in two equal lifts when the required depth exceeds 8 inches.

C. Hand grade and compact each lift to provide a firm, unyielding surface.

D. Minimum thickness from the following depths below the bottom to the springline of the pipe are as follows, except increase depths listed by 6 inches

in areas of rock excavation:

1. Pipe, 15 Inches and Smaller: 4 inches.
2. Pipe, 18 Inches to 36 Inches: 6 inches.
3. Pipe, 42 Inches and Larger: 8 inches.
4. Conduit: 3 inches.
5. Direct-Buried Cable: 3 inches.
6. Duct Banks: 3 inches.

E. Check grade and correct irregularities in bedding material. Loosen top 1 to 2 inches of compacted bedding material with a rake or by other means to provide a cushion before laying each section of pipe, conduit, direct-buried cable, or duct bank.

F. Install to form continuous and uniform support except at bell holes, if applicable, or minor disturbances resulting from removal of lifting tackle.

G. Bell or Coupling Holes: Excavate in bedding at each joint to permit proper assembly and inspection of joint and to provide uniform bearing along barrel of pipe or conduit.

3.5 BACKFILL PIPE ZONE

A. Furnish granular fill as described in Section 312010 Fill and Backfill or imported bedding material as directed by the Engineer from pipe springline to 12 inches above the top of the pipe.

B. Upper Limit of Pipe Zone Shall Not Be Less Than Following:

1. Pipes:
   a. Up to 12-Inch Diameter: 6 inches above top of pipe.
   b. Greater than 12-Inch Diameter: 12 inches above top of pipe, unless shown otherwise.
2. Conduit: 3 inches, unless shown otherwise.
3. Direct-Buried Cable: 3 inches, unless shown otherwise.
4. Duct Bank: 3 inches, unless shown otherwise.

C. Restrain pipe, conduit, cables, and duct banks as necessary to prevent their movement during backfill operations.

D. Place material simultaneously in lifts on both sides of pipe and, if applicable, between pipes, conduit, cables, and duct banks installed in same trench.

1. Pipes 10 Inches and Smaller Diameter: First lift less than or equal to 1/2 pipe diameter but not less than 3 inches. .
2. Pipes Over 10-Inch Diameter: Maximum 6-inch lifts.

E. Thoroughly tamp each lift, including area under haunches, with handheld tamping bars supplemented by “walking in” and slicing material under haunches with a shovel to ensure that voids are completely filled before

placing each succeeding lift. Compact material in pipe zone to at least 98 percent maximum density as determined by AASHTO T180.

F. After the full depth of the pipe zone material has been placed as specified, compact the material by a minimum of three passes with a vibratory plate compactor only over the area between the sides of the pipe and the trench walls. Contractor shall exercise proper care to ensure that no pipe joints will be broken, damaged, or disturbed through the use of any compacting equipment.

G. Do not use power-driven impact compactors to compact pipe zone material.

H. Where approved by the Engineer, hydraulic compaction of the pipe zone material and granular trench backfill may be used providing density testing requirements are met. A submittal describing the method of hydraulic compaction will be required.

3.6 MARKING TAPE INSTALLATION

A. Continuously install marking tape along centerline of all buried piping, on top of last lift of pipe zone material. Coordinate with piping installation drawings.

1. Metallic Marking Tape: Install with nonmetallic piping and waterlines.
2. Plastic Marking Tape: Install with metallic piping.

3.7 BACKFILL ABOVE PIPE ZONE

A. General:

1. Process excavated material to meet specified requirements for earthfill as described in Section 02315 Fill and Backfill.
2. Adjust moisture content as necessary to obtain specified compaction.
3. Do not allow backfill to free fall into the trench or allow heavy, sharp pieces of material to be placed as backfill until after at least 2 feet of backfill has been provided over the top of pipe.
4. Do not use power driven impact type compactors for compaction until at least 4 feet of backfill is placed over top of pipe.
5. Backfill to grade with proper allowances for topsoil, crushed rock surfacing, and pavement thicknesses, wherever applicable.
6. Backfill around structures with same class backfill as specified for adjacent trench unless otherwise shown or specified.
7. Hydraulic compaction may be allowed based upon approval by the Engineer of the Contractor's detailed compaction and testing procedures.

B. Backfill for Areas in Landscaped Areas:

1. Place in lifts not exceeding 12-inch thickness.
2. Mechanically compact each lift to a minimum of 80 percent of the maximum density as determined by AASHTO Method T-180 prior to

placing succeeding lifts.

C. Backfill for Areas Under Facilities and Pavements: Backfill trench above the pipe zone with suitable earthfill in lifts not exceeding 12 inches. Compact each lift to a minimum of 98 percent of the maximum density compaction as determined by AASHTO Method T180, 100% for Broward County rights of way, prior to placing succeeding lifts. If density cannot be achieved with earthfill, suitable granular fill will be required.

3.8 ALTERNATE METHOD OF CONSTRUCTION

A. When high water tables, porous soils or other limitations to dewatering are encountered, the Contractor may request the approval of the Engineer for an alternate method of construction.

B. Use of alternative methods shall not relieve the Contractor of the work, result in increased costs to the Owner or reductions in the quality of the work as defined by testing and acceptance requirements.

C. Removal of water requirements will be waived and the pipe and appurtenances will be permitted to be installed underwater.

D. Excavation shall be performed in accordance with Section 02316, Excavation, to the specified limits. The excavation shall be cleared of silt and other fines.

E. Pipe bedding shall be placed from the bottom of the excavation to 6 inches above the top of the pipe. The bedding shall be granular fill as described in Section 02315 Fill and Backfill.

F. Select backfill material shall be used to backfill the trench from the top of the bedding to a level 1 foot above the standing water level in the trench. Select material shall be granular fill as described in Section 02315, Fill and Backfill. This lift shall be compacted in accordance with the provisions of this Section after which the remainder of the backfill can proceed as normal.

G. If the above described method is used, all backfill material used below the water table shall not be released into the trench until the bucket or container is less than 1 foot above the water level. Pipe bedding and pipe zone material as defined above shall not be dumped or pushed into the trench.

3.9 MAINTENANCE OF TRENCH BACKFILL

A. After each section of trench is backfilled, maintain the surface of the backfilled trench even with the adjacent ground surface until final surface restoration is completed.

B. Other Areas: Add excavated material where applicable and keep the surface of the backfilled trench level with the adjacent ground surface.

C. Water shall be applied to the unstabilized trench backfill to control dust as

directed by the Engineer.

D. Placement of lime rock base course and prime coat shall occur no longer than 5 days following trench backfill or as soon thereafter as record information is available to verify that pipe inverts and slopes are acceptable.

3.10 SETTLEMENT OF BACKFILL

A. Settlement of trench backfill, or of fill or facilities constructed over trench backfill within the warranty period for the project will be considered a result of defective compaction of trench backfill.

END OF SECTION

SECTION 02510
PAVING AND SURFACING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The work covered by this section of the Specifications consists of furnishing all labor, materials, equipment, and supplies, and performing all operations for the construction of pavements under this Contract.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including the General Conditions and Terms and Division 1 Specification sections, apply to this section.

B. Specified in other Sections:

1. Section 01410: Testing Laboratory Services
2. Section 02200: Earthwork, Excavation and Backfill
3. Section 02514: Milling Asphalt Pavement
4. Section 0258: Pavement Markings

1.03 REFERENCED SPECIFICATIONS

A. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, Latest Edition. Referred to in this section as DOT Std. Specs.

B. Martin Engineering Utility Standards, referred to in these documents as “County Standards.”

1.04 SUBMITTALS

A. Submit name of all material sources to the Engineer. Provide materials from the same approved source throughout the project. All material sources shall be FDOT approved.

B. Submit proposed job-mix design to the Engineer for review.

C. Submit written certifications that each material conforms to these specifications.

PART 2 - PRODUCTS

2.01 BASE MATERIAL

A. Limerock material shall meet the requirements of the County Standards for base material placed within Martin County rights-of-way. If no standard existing, Limerock material shall meet the requirements of Section 911 of the FDOT specifications.

B. Crushed Concrete may be used upon review and approval by the Engineer. Crushed Concrete shall meet the Sections 204-2.2.2 and 204-2.2.3 of the FDOT requirements for Reclaimed Concrete Aggregate Base Materials. Crushed concrete is not approved for use in County right-of-way.

C. Contractor to bid and use only one base material throughout the County right-of-way. Contractor can reuse existing base to the greatest extent practical if it is found to be suitable as a base material.

2.02 PRIME AND TACK COATS

A. The materials used for prime and tack coats shall meet the requirements of Section 300 of the DOT Std. Specs and the County Standards, as applicable.

2.03 ASPHALTIC CONCRETE

A. Type S-III Asphaltic Concrete shall be used within Martin County right-of-way and shall meet the requirements of Section 331 of the DOT Std. Specs (2000 Edition).

2.04 EQUIPMENT

A. All equipment associated with the operations of pavement placement and related work shall be entirely suitable for the applicable operations performed and shall be maintained in good condition.

2.05 QUALITY CONTROL

A. Quality control of the work shall be the Contractor's responsibility and said Contractor shall make every effort to produce the best quality work as specified on the Plans and in these Specifications.

B. Density tests on the compacted subgrade and base shall be performed by an independent testing laboratory at locations designated by the Engineer.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify underground utilities are completed and inspected.

B. Verify that compacted subgrade is dry and ready to support paving and imposed loads.

C. Verify gradients and elevations of base are correct.

3.02 SUBGRADE AND SHOULDER STABILIZATION (TYPE C)

A. The pavement subgrade and roadway shoulders within Martin County right-of-way shall be prepared, graded, stabilized, and compacted to the lines and grades as shown on the Plans in accordance with Type C Stabilization in Section 160 of the DOT Std. Specs. Both shoulder and subgrade to provide minimum 75 lb. Florida Bearing Value or a minimum limerock bearing ratio of 40. Subgrade shall be compacted to not less then 98 percent of the maximum dry density as determined by the modified proctor test (ASTM D1557).

3.03 BASE

A. Base shall be prepared, graded and compacted to the lines and grades as shown on the Plans and in accordance with Section 200 of the DOT Std. Specs. Base shall be compacted to not less than 98 percent of the maximum dry density as determined by the modified proctor test (ASTM D1557).

3.04 PRIME AND TACK COAT

A. Base shall receive a prime coat with cover material in accordance with Section 300 of the DOT Std. Specs.

B. Pavement overlays shall receive a tack coat in accordance with Section 300 of the DOT Std. Specs.

3.05 ASPHALTIC CONCRETE SURFACE COURSE

A. Asphaltic concrete surface course shall be constructed to a minimum thickness as specified on the Plans and be placed in a minimum of two (2) lifts.

B. Asphaltic concrete surface course shall be constructed in accordance with Sections 320 and 330 of the DOT Std. Specifications.

C. All existing exposed edges which abut to new Asphaltic Concrete Surface Course shall be saw cut in a straight and neat appearing line.

D. All asphaltic concrete surface course pavement replacement shall be placed by mechanical spreading and screeding equipment as specified in Article 320-6.1 of the DOT Std. Specifications unless otherwise indicated. This will require at least an 8 feet width for surface course placement unless specialty equipment is used which has received prior approval of the Engineer.

3.06 FIELD QUALITY CONTROL

A. Section 01410 - Testing Laboratory Services: Contractor to provide field inspection and testing for compaction densities.

3.07 PROTECTION

A. Immediately after placement, protect pavement from mechanical injury until surface temperature is less than 140 degrees F (60 degrees C).

END OF SECTION

SECTION 02575
SURFACE RESTORATION

PART 1 GENERAL

1.1 STANDARD SPECIFICATIONS

A. When referenced in this Section, shall mean Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, current edition.

1.2 INTENT

A. Specific surface restoration requirements are detailed in this and other sections.

B. For pipeline projects, the intent of these Specifications, is that the roadway, adjacent right-of-way, and properties affected by construction activity shall be returned to their pre-existing condition, unless otherwise indicated by these Contract Documents.

1. For pipelines constructed in the right-of-way between the sidewalk and edge of pavement, the ground surface will be graded into a swale as shown on the CITY's typical details and provided with sod.
   a. Argentine Bahia sod will be used for areas without irrigation systems, except where St. Augustine turf existed previously.
   b. St. Augustine "Floritam" sod will be used for areas with irrigation systems and in locations with similar, existing turf.
2. Driveways and sidewalks will be placed in kind, using similar materials of construction.
3. Trees, shrubs, and personal property (e.g. mail boxes) located in the swale area shall be relocated or replaced in kind, in accordance with the provisions of these Specifications.

C. For work areas disturbed by the CONTRACTOR for convenience, the area affected shall be restored in kind.

1. The costs of this restoration shall be incidental to the cost of the Work.
2. Payment for restoration outside the limits of work shall be repaired at the Contractor's expense unless performed specifically at the request of the OWNER.

1.3 WORK INCLUDED

A. This Section covers the Work necessary to replace all pavement, curbs, sidewalks, rock surfacing, and other street features damaged either directly or indirectly by the operations incidental to the construction described in other sections of these Specifications.

B. Where the materials, construction procedures, degree of compaction of materials, and the method of control and testing, as required in these Specifications differ from the Standard Specifications requirements, the more

stringent requirements shall apply.

C. Provide finished gradation and grassing for all areas directly or indirectly disturbed by lining activities.

1.4 OPTIMUM MOISTURE CONTENT

A. "Optimum moisture content" shall be determined by the ASTM standard specified to determine the maximum dry density for relative compaction. Field moisture content shall be determined on the basis of the fraction passing the 3/4-inch sieve.

1.5 TEMPORARY TRENCH REPAIR OR STABILIZATION

A. Following pipe installation and prior to permanent trench repair or asphalt replacement, temporary trench repair will be defined as one of the following:

1. Installation of flowable fill as described in this Section and FDOT Standard Specifications.
2. Installation of the compacted base course and prime coat as described in this Section.

PART 2 PRODUCTS

2.1 GENERAL

A. All materials for replacement of existing base course and asphalt surfacing shall conform to the Standard Specifications except as modified herein.

B. The CONTRACTOR will be responsible for furnishing satisfactory materials that meet the Specifications and shall provide such tests during the course of the work as are necessary to assure that the quality of the material used meets the Specifications.

2.2 LIME ROCK BASE COURSE

A. Aggregate quality and gradation shall meet the requirements of Section 911 of the Standard Specifications.

2.3 BITUMINOUS PRIME AND TACK COAT

A. Prime Coat: Material shall be cutback asphalt, Grade RC-70 or RC-250 meeting the requirements of Section 916-2 of the Standard Specifications, or approved equal.

B. Tack Coat: Material shall be emulsified asphalt, Grade RS-2, SS-1, or SS-1H meeting the requirements of Section 916-4 of the Standard Specifications.

2.4 ASPHALT CONCRETE

A. The asphalt concrete for trench leveling, restoration and overlay shall be Type S-III or SP-9.5 (coarse) , meeting the requirements of Section 334 of the Standard Specifications.

B. Aggregate: The aggregate shall meet the requirements of Section 334 of the Standard Specifications.

C. Submit test results from commercial testing laboratories to the ENGINEER to show that the materials meet the quality and gradation requirements.

2.5 FLOWABLE FILL

A. Provide flowable fill with a mix design meeting the requirements of Section 121 of the (FDOT) Standard Specifications for excavatable, flowable fill. Flowable fill may be allowed as a substitute for compacted base upon approval of the ENGINEER, at no additional cost.

2.6 CONCRETE

A. Concrete shall be 3,500 psi minimum concrete.

B. Concrete Forms: All forms for curbs and sidewalks shall be either 2-inch dimensioned lumber, plywood, or metal forms. Forms on the face of the curb shall have no horizontal form joints within 7 inches of the top of the curb.

C. Reinforcing Steel: Conform to ASTM A615, Grade 60.

2.7 TRAFFIC MARKINGS

A. All traffic striping markings (i.e., lane, edge of pavement, directional, informational, etc.) damaged by the CONTRACTOR during construction shall be replaced with new painted items in meeting the requirements of Section 971 of the Standard Specifications.

B. Raised reflective pavement markers (rpm's) damaged by the CONTRACTOR during construction shall be replaced with new rpm's meeting the requirements of Section 706 of the Standard Specifications.

C. The CONTRACTOR shall place and maintain temporary striping markings throughout the course of the work until the permanent striping marking is placed on the final roadway surface.

D. The CONTRACTOR shall provide painted traffic stripping at all intersections including stop bars and crosswalks as required whether they are currently stripped or not. It shall be the CONTRACTOR's responsibility to take a complete inventory and provide the appropriate permanent stripping after the completion of the work.

2.8 SWALE STABILZATION

A. Materials used for stabilization of swale areas as indicated on the Drawings shall consist of suitable excess existing base material removed from trenching operations, if approved by the ENGINEER, crushed limerock, rock screenings, or other suitable material as approved by the ENGINEER.

1. Materials having a plasticity index of more than 10, or a liquid limit greater than 40 shall not be used.

2. Maximum dimension shall not exceed 1.5 inches.

PART 3 EXECUTION

3.1 CONSTRUCTION PROCEDURE

A. The ENGINEER reserves the right to vary the type of resurfacing as best serves the interest of the OWNER. Trench backfill shall be as specified in Section 02315 FILL AND BACKFILL.

B. Replace all bituminous and concrete roadway pavement damaged or removed under this Contract with asphalt concrete regardless of original type. Pavement thickness shall be in accordance with the Drawings.

C. In addition to the requirements set forth herein, the work shall conform to the applicable workmanship requirements of the state and county highway or municipal specifications.

D. Water to control dust shall be used as directed by the ENGINEER until the trench repair has been stabilized.

E. Base course and prime coat shall be installed to provide temporary trench stabilization within 5 working days of trench backfill or as soon thereafter as the as-built conditions and pipe slopes have been verified.

F. Final, permanent trench repair, and paving shall be installed within 3 weeks of pipe verification and temporary trench stabilization, unless flowable fill is used for temporary trench repair, in accordance with the provisions of this Section.

3.2 CUTTING EXISTING PAVEMENT

A. Where new pavement abuts existing pavement, the old pavement shall be trimmed by saw cutting to a straight line. Any pavement which has been damaged or which is broken and unsound shall be removed to provide a smooth, sound edge for joining new pavement.

3.3 STREET MAINTENANCE

A. Maintain all trenches as specified under Section 02316, EXCAVATION.

3.4 CONSTRUCTION OF BASE COURSE

A. Base course shall be constructed in accordance with Section 200 of the Standard Specifications.

B. Compact base materials to a minimum of 98 percent of the maximum density as determined by AASHTO T180. Corrections for oversize material may be applied to either the as-compacted field dry density or the maximum dry density, as determined by the ENGINEER. Where the base is constructed in more than one course, the density shall be obtained in each lift.

C. Alternately, at no additional cost and with the approval of the ENGINEER, the CONTRACTOR shall provide a minimum 10 inches of 250 psi flowable fill. The flowable fill shall be placed up to 1 ½ inches from the top of the existing pavement. Flowable fill installed in accordance with this provision shall comply with temporary pavement restoration provisions.

3.5 MILLING OR GRINDING OF EXISTING ASPHALT PAVEMENT

A. Milling of existing asphalt pavement shall meet the requirements of Section 327 of the Standard Specifications.

B. Milling shall be used to lower the grade of adjacent existing asphalt prior to trench repair to completely remove existing asphalt.

C. Milled and ground asphalt can be mixed for use with the limerock base course material.

3.6 BITUMINOUS PRIME AND TACK COAT

A. The bituminous prime coat shall be applied to the lime rock base immediately following the placement of the compacted base course. The prime coat shall be maintained with additional coats as determined by the ENGINEER as temporary restoration until the final asphalt surface is installed. Additional prime coats will be provided at no cost to the OWNER.

B. The lime rock base shall be hard planed with a blade grader immediately prior to the application of the prime coat.

C. The rate of application of the bituminous prime coat shall meet the requirements of Section 916-2 of the Standard Specifications.

D. The bituminous tack coat shall be applied to existing asphalt surfaces prior to the placement of new asphalt, between layers of asphalt concrete surface courses, surfaces of concrete footings that will come in contact with the asphalt concrete pavement, and vertical faces of all longitudinal and transverse joints that have become compacted or cooled.

E. The rate of application for the bituminous tack coat shall meet the requirements of Section 916-4 of the STANDARD SPECIFICATIONS.

3.7 ASPHALT CONCRETE PAVEMENT REPLACEMENT

A. Preparation for Paving:

1. A prime coat shall be applied over the full length of the roadway, and asphalt concrete pavement shall not be placed until the prime coat has cured as per the manufacturer's recommendations.
2. Should any holes, breaks, or irregularities develop in the roadway surface after the prime coat has been applied, they shall be patched with asphalt concrete immediately in advance of placing the asphalt concrete.
3. After the maintenance, patching, or repair work has been completed and immediately prior to placing the asphalt concrete pavement, the surface of the prime coat shall be swept clean of all dirt, dust, or other foreign matter.

B. The proposed pavement reconstruction schedule consists of immediately paving over trenches as soon as possible after it has been determined that subbase and base have achieved required compactions. The base course will be brought up to the elevations indicated on the Drawings and asphalt placed to bring grade up to match existing pavement elevations as shown on the Drawings.

C. For deep excavations where the pavement repair constitutes a full lane or roadway, workmanship shall conform to the standards and details of new road way construction.

1. Existing pavement less than 2-foot wide shall be removed or milled for base material
2. Full lane or width roadways shall have a consistent cross-section and straight edge of pavement delineation’s.

3.8 CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT OVERLAY – IF REQUIRED

A. The CONTRACTOR shall place a layer of tack coat at a rate of 0.05 to 0.12 gallon per square yard over all areas to receive asphalt concrete.

B. Lay asphalt concrete over all areas designated to be resurfaced. The asphalt concrete pavement overlay shall be placed in two ¾-inch lifts to a compacted depth of 1-1/2 inches or as shown on the Drawings. The method of proportioning, mixing, transporting, laying, processing, rolling the material, and the standards of workmanship shall meet the applicable requirements of Sections 320, 330, and 331 of the Standard Specifications. At no time shall the coarse aggregate segregated from the mix either from hand spreading or raking of joints be scattered across the paved mat. Such material shall be collected and disposed of.

C. The ENGINEER will examine the prepared roadway before the paving is begun and bring any deficiencies to the CONTRACTOR’s attention to be corrected before the paving is started. Roll each lift of the asphalt concrete until roller marks are eliminated and compacted to 100 percent of the laboratory compacted mixture. The grade, line, and cross section of the finished surface

shall conform to the Drawings. Asphalt or asphalt strains which are noticeable upon surfaces of concrete or materials which will be exposed to view shall be promptly and completely removed.

3.9 ASPHALT CONCRETE PAVEMENT

A. Workmanship in producing, hauling, placing, compacting, and finishing asphalt concrete shall meet the applicable portions of the Standard Specifications.

3.10 CONNECTIONS WITH EXISTING FACILITIES

A. Where the bituminous pavement is to be connected with an existing roadway surface or other facility, the CONTRACTOR will be required to modify the existing roadway profile in such a manner as to produce a smooth riding connection to the existing facility. The CONTRACTOR shall meet existing neat lines where required.

B. Where it is necessary to remove existing asphalt surfaces or oil mat surfaces to provide proper meet lines and riding surfaces, the CONTRACTOR shall sawcut the existing surface so that there will be sufficient depth to provide a minimum of 1 inch of asphalt concrete, and the waste material shall be disposed of to the satisfaction of the ENGINEER. Prior to placing the asphalt concrete, these areas shall be tacked. Meet lines shall be straight and the edges vertical. The edges of meet line cuts shall be painted with liquid asphalt or emulsified asphalt prior to placing asphalt concrete. After placing the asphalt concrete, the meet line shall be sealed by painting with a liquid asphalt or emulsified asphalt and immediately covered with clean, dry sand.

3.11 CONSTRUCTION OF COURSES

A. The asphalt concrete pavement shall be constructed in one or more courses as shown on the Drawings.

1. Rolling shall continue until all roller marks are eliminated and compacted to 100 percent of the laboratory compacted mixture has been obtained.

3.12 SURFACE TOLERANCE

A. Tests for conformity with the specified grade shall be made by the CONTRACTOR immediately after initial compression. Any variation shall be immediately corrected by the removal or addition of materials and by continuous rolling.

B. The completed surface of the pavement shall be of uniform texture, smooth, uniform as to grade, and free from defects of all kinds. The completed surface shall not vary more than 1/8 inch from the lower edge of a 12-foot straightedge placed on the surface along the centerline or across the trench.

C. After completion of the final rolling, the smoothness and grade of the surface shall again be tested by the CONTRACTOR.

D. When deviations in excess of the above tolerances are found, the pavement surface shall be corrected as stated in Section 330-12.4 of the Standard Specifications.

E. All areas in which the surface of the completed pavement deviates more than twice the allowable tolerances described above shall be removed and replaced to the satisfaction of the ENGINEER.

F. All costs involved in making the corrections of defects described above shall be borne by the CONTRACTOR and no compensation will be made for this work.

3.13 SAMPLES

A. If directed by the ENGINEER, the CONTRACTOR shall without additional charge, provide the ENGINEER with test results of samples of asphalt concrete cut from the completed pavement or the individual courses thereof for each occurrence. Provide a minimum of three test cores located as directed by the ENGINEER. He shall also provide the ENGINEER with test results of samples of the uncompressed asphalt concrete mixtures and all materials incorporated in the work.

3.14 WEATHER CONDITIONS

A. Asphalt shall not be applied to wet material. Asphalt shall not be applied during rainfall or any imminent storms that might adversely affect the construction. The ENGINEER will determine when surfaces and materials are dry enough to proceed with construction. Asphalt concrete shall not be placed during heavy rainfall or when the surface upon which it is to be placed is wet.

3.15 PROTECTION OF STRUCTURES AND ADJUSTMENT OF APPURTENANCES

A. Provide whatever protective coverings may be necessary to protect the exposed portions of bridges, culverts, curbs, gutters, posts, guard fences, road signs, and any other structures from splashing oil and asphalt from the paving operations. Remove any oil, asphalt, dirt, or any other undesirable matter that may come upon these structures by reason of the paving operations.

B. Where water valve boxes, manholes, catch basins, or other underground utility appurtenances are within the area to be surfaced, the CONTRACTOR shall adjust the tops of these facilities to conform with the proposed surface elevations. The CONTRACTOR shall notify the proper authority and either raise or lower the appurtenances or make arrangements with that authority for having the facilities altered at the CONTRACTOR's expense before proceeding with the resurfacing. The CONTRACTOR will be responsible for making certain that appurtenances are brought to proper grade to conform with finished surface elevations and any delays experienced from such obstructions will be considered as incidental to the paving operation. No additional payment will be made. Protect all covers during asphalt application. All adjustments shall be

made in accordance with the requirements of the respective utility.

3.16 EXCESS MATERIALS

A. Dispose of all excess materials. Make arrangements for the disposal and bear all costs or retain any profit incidental to such disposal.

3.17 CONTRACTOR'S RESPONSIBILITY

A. Settlement of replaced pavement over trenches within the warranty period shall be considered the result of improper or inadequate compaction of the subbase or base materials. The CONTRACTOR shall promptly repair all pavement deficiencies noted during the warranty period at the CONTRACTOR's sole expense.

3.18 SIDEWALKS AND CURBS

A. Replace concrete sidewalks and curbs to the same section width, depth, line, and grade as that removed or damaged. The minimum thickness of sidewalks shall be 6 inches. Cut ends of existing curb to a vertical plane. Prior to replacing the sections, properly backfill and compact the trench to prevent subsequent settlement.

B. Replace concrete sidewalks at scored joints and make replacement in a manner that will avoid a patched appearance. Provide a minimum 2-inch thick compacted leveling course of clean sand or gravel of quality hereinbefore specified. Finish concrete surface similar to the adjacent sidewalks.

3.19 DRIVEWAYS AND WALKS

A. Replace asphalt driveways and walks in accordance with Paragraph ASPHALT CONCRETE PAVEMENT REPLACEMENT.

B. Replace concrete and paver driveways in kind, using similar materials of construction. Concrete driveways shall consist of a reinforced, 6-inch section.

3.20 PAINTING TRAFFIC STRIPES

A. All areas having traffic stripes prior to paving shall be repainted. Temporary traffic painting shall be applied immediately after asphalt pavement has been placed. Permanent traffic painting may be applied only after the proper curing time for the asphalt. Painting traffic stripes (temporary and permanent) shall meet the requirements of Section 710 of the Standard Specifications.

3.21 INSTALLATION OF RAISED REFLECTIVE PAVEMENT MARKERS

A. All areas having raised reflective pavement markers prior to paving shall be replaced. Temporary pavement markers shall be applied immediately after asphalt pavement has been placed. Permanent pavement markers may be

applied only after the proper curing time for the asphalt. Pavement markers and adhesive (temporary and permanent) shall meet the requirements of Section 706 of the Standard Specifications.

B. Spacing: As shown in the Roadway and Traffic Design Standards for Design, Construction, Maintenance and Utility operations on the State Highway System by the State of Florida, Department of Transportation, current edition.

3.22 PAVEMENT REPAIR

A. All damage to pavement as a result of work under this Contract shall be repaired in a manner satisfactory to the ENGINEER and at no additional cost to the OWNER. The repair shall include preparation of the subgrade, placing and compaction of the lime rock base and placement of the final asphalt surface as described in this Section.

B. The width of all repairs shall extend at least 12 inches beyond the limit of the damage with the edge of pavement left saw cut to a true edge with no irregularities. For county roads and city streets recently constructed or overlaid, the repair may be required to be full-lane width as shown on the Drawings.

3.23 SWALE RESTORATION

A. Swale areas (areas between pavement edge and sidewalks, or right-of-way line if there is no existing or proposed sidewalk) shall be graded and restored to the pre-existing condition. Where storm inlets are present, the swale shall have a consistent longitudinal slope towards the inlet.

B. Swale areas with previously existing improved surfaces, including but not limited to asphalt, concrete, pavers, crushed or decorative rock shall be restored in kind. Asphalt paved areas shall be constructed with a minimum 6-inch stabilized subbase and minimum 6-inch compacted limerock base, primed and topped with minimum 1-inch asphalt.

C. Swale areas with previously unimproved or turfed surfaces will be restored with soil stabilization where existing natural soil will not support vehicle loads normally imposed by movement and parking of heavy vehicles without rutting and shifting of soil. Subject to the approval of the ENGINEER, this work may be performed in connection with preparation of subgrade or construction of the limerock base course.

D. Swale areas with previously unimproved or turfed surfaces will be topped with sod. St. Augustine “Floritam” and two inches of topsoil shall be used in irrigated areas and where St. Augustine sod was previously established. Bahia sod shall be placed in all other areas not previously improved or sodded.

3.24 SWALE STABALIZATION

A. Where swale stabilization is required as indicated above, stabilization shall be achieved by the addition and mixing in of suitable stabilizing materials. It shall

be incorporated into the existing swale soils by plowing, disking, harrowing, blading or mixing with rotary tillers or other appropriate equipment approved by the Engineer, until the mixed materials are of uniform bearing value throughout the width and at least 6-inch depth from the top of the swale after the swale is graded and shaped to the section indicated on the plans.

B. The swale areas shall be mixed and compacted to achieve a minimum average dry density of 90 percent throughout the 6-inch thickness, as determined by AASHTO T180. In the determination of such average, the minimum acceptable density shall be 85 percent and the maximum density which shall be used in calculations shall be 100 percent (if the tested density is reported above 100 percent).

C. Density tests for swale stabilization shall be made at intervals not less than one set of three per City block on each side of the roadway, or at increased intervals as directed by the Engineer when required to measure small or isolated sections (except where such testing may be considered unnecessary by the Engineer). Each set of three shall be averaged as indicated above for determination of meeting the minimum requirements.

3.25 BRICK OR PAVER RESTORATION

A. Remove and salvage bricks or paver materials to be disturbed by the work. Payment will be made in accordance with the unit price for these items.

B. Restore pavers and apron area shall be constructed as shown in the Drawings. Payment will be made in accordance with the unit price for these items.

C. If brick and paver materials are damaged, new materials shall match or all materials within the crossing must be replaced at no additional cost. New materials shall be approved by the Owner.

END OF SECTION

SECTION 02656

MANHOLE REPAIRS

PART 1 GENERAL

1.1 SUMMARY

Section includes: Work required for the various types of manhole repairs to prevent inflow (rainwater entering into manholes through frame/lid and chimney). Materials and methods include sealing manhole chimneys with cured-in-place or prefabricated products and manhole frame/cover sealing/replacement. Chimney seals shall be provided for (i) All manholes where the existing frame is to be removed and either reset or replaced with a new frame (ii) Manhole chimneys where inflow is detected.

A. Related Work Specified Elsewhere includes:

1. Section 02999 – Miscellaneous Work and Cleanup
2. Section 02316 – Excavation
3. Section 02315 – Fill and Backfill
4. Section 02575 – Surface Restoration
5. Section 02958 – Structural Manhole Lining

1.2 SUBMITTALS

A. Contractor shall submit manufacturer's technical literature on material and description of installation method including, but not limited to:

1. Requirements for application, such as temperature and humidity
2. Requirements for worker safety, such as ventilation and safe handling procedures
3. Maximum storage life
4. Mixing and proportioning requirements for specific application (cured-in-place products)
5. Pot life (cured-in-place products)
6. Application thickness per coat (cured-in-place products)
7. Curing time (cured-in-place products)

1.3 QUALITY ASSURANCE

A. Product application shall be performed only by workmen trained and experienced with specified material and trained in confined space entry.

B. Certification: Applicators for spray-applied coating installation shall be certified by the manufacturer.

C. Contractor Experience: Minimum of five (5) years of experience with similar applications of the materials specified.

PART 2 PRODUCTS

2.1 FRAME & COVER

A. Castings for manhole frames and covers shall conform to ASTM A48 Class 30 and shall be traffic bearing.

B. The seating surfaces between frames and covers shall be machined to fit true so the frames and covers do not shift under traffic conditions or permit entry of stormwater from flooding.

C. Lifting or pick holes shall be provided, but shall not penetrate the cover.

D. The words “SANITARY SEWER” and “CITY OF FORT LAUDERDALE” shall be cast in all manhole covers.

E. Manhole frames and covers shall be EJ USA Inc. Product number NPR13-2378B or pre-approved Equal.

F. Two rows of butyl rubber rope mastic shall be applied to the top surface of the manhole chimney or cone (whichever the frame will attach to). The frame shall be carefully set onto the rope mastic so that the frame opening is concentric to the manhole opening.

G. Inflow protectors shall be provided for all manholes. ABS or 316 stainless steel inflow protectors shall be provided for manholes in non-traffic bearing locations. High-quality 316 stainless steel inflow protectors with a consistent thickness of not less than 18 gauge shall be provided for manholes in traffic bearing locations.

H. Inflow protectors shall have a deep dish bowl design with no less than 8 inches in depth to allow easy and unobstructed removal of the manhole cover.

I. Manhole inflow protectors are to be manufactured with a one-piece gasket installed at the factory for a tight, consistent fit. The rubber gasket is to be designed to securely wrap around the entire leading edge of the inflow protector at the point where it comes in contact with the manhole frame and cover.

J. The wrap-around rubber gasket is to be manufactured to a width of no less than 3/8 inches, consistent on top and bottom of the leading edge of the inflow protector. The gasket shall be no more than 3/32 inches thick.

K. The insert removal handle shall be manufactured of high-quality stainless steel for strength and durability. The handle shall be installed in such a way that it

does not interfere with the installation or removal of the manhole cover. The handle shall be designed and manufactured to withstand a minimum pull force of 500 pounds before it fails or separates from the insert.

L. The inscription “PROPERTY OF FORT LAUDERDALE UTILITIES” shall be etched at the base of the handle frame to provide a long-lasting identification marker for the OWNER.

M. Inflow protectors shall be as manufactured by Sewer Shield, Inc., Maitland, FL or pre-approved Equal.

2.4 BENCH AND INVERT

Repair of bench and invert shall be accomplished utilizing either the Raven or IET product in accordance with sections 02958-01 or 02958-02 or cementatius lining material as follows:

A. Specially formulated prepackaged mixes shall be used. The material shall be fiber reinforced and contain special additives which produce a minimum 24- hour compressive strength of 3,000 psi, and a minimum 28-day compressive strength of 8,000 psi. The material shall form a mechanical and chemical bond to the manhole surface and have zero shrinkage.

B. The mortar shall include calcium aluminate or other Engineer-approved substance to be suited for resistance against corrosion.

C. Bench Application:

a. The bench shall be sprayed such that a gradual slope is produced from the walls to the invert with the thickness at the edge of the invert being no less than ½ inch. The materials shall be applied to the bench area in such a manner as to provide for proper drainage without ponding. The material shall be smooth steel trowel finish sloping from wall to invert. The bench intersection shall be rounded to a uniform radius the full circumference of the intersection.

D. Invert Repair:

a. Invert repair shall be performed on all inverts with visible damage or infiltration as identified by the OWNER. After blocking the flow through the manhole and thoroughly cleaning the invert, a quick-setting patch mix shall be applied to the invert in an expeditious manner. The mix shall be troweled uniformly onto the invert, extending out onto the bench sufficiently to tie into the liner spay applied to the bench or to the existing manhole bench. The finished invert shall be U-shaped uniform with pipe diameter with a minimum depth or 6” for 8” pipe and full depth for greater sized mains. Finish is to be that accomplished by steel trowel. Pipe crowns are to be built on all pipes. Invert shall be at least 2” thick, and be smooth and free of ridges.

E. Curing:

a. Material shall be cured according to the manufacturer's instructions and recommendations

b. Caution should be taken to minimize exposure of applied product to sunlight and air movement. At no time should the finished product be exposed to sunlight or air movement for longer than 15 minutes curing the curing process before replacing the manhole cover.

3.0 WARRANTY

A. Provide a ten (10) year unlimited warranty on all workmanship and products. The work covered by the warranty shall include surface preparation, grouting, liner application, as well as other work performed under this section. The warranty shall be effective beginning on the date of final acceptance by Lee County Utilities, and shall guarantee that the manhole will be protected from leaks and from failure due to corrosion from exposure to hydrogen sulfide and other corrosive chemicals normally encountered in raw sewage.

END OF SECTION

SECTION 02660
PRESSURE PIPE SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. The work covered by this section consists of providing all labor, material, and equipment, and performing all construction required to install the watermain, fittings, valves, and accessories as specified and shown on the drawings.

1.02 SUBMITTALS

A. Reports on pressure tests, leakage tests, and bacteriological tests will be prepared and submitted by the Contractor.

B. Record drawings must be submitted in accordance with the Martin County Department Standards.

C. Submit product data for all pipe, service connections, fittings, valves, accessories, and other appurtenances in accordance with Division 1 specifications.

1.03 REFERENCE STANDARDS

A. Water system components which come into contact with drinking water must conform with ANSI/NSF Standard 61-1991, Drinking Water Components.

B. All potable water system components shall be supplied and installed per the applicable FDEP and Martin County Standards. Refer to Martin County Standards for a list of approved products and submittal procedures.

C. ANSI/ASTM D2466 - Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.

D. ANSI/AWWA C104 – Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.

E. ANSI/AWWA C105 – Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems

F. ANSI/AWWA C110 – Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in. for Water and Other Liquids.

G. ANSI/AWWA C111 – Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

H. ANSI/AWWA C115 – Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray Iron Treaded Flanges.

I. ANSI/AWWA C150 – Standard for the Thickness Design of Ductile-Iron Pipe.

J. ANSI/AWWA C151 – Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids.

K. ANSI/AWWA C153 – Standard for Ductile-Iron Compact Fittings, 3 in. through 24 in. and 54 in. through 64 in. for Water Service.

L. AWWA C504 – Standard for Rubber-Seated Butterfly Valves.

M. AWWA C508 – Standard for Swing-Check Valves for Waterworks Service, 2 in. through 24 in.

N. AWWA C509 – Standard for Resilient-Seated Gate Valves for Water Supply Service.

O. AWWA C511 – Standard for Reduced-Pressure Principle Backflow-Prevention Assembly.

P. AWWA C512 – Standard for Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.

Q. AWWA C600 – Standards for Installation of Ductile-Iron Water Mains and Their Appurtenances.

R. AWWA C605 – Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.

S. AWWA C606 – Standard for Grooved and Shouldered Joints.

T. AWWA C900 – Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. through 12 in. for Water Distribution.

U. AWWA C901 – Standard for Polyethylene (PE) Pressure Pipe and Tubing, ½ in. through 3 in. for Water Services.

V. AWWA C906 - Polyethylene (PE) Pressure Pipe and Fittings, 4 in. (100 mm) Through 63 in. (1600 mm), for Water Distribution and Transmission

W. ASTM D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.

X. ASTM D2855 - Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.

Y. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

Z. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

AA. ASTM D3139 - Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals.

BB. ASTM D3261 - Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

CC. ASTM D3350 - Standard Specification for Polyethylene (PE) Plastic Pipe and Fitting Materials

DD. ASTM F437-82 - Threaded Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.

EE. ASTM F439-87 - Standard Specification for Socket - Type Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.

FF. ASTM F714- Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter

GG. ASTM 493-85 - Solvent Cements for Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe and Fittings.

HH. ASTM 2164 - Standard Practice for Field Leak Testing of Polyethylene (PE) and Crosslinked Polyethylene (PEX) Pressure Piping Systems Using Hydrostatic Pressure

II. NSF-14 - Plastics Piping System Components and Related Materials

JJ. NSF-61 - Drinking Water System Components--Health Effects

KK. ASME/ANSI B16.5 –1996 – Pipe Flanges and Flanged Fittings.

LL. ASME/ANSI B 31.3 – 1996 – ASME Code for Pressure Piping.

MM. ASME/ANSI B 16.9 – Pipe Fittings.

1.04 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including the General Conditions and Terms and Division 1 Specification sections, apply to this section.

B. Martin County Standards

C. FDOT Standards

D. Specified in other Sections:

1. Section 02065: Demolition
2. Section 021502: Dewatering
3. Section 02200: Earthwork, Excavation and Backfill
4. Section 02670: Flushing, Testing, and Disinfaction

1.05 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Provide data on pipes, casings, pipe fittings, valves, and accessories.

C. Manufacturer's Certificate: Certify that pipe, fittings, and valves meet or exceed respective ANSI, AWWA, and/or NSF Standards.

PART 2 - PRODUCTS

2.01 GENERAL

A. Although they may not be specifically shown on the drawings or called for elsewhere in the Technical Provisions, the Contractor shall include the cost of all fittings, piping supports, and miscellaneous appurtenances needed to provide a secure, working pipe and valve system. Piping shall be supported by thrust restraints and tie rods as necessary to ensure a stable installation. Adjustable pipe supports or piers shall be arranged to relieve attached equipment of all strain due to the weight of the pipe, fittings, valves, and the contents of the pipe.

2.02 APPROVED PRODUCTS

A. All products that come into contact with potable water shall be as specified by the County Standards.

B. PVC PIPE

See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. AWWA C900 and C-905 PVC Pipe
   a. All PVC pipe shall meet AWWA C-900 and AWWA C-905 Standards and NSF requirements for potable water application. PVC pipe 4” through 12” shall be class 150, DR 18 pipe conforming to AWWA C900. Pipe greater than 12” shall conform to AWWA C905, DR 18 or better.
   b. Fittings used in conjunction with the C900 PVC pipe shall be ductile iron, or PVC push-joint pressure rated fittings (SDR-35 min) as detailed on the drawings, mechanical joint.
   c. PVC watermain pipe shall be blue in color.

2. Schedule 40 PVC Pipe
   a. Rigid PVC (polyvinyl chloride) compound used in the manufacturer of schedule 40 pipe shall be Type I, grade 1 as identified in ASTM D1784. The pipe shall be NSF rated for potable water.
   b. PVC schedule 40 shall meet the requirements of ASTM standard D1785 for physical dimensions and tolerances.
   c. The marking on PVC Schedule 40 pipe shall meet the requirements of ASTM D1785 and state the material designation code, nominal pipe size, schedule of pipe, pressure rating in psi for water at 73° F, the ASTM designation number D1785 and the NSF seal for potable water.
   d. Fittings used shall be PVC Schedule 40 and solvent welded in accordance with ASTM D1785.

C. HIGH-DENISTY POLYETHYLENE (HDPE) PIPE

This section applies to HDPE pressure pipe only and not HDPE casing. See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. Polyethylene pipe and fittings shall be high-density polyethylene (HDPE) ASTM 3408 for municipal piping systems. The pipe manufacturer shall verify that the dimension ratio (DR) is capable of withstanding all forces and pressures that may be applied to the pipe before, during, and after installations of all HDPE piping. The pipe for this project shall be DR-11 at a minimum and be DIPS sized. Any increases in wall thickness that may be determined as required for the project by the pipe manufacturer and shall be provided by the contractor at no additional cost.

2. All HDPE pipe for pressure pipe shall be in accordance with Martin County Standards.

3. Polyethylene pipe and fittings shall be joined by the heat butt fusion process to produce a homogenous, sealed, leak tight joint unless otherwise noted as a mechanical joint connection. Fusion process shall meet the requirements of ASTM D-3261. At the point of fusion, the outside diameter and minimum wall thickness shall meet the outside diameter and minimum wall thickness specifications of ASTM F-714. Polyethylene fittings shall be made from the material meeting the same requirements as the pipe. Polyethylene fittings shall be fabricated by the same manufacturer of the pipe. The piping shall be homogenous throughout and free of visible cracks, holes, voids, foreign inclusions, fillers, or other deleterious defects and shall be identical in color, density, melt index, and other physical properties throughout.

4. All HDPE MJ Adapters (DIPS) shall be installed with Back-up Rings, Mechanical Restraint, and stainless steel stiffener that meets AWWA C906 standards. Back-up Rings shall be manufactured of ductile-iron conforming to ASTM A536-80. The gland shall be such that it can replace the standardized mechanical joint gland and can be used with the standardized mechanical joint bell conforming to ANSI/AWWA A21.11/C111 and ANSI/AWWA A21.53/C110 of the latest revision. Twist-off nuts, sized same as tee-head bolts, and shall be used to ensure proper actuating of restraining devices.

5. HDPE Pipe shall be color coded with three continuous stripes the full length of the Pipe at 120-degree intervals around the pipe.
6. The manufacturer shall certify that samples of the manufacturer's production pipe have been tested in-house, in accordance with ASTM D-2837, and validated in accordance with the latest revisions of PPI ASTM D-2837 and validated in accordance with the latest revisions of PPI TR-3.

D. DUCTILE IRON PIPE

Ductile iron pipe and fittings shall conform to AWWA C150, C151, and C153 and shall be in conformance with the County Utility Standards. Sizes 3” to 12” diameter shall be class 52. Sizes 14” and above shall be class 51. If no standard exists, the following shall be used:

1. Joints: Buried pipe shall be AWWA approved push-on or mechanical joint pipe (AWWA/ANSI C111/C21.11). Exposed joints shall be AWWA approved flanged joint pipe, in accordance with ANSI/AWWA C115, or as detailed on the drawings.

2. Fittings: Buried fittings shall be AWWA approved mechanical joint fittings. Exposed fittings shall be flanged fitting or as detailed on the drawings. Conform to AWWA C153.

3. The internal surface of all piping and fittings in contact with potable water shall be cement mortar lined and seal coated in accordance with AWWA C104, A21, unless other noted.

4. External surfaces of all buried ductile iron pipe and fittings shall be coated with a bituminous coating approximately one mil thick in accordance with AWWA C151/A21.51, latest revision.

5. Restrained joint fittings for 24” and smaller diameter pipe shall be ductile iron, “Flex-Ring” as manufactured by American Cast Iron Pipe Company, “TR Flex” as manufactured by US Pipe Company, “Super-Lock” as manufactured by McWane Ductile, or an approved equal. Restrained joint fittings for 30” and larger pipe shall be ductile iron, American Cast Iron Pipe Co. “Lok-Fast” or approved equal. Restrained joint pipe shall be constructed on all new watermains adjacent to all bends, crosses, tees, etc., where a change in direction occurs. Refer to the Table on the drawings for restrained pipe lengths.

E. DUCTILE IRON FITTINGS

All products that come into contact with potable water shall be as specified by the Martin County Standards. If no standard exists, the following shall be used:

1. Potable Water: Ductile iron fittings shall conform to ANSI/AWWA Standard C110 A21.10, latest revision. Fittings 4" and larger shall be cement lined and seal coated in accordance with ANSI/AWWA Standard C104 A21.4, latest revision.

F. DIP PIPE –WATERMAIN

DIP pipe used for watermains shall conform to the Martin County Standards and Approved Materials List. Fittings used in conjunction with the watermains shall be ductile iron. DIP watermain pipe shall have a line of blue paint or blue tape the full length of the new run on top of the pipe and on both sides. Pipe interior and exterior to be coated in accordance with Martin County Approved Materials List.

G. THRUST RESTRAINT

See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. All bends, tees, crosses, reducers and dead ends shall be restrained through an approved means of joint restraint unless an alternate restraint method is shown on the drawings. All branch valves shall be restrained with joint restraints or approved equal or anchor tees, or anchor couplings. Any line terminated during the construction phase that is a known future extension shall have a plugged valve placed at the end and be restrained. Thrust restraints shall be placed in accordance with the restraint table shown in the construction plans. If installed cover is less than the depth referenced in the Table, increase restrained length per manufacturer's recommendation. Existing pressure pipes that are modified by the construction or connected to new piping systems shall be restrained by bell restraints, split-ring restraints, or thrust blocks as appropriate.

H. LOCATOR FOR WATERMAIN PIPE

See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. On all pipe construction, 10 gauge, THHN insulated, solid copper wire shall be laid and secured on top of pipe. Wire shall be continuous from valve box to valve box, wrapped two times around each joint of pipe and extended inside each valve box to enable location devices to be attached without digging up the valve box.
2. Service wire shall be laid in the trench with all services, connected to the main wire and wrapped around the service piping or tubing. Wire for watermains shall be blue in color.
3. All wire connections shall be made with Dri-Splice wire connectors, Imperial Snip-Snap fittings filled with waterproof silicone sealant or approved equal. All splices shall be inspected and tested before burial.

4. A location, per Martin County standards, shall be provided at each fitting and/or every 100 feet of separation.

I. VALVE BOXES

See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. All valve boxes shall be cast iron construction with 5" shafts, equal to Tyler pipe 6850 series. Valve box lids shall have a 1" deep skirt and shall have the words “WATER”, where appropriate, cast in the top. Valve operating nuts shall be brought to within 30" of the surface using valve extension rods if required.

PART 3 - EXECUTION

3.01 IDENTIFICATION AND COLOR CODING OF PIPE & FITTINGS

A. POTABLE WATER MAINS

1. All water main pipe and fittings shall be color coded or marked using Safety Blue as a predominant color to differentiate drinking water from reclaimed or other water. Underground plastic pipe shall be solid-wall Blue pipe, shall have a co-extruded Blue external skin, or shall be white or black pipe with Blue stripes incorporated into, or applied to, the external pipe wall.

2. Underground metal or concrete pipe shall have Safety Blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90-degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe. For pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe.

3. Aboveground pipe at drinking water treatment plants shall be color coded and labeled in accordance with subsection 62-555.320(10), F.A.C.

4. All aboveground potable water pipe shall be painted solid blue.

5. Blue Warning tape with WATER printed on the tape shall be placed in the trench during backfill of the water pipe, a vertical distance of 18” above the crown of the pipe.

3.02 MARKING BY MANUFACTURER

A. Special markings shall be plainly marked on the applicable pipe indicating the weight, class of pipe, casting period, manufacturer's mark and year pipe was produced.

3.03 EXISTING UTILITIES

A. The plans depict the approximate location of the known existing subsurface water, sanitary sewer, electric, telephone, gas, cable, and storm water utilities.

B. Contractor will arrange for underground utilities to be located by appropriate utility owners in advance of the Contractor's operations. Contractor shall pothole all locations where the proposed pipe crosses an existing underground facility to verify that a conflict does not exist.

C. Notify Engineer of any substantial changes that would require a deviation in the plans.

D. Repair any damage done to existing utilities at no additional expense to the Owner.

3.04 PREPARATION

A. Where applicable, ream pipe and tube ends and remove burrs.

B. Remove scale and dirt, on inside and outside, before assembly.

C. Prepare pipe connections to equipment with flanges or unions.

3.05 BEDDING

A. Excavate trench and install pipe bedding as specified in Section 02200, Earthwork, Excavation and Backfill.

3.06 SURFACE CONDITIONS

A. Inspection

1. Prior to all Work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this work may properly commence.

2. Verify that all equipment may be installed in accordance with all pertinent codes and regulations, the original design, shop drawings, and the reference standards.

B. Discrepancies

1. In the event of discrepancy, immediately notify the Engineer.
2. Do not proceed with installation in area of discrepancy until all such discrepancies have been fully resolved.

3.07 PIPE-INSTALLATION GENERAL

A. Verify that building service connection(s) and size, location, and invert of municipal utility watermains are as indicated.

B. Take all precautions necessary to ensure that pipe, valves, fittings, and other accessories are not damaged in unloading, handling, and installation. Examine each piece of material just prior to installation to determine that no damage has occurred. Remove any damaged material from the site and replace with undamaged material.

C. Exercise care to keep foreign material and dirt from entering pipe during storage handling and installation. Close ends of in-place piping at the end of any work period to preclude the entry of animals and foreign material.

D. Use only those tools specifically intended for cutting the size, material, and type pipe involved. Make cut to prevent damage to pipe or lining and to leave a smooth end at right angles to the axis of the pipe.

E. Pipe deflection at joints shall be limited to 75% of the manufacturer's maximum deflection tolerance.

F. No wet taps, line stops, or connections to active water lines shall be performed on a Friday without prior permission from the County.

G. Black bags (fabric or geotextile only) shall be placed over hydrants not in service. No plastic garbage bags.

H. All coupons shall be kept and provided to the County.

3.08 VALVES AND VALVE BOXES

A. For valves 2" through 12", install valves for with operator stems in the vertical plane through the pipe axis and out of the plane of flow. Locate

valves where shown on Drawings. Thoroughly clean valves before installation. Check valves for satisfactory operation.

B. Equip all underground valves with gearing or operator switch valve boxes. Set box in alignment with valve stem centered on valve nut. Set the valve box to prevent transmitting shock or stress to the valve. Set the box cover flush with the finished ground surface or pavement.

3.09 PIPE PENETRATIONS

A. Use sleeves where pipes, valve stem extensions, or equipment parts pass through poured in place concrete or masonry walls or slabs. Sleeves shall be either cast iron or fabricated steel wall pipe with intermediate flange seep ring of sufficient size to allow sealing around pipe and clearance for valve stems or equipment. Extend vertical sleeves through slabs 1-inch above top surface.

B. Where new pipe must penetrate concrete wall on non-water bearing concrete structures, drill penetration in neat, workmanlike manner, install pipe, grout in place with non-shrink grout, and refinish surface to match adjacent.

3.10 THRUST RESTRAINT

A. Provide retainer gland type or mechanical restrained joint type at all changes in direction of pressure pipelines and as shown on drawings.

B. Use metal harness restraints as shown on drawings to restrain existing pipe segments.

C. Where retainer glands are used, extreme care shall be taken so that each set screw is tightened as recommended by the manufacturer before the pipe is backfilled and tested.

D. Existing piping shall be restrained with bell restraints as required by the thrust restraint table shown on the plans.

E. Anchor tees shall be used for fire hydrants attached to new watermains. Anchor couplings shall be used for fire hydrants attached to existing watermains.

3.11 FIELD QUALITY CONTROL

A. Compaction testing shall be performed in accordance with Section 02200.

B. If tests indicate Work does not meet specified requirements, remove work, replace, and retest at no cost to Owner.

3.12 CONSTRUCTION CONSTRAINTS

The Contractor shall give special considerations to accommodate the business owners and residents in minimizing downtime and disruption of water services during the entire construction period.

A. The Contractor will be required to submit as-builts including bacteriological laboratory test results to the Engineer/County after the completion of the work for preparation of Request for Final Release and submission to the FDEP.

The Contractor shall coordinate with Martin County when service shut downs are required for performance of the work.

END OF SECTION

SECTION 02665
DIRECTIONAL BORING OF PIPE

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section includes materials, installation standards, and execution for the installation of High Density Polyethylene (HDPE) pipe for this project by the directional bore installation method. Directional bore may also be referred to as Horizontal Directional Drill (HDD) throughout this and other sections.

B. The Contractor shall furnish all labor, materials, equipment, and incidentals required for the horizontal direction drill (HDD) installation of pressure pipe, as shown on the Drawings and as specified herein. This includes retaining any specialized personnel required in the event of a frac-out during construction and as required to comply with permit conditions of approval. Refer to the frac-out plan requirement within Appendix C.

C. The Drawings show the Basis of Design for the HDD installations for this project. The entry and exit locations, minimum clearances, and horizontal location shown on the plan and profile drawings must be met by the installed pipe. The Contractor may utilize an alternative drill profile path than is shown on the drawings at no additional cost to the owner. Alternative path must remain within the easements or rights-of-way noted.

D. Activites required for the HDD installations of pressure pipe, as shown on the Drawings and as specified herein, shall be performed in accordance with the conditions of the project permits complete with conditions, attachments, exhibits, and modifications as described in Section 01060.

E. The Contractor shall determine if a casing pipe is needed to prevent frac-out or upheaval, settlement, cracking, movement, or distortion of the surface material including roadways, retaining walls, and channel bottom for any portion of the HDD installation. If the Contractor determines that a casing pipe is needed, then the materials and labor for installing the steel casing pipe shall be included in the base bid line item unit cost for the HDD pipeline.

F. Contractor shall be responsible for all installation processes and procedures associated with the installation by horizontal directional drilling in accordance with this specification.

1.02 SUBMITTALS

A. Submit shop drawings in accordance with the General Conditions, and Section 01300 and the following:

A. The project drilling plan, pullback calculations signed and sealed by a Florida licensed professional engineer, and an emergency contingency plan shall be submitted and approved two weeks prior to the commencement of the directional drilling operations. If night time drilling and/or boring is to occur, the Contractor shall also submit a night-time drilling plan two weeks prior to the commencement of the directional drilling operations.

B. Prepare and submit project drilling plans for review by the Engineer. The project drilling plans shall include a list and description of materials and equipment to be used, anticipated noise emanation for all equipment, a description of each drill entry and exit angles, depth of pilot hole at points on a 30-ft interval along the drill, bend radius of the pipe, pullback monitoring plan, fluorescent dye monitoring plan, drill fluid disposal plan, technical information including a MSDS (Material Safety Data Sheet) for the drilling slurry compounds, drill fluid containment plan, and damage prevention provisions. If the Contractor determines that a casing pipe is needed, the drilling plan shall also include information on the materials and equipment to be used for the casing installation. The Contractor shall keep a copy of the drilling plan at the work site.

C. The following product data is required from the pipe supplier and/or fusion provider:
   a. Pipe Size
   b. Dimensionality
   c. Pressure Class per applicable standard
   d. Color
   e. Recommended Minimum Bending Radius
   f. Recommended Maximum Safe Pull Force
   g. Fusion technician qualification indicating conformance with this specification

D. Pullback and service load calculations have determined that a minimum DR-9/11 DIPS HDPE pipe (as indicated on the project drawings) is the minimum standard Dimensional Ratio for the watermain pipe. These calculations are based on the conditions shown on the drawings and included within the specifications, including the carrier pipe being filled with water before it is pulled

through the bore hole. Pipes shall NOT be thinner or smaller than indicated on the plans. If the contractor proposed installation of the HDD differs significantly from what is shown on the drawings and described herein, contractor shall provide calculations showing that the DR is adequate for this project, including calculations signed/sealed by an engineer licensed in the State of Florida, demonstrating that a factor of safety of at least 2.0 against buckling, pull back stress, and long term performance stress for the proposed carrier pipe material considering the materials, bore hole path, and equipment to be used for this installation. If it is determined that a thicker pipe material must be used, then the additional cost shall be borne by the contractor.

E. The Contractor is required to bring to the attention of the Engineer any known design discrepancies with these specifications and the actual drilling methods that the Contractor will be performing. This shall be stated in writing to the Engineer no later than the pre-construction meeting.

F. The Contractor shall prepare and submit a pilot bore record drawing to the Engineer prior to reaming the pilot bore hole. The Contractor is responsible for updating the pilot bore hole record drawing as work progresses and should submit the pilot bore record drawing to the Engineer within 48 hours of completing the pilot bore. After receiving the bore hole record drawing, the Engineer has 48 hours to state any objections to the pilot bore before the Contractor begins reaming the pilot bore hole.

G. Submit a flushing and pigging plan for cleaning the pipes after installation, including the specifics of the proposed pig.

H. Submit pipe fusion procedures, samples, and operator's qualifications as described in the execution part of this section.

I. Provide shop drawing submittal and sample of pipe, fused joint, and trace wire.

J. The following record drawings are required from the contractor specifically for the HDD installation in addition to the requirements contained in Section 01720:
   a. The record plan and profile will reflect the actual installed alignment and reflect the horizontal offset from the baseline and depth of cover.
   b. A daily project log, along with tracking log sheets, should they be used, shall be provided. Tracking log sheet data, should it be employed, shall include any and all that apply, including inclination, depth, azimuth, and hydraulic pull-back

and rotational force measured.

K. The following record data is required from the contractor and/or fusion provider to the owner or pipe supplier upon request:
   a. Approved datalogger device reports
   b. Fusion joint documentation containing the following information:
      1. Pipe Size and Thickness
      2. Machine Size
      3. Fusion Technician Identification
      4. Job Identification
      5. Fusion Joint Number
      6. Fusion, Heating, and Drag Pressure Settings
      7. Heat Plate Temperature
      8. Time Stamp
      9. Heating and Cool Down Time of Fusion
      10. Ambient Temperature

PART 2 – MATERIALS AND EQUIPMENT

2.01 PIPE AND FITTINGS

See Section 02660.

2.02 BOLT AND NUTS FOR MECHANICAL JOINT CONNECTIONS AND/OR ADAPTORS

See Section 02660.

2.03 DRILLING SYSTEM EQUIPMENT

A. GENERAL

The directional drilling equipment, as a minimum, shall consist of a directional drilling rig of sufficient capacity to perform the bore(s) and pull-back of the pipe(s), a drilling fluid mixing & delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations, and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials, and spare parts on hand to maintain the system in good working order for the duration of this project. All required equipment shall be included in the emergency and contingency plan as submitted per these specifications.

B. DRILL PIPE

Drill pipe shall be steel with sufficient strength to withstand the maximum rated pullback and pushing load of the drilling equipment. Drill pipe and tool joints shall be flush and capable of transmitting maximum rated torque of the drilling equipment.

C. DRILLING FLUID

Drilling fluid shall be bentonite and water formulated to move cuttings to the surface and lubricate the pipe during pullback. No other additives shall be added to the bentonite mixture without prior approval.

1. The water and additives shall be mixed thoroughly to assure the absence of any clumps or clods.

2. No hazardous additives may be used.

3. Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of bore wall(s).

4. Drilling fluid shall be disposed of off-site in accordance with local, state and federal requirements and/or permit conditions.

D. DRILLING FLUID MIXING SYSTEM

1. A drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid for the project.

2. The mixing system shall be able to ensure thorough mixing of the drilling fluid. The drilling fluid reservoir tank shall be sized for adequate storage of the fluid.

3. The mixing system shall continually agitate the drilling fluid during drilling operations.

E. DRILLING FLUID DELIVERY AND RECOVERY SYSTEM

1. The drilling fluid pumping system shall have a minimum capacity to supply drilling fluid in accordance with the drilling equipment pull-back rating at a constant required pressure.

2. The delivery system shall have filters or other appropriate in-line equipment to prevent solids from being pumped into the drill pipe.

3. Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and properly disposed of. The use of spill

containment measures shall be maintained around drill rigs, drilling fluid mixing system, entry and exit pits, and drilling fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps, vacuum truck(s), and/or storage of sufficient size shall be in place to contain excess drilling fluid.

4. A closed-loop drilling fluid system and a drilling fluid cleaning system should be used to whatever extent practical, depending upon project size and conditions. Under no circumstances shall drilling fluid that has escaped containment be reused in the drilling system.

F. DRILLING EQUIPMENT

1. Drilling equipment shall be in good condition and designed to have sufficient power to drill the required length hole, backream, and pull the pipe as shown on the Drawings.

2. The drilling rig hydraulic system shall be of sufficient pressure and volume to power drilling operations. The hydraulic system shall be free from leaks.

3. Mixing, pumping, recycling, and holding/separation tanks shall be capable of delivering mixed drilling fluid to the cutting head. Drilling fluids recycling equipment including baffle tanks, shaker screen, de-sanding and de-silting hydro cyclones shall be utilized and designed to minimize spillage and quantities of drilling fluids necessary for these installations.

4. The machine shall be anchored to withstand the pulling, pushing, and rotating forces required to complete the project.

5. The drilling rig shall have a system to monitor pull-back hydraulic pressure during pull-back operations.

G. DRILL HEAD

1. The horizontal directional drilling equipment shall produce a stable fluid lined tunnel with the use of a steer-able drill head and any subsequent pre-reaming heads.

2. The system must be able to control the depth and direction of the drilling operation.

3. Drill head shall contain all necessary cutters and fluid jets for the operation, and shall be of the appropriate design for the ground medium being drilled.

H. DRILLING CONTROL SYSTEM

1. Calibration of the electronic detection and control system shall be verified prior to the start of the bore.

2. The drilling head shall be remotely steer-able by means of an electronic or magnetic detection system. The drilling head location shall be monitored in three dimensions:
   a. Offset from the baseline,
   b. Distance along the baseline, and
   c. Depth of cover.

3. Point of rotation of the head shall also be monitored.

4. For gravity application and on-grade drilling, sonde/beacon or approved equipment applicable for grade increments of $1/10^{th}$ of one percent shall be used.

I. DOWNHOLE TOOLS

1. Cutting heads, backreamers, and hole openers shall be suitable for the soil and rock conditions anticipated by the Contractor.

2. Grips, pulling heads, and swivels shall be compatible with the pipe material. Design these components to transmit without distortion the maximum rated pullback force of the equipment used. Grips, pulling heads, and swivels shall be specifically engineered for directional drilling applications.

J. PIPE PULL HEADS

1. Pipe pull heads shall be utilized that employ a positive through-bolt design assuring a smooth wall against the pipe cross-section at all times.

2. Pipe pull heads shall be specifically designed for use with HDPE/fusible polyvinylchloride pipe, as applicable, and shall be as recommended by the pipe supplier.

K. BREAK-OUT TOOLS

Remote breakout wrenches may either be manual or hydraulic and shall be used to connect or break tool joints forward of the drill rig. Drill rig rotational power shall not be used with remote wrenches to make or break tool joints.

L. REMOTE TRACKING SYSTEM

Tracking equipment shall be capable of determining the location of the cutting head at +/-1% of the depth.

M. EMERGENCY SPILL EQUIPMENT

1. A Vactor Truck and Spill Kit shall be onsite and avaliable at all times.

N. PIPE ROLLERS

1. Pipe rollers, if required, shall be of sufficient size to fully support the weight of the pipe during handling and pullback operations.

2. A sufficient quantity of rollers and spacing, per the pipe supplier's guidelines, shall be used to assure adequate support and excessive sagging of the product pipe.

2.04 CASING PIPE AND INSTALLATION EQUIPMENT

If the Contractor determines that a casing pipe is needed, the Contractor shall provide all of the material and equipment for installing the steel casing. The eqiupment shall be suitable for the soil conditions anticipated by the Contractor.

PART 3 – EXECUTION

3.01 DELIVERY AND OFF-LOADING

A. Delivery, temporary storage, and handling of the pipe shall be in strict accordance with the recommendations of the manufacturer.

B. All pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the owner or engineer.

C. Pipe should be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.

D. Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.

E. During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.

F. If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to insure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped,

from trucks.

3.02 HANDLING AND STORAGE

A. Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the owner or engineer.

B. Before installation of HDPE, check pipe and fittings for cuts, gouges in excess of 10% of the wall thickness, buckling, kinking, or splitting. Remove any pipe section containing defects by cutting out the damaged section in a complete cylinder.

C. Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the ends of the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.

D. Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch, or otherwise abrade the piping in any way.

E. If pipe is to be stored for periods of 1 year or longer, the pipe should be shaded or otherwise shielded from direct sunlight. Covering of the pipe which allows for temperature build-up is strictly prohibited. Pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excess heat accumulation.

F. Pipe shall be stored and stacked per the pipe supplier’s guidelines.

3.03 LOCATION AND PROTECTION OF UNDERGROUND UTILITIES

A. Correct location of all underground utilities that may impact the HDD installation is the responsibility of the Contractor, regardless of any locations shown on the drawings or previous surveys completed.

B. Utility location and notification services shall be contacted by the Contractor prior to the start of construction.

C. All existing lines and underground utilities shall be positively identified, including exposing those facilities that are located within an envelope of possible impact of HDD installation as determined for the project specific site conditions. It is the Contractor and HDD system operator’s responsibility to determine this envelope of safe offset from existing utilities. This will include, but is not limited to, soil conditions and layering, utility proximity and material, HDD system and equipment, and foreign

subsurface material.

3.04 DRILLING LAYOUT AND TOLERANCES

A. The drill path shall be accurately surveyed with entry and exit areas placed in the appropriate locations within the areas indicated on drawings. If using a magnetic guidance system, drill path will be surveyed for any surface geomagnetic variations or anomalies.

B. Instrumentation shall be provided and maintained at all times that accurately locates the pilot hole, measures drill-string axial and torsional loads, and measures drilling fluid discharge rate and pressure.

C. Entry and exit areas shall be drilled so as not to exceed the bending limitations of the pipe as recommended by the pipe supplier.

3.05 PILOT BORE

A. Construct a pilot bore at the center line alignment and grade as shown in the drawings. Circulate drilling fluids to maintain an open bore at all times. The Contractor is responsible for updating the pilot bore hole record drawing as work progresses. Reaming shall not commence until successful completion of the path of pilot bore pulled from the end of the HDD path (exit pit) to the beginning location of the HDD path (entry pit). If the pilot bore could not be successfully completed, then do not proceed with the reaming procedure until the Owner, Owner's Representative, Engineer, and Contractor have met to discuss alternative options for the pipeline crossing. The pilot bore and reaming procedure shall be controlled by a magnetic survey system including accelerometers, magnetometers, connector wire, and survey probe. The guidance system shall be capable of measuring depth, location, pitch, and roll of the bore and shall be able to indicate depth up to 120 feet.

B. The pipe bore shall follow the line and grade shown in the drawings. The pipe exit location shall be at the design location shown on the drawings with a tolerance of ±3 feet on line and a tolerance of ±3 feet on grade. The pipe shall remain within the right-of- ways and easements at all times, as shown on the drawings.

C. Install the pilot bore in a manner that does not cause upheaval, settlement, cracking, movement, or distortion of the surface material.

D. In the event that the pilot bore does deviate from the bore path, it may require contractor to pull-back and re-drill from the location along bore path before the deviation.

E. If the Contractor determines that a casing pipe is needed on the pipe entry/exit side, then the casing pipe shall be installed prior to the

construction of the pilot bore and the pilot bore shall be constructed to align with the casing pipe below the ground surface.

F. The Contractor shall limit curvature in any direction to reduce force on the pipe during pull-back. The minimum radius of curvature shall be no less than that specified by the pipe supplier and as indicated on the drawings.

3.06 DRILLING FLUIDS

A. Contain, clean-up, and dispose of any and all drilling fluid in accordance with state and federal regulations and permit conditions. Install erosion and sedimentation control measures including straw bales to prevent drilling mud from spilling out of the entrance/exit pit. The volume of bentonite in the drill string shall be monitored at all times during directional drill operations. Limit pressures in order to not buckle the surface of the pipe during installation.

3.07 WIRELINE GUIDANCE SYSTEM

A. Use a surface monitoring wireline guidance system when conducting each drill. The surface grid shall consist of an energized wire coil laid-out and surveyed on the surface of the ground along the drill paths.

B. Remove all surface grid coil wires from all drill paths after HDD installations are complete.

3.08 BORE HOLE REAMING AND PIPE INSTALLATION

A. Upon complete acceptance of the pilot bore, pull the drill pipe back through the bore using an oversized backreamer larger than the proposed pipe to be pulled back through the bore hole. Repeat backreaming as necessary to enlarge the bore to provide sufficient clearance for the pipe.

B. Multiple reaming passes shall be used at the discretion of the Contractor and shall conform to this specification.

C. In the event of a drilling fluid fracture, returns loss, or other loss of drilling fluid, the Contractor shall be responsible for restoring any damaged property to original condition and cleaning up the area in the vicinity of the damage or loss.

D. Attach pulling head and swivel and pull pipe through with closed end. Pull pipe back in one continuous pull to avoid closure of the bore hole. Fill the pipe with water prior to installation.

E. Pipe shall be fused prior to insertion, if the site and conditions allow, into one continuous length.

F. Contractor shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not bend past the pipe supplier's minimum allowable bend radius, buckle, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.

G. The pipe entry area shall be graded as needed to provide support for the pipe and to allow free movement into the bore hole.

H. Install the pipe in a manner that does not cause upheaval, settlement, cracking, movement, or distortion of the surface material.

I. The elevation of the casing and/or carrier pipe at the location of the connection point of the directional bore shall be 36" below the natural grade or at the elevation shown on the construction plans and shall be in a horizontal location for ease of connection to continuing mains. Should this not be possible due to the acute angle of the bore, the contractor shall furnish and install appropriate fittings to provide for a horizontal continuation.

J. The pipe will be installed in a manner so as not to exceed the recommended bending radius and Safe Pulling Force established by the pipe supplier.

K. The pipe shall be guided into the bore hole to avoid deformation of, or damage to, the pipe.

L. The pipe may be continuously or partially supported on rollers or other Owner and Engineer approved friction decreasing implement during joining and insertion, as long as the pipe is not over-stressed or critically abraded prior to or during installation.

M. A swivel shall be used between the reaming head and the fusible polyvinylchloride pipe to minimize torsion stress on the pipe assembly.

N. Buoyancy modification shall be at the sole discretion of the Contractor, and shall not exceed the pipe supplier's guidelines in regards to maximum pull force or minimum bend radius of the pipe. Damage caused by buoyancy modifications shall be the responsibility of the Contractor.

O. The pipe shall be installed in a manner that does not cause upheaval, settlement, cracking, or movement and distortion of surface features. Any damages caused by the Contractor's operations shall be corrected by the Contractor.

P. Upon completing the pipe installation, drilling materials inside the pipe shall be removed.

Q. If the Contractor determines that a casing pipe is needed or is called out on the drawings, the HDPE or FPVC pipe shall be fitted with spacers if required to center the pipe in the annulus between the steel casing pipe and the HDPE or FPVC pressure pipe. The annulus space shall then be grout-filled at the surface end.

3.09 PIPE FUSION AND LAYOUT - HDPE

A. Join entire length of pipe to be pulled through bore prior to commencement of pullback operation. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. Butt fusion joining shall result in a joint weld strength equal to or greater than the tensile strength of the pipe. Socket fusion shall not be used.

B. Each operator performing fusion joining pipe shall be qualified in the use of the manufacturer's recommended fusion procedure(s) by appropriate training or experience in the use of the fusion procedure. A sample joint shall be fused according to the procedure that passes the following inspections and tests:

1. The joint shall be visually examined during and after joining and found to have the same appearance as a photograph or sample of an acceptable joint that was joined in accordance with the procedure.

2. The joint shall be tested or examined by one of the following methods:
   a. Pressure and tensile test as described in 49 CFR 192.283
   b. Ultrasonic inspection and found to be free of flaws that would cause failure
   c. Cut into at least three longitudinal straps, each of which is:
      1). Visually examined and found to be free of voids or unbonded areas on the cut surface of the joint
      2). Deformed by bending, torque, or impact and if failure occurs, it must not initiate in the joint area.

C. The contractor shall determine the location for laying out the joined fused pipe prior to pullback. Support weight of upland portions of the joined pipe on rollers and guide posts to minimize pullback forces and guide pipeline during pullback.

3.10 TESTING

A. After completion of the joint fusing and before the pipe pullback, the pipe shall be pressure tested in accordance with Section 02670.

B. Pullback pipe completely with locate/tracer wire per specs.

C. After completion of the HDD installation:

1. Flush and test the pipe in accordance with Section 02670.

2. Payment of pipe sections will only be provided for installed and successfully tested pipe.

3. If the pipe does not pass the pressure test after installation, if feasible remove the entire pipe from the bore hole, repair the pipe, and perform pressure testing prior to reinstalling the pipe and again after reinstallation. If it is not feasible to remove the pipe without exceeding the manufacturer's maximum allowable tensile stress for the pipe, the Contractor shall repeat the installation with another pipe along a similar route approved by the Owner, which meets the requirements of the original design at no additional cost to the Owner.

4. Testing of locate/tracer wire after completion shall demonstrate continuity. Payment contingent upon successful continuity test.

3.11 MECHANICAL JOINT ADAPTOR CONNECTIONS

A. See Sections 02660.

3.12 RESTORATION OF PAVED, IMPROVED AND UNIMPROVED AREAS

A. The shoulders, ditches, banks, and slopes of roads crossed and paralleled shall be restored to their former condition and properly sodded so that they shall not wash out before becoming consolidated. Restoration shall be as required by the jurisdictional authority and as specified within the Contract Document. Road and crossings and parallel installations are to be continuously maintained until the completion of the work. No direct compensation shall be paid for Contractor's repair or maintenance of crossings and parallel installations.

B. Within 14 days after completion of the directional drilling operations, the staging area shall be returned to its original condition. Paved surfaces shall be repaired and unpaved surfaces areas shall be restored.

END OF SECTION

SECTION 02670
FLUSHING, TESTING AND DISINFECTION

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Flushing, Pressure Testing, and Disinfection of systems including, but not limited to, the potable watermains shown on the Plans.

B. Contractor shall furnish all necessary pumps, hoses, piping, fittings, meters, gauges, chemicals, and labor to conduct specified testing.

C. Testing shall be repeated at the Contractor's expense until satisfactory results are achieved.

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Drawings and general provisions of the Contract, including the General Conditions and Terms and Division 1 Specification sections, apply to this section.

B. Section 02660 – Pressure Pipe Systems

C. Martin County Engineering Standards.

D. FDOT Utility Accommodation Manual

1.03 REFERENCES

A. ANSI/AWWA C651 - Standard for Disinfecting Water Mains.

1.04 SUBMITTALS

A. Test Reports: Indicate results comparative to specified requirements. Submit two (2) copies of test results to Engineer in accordance with Submittal specifications.

B. Final approval of the bacterial samples shall be received from the Florida Department of Environmental Protection prior to the time that the system is placed into operation. Sampling procedures shall be done in accordance with FDEP requirements.

C. Bacteriological sampling locations shall meet FDEP requirements and be taken where shown on the drawings and as directed by the Engineer at no

additional cost to Owner. Costs for all bacteriological testing shall be borne by the Contractor.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with ANSI/AWWA C651.

1.06 REGULATORY REQUIREMENTS

A. Conform to applicable FDEP requirements for performing the work of this Section.

B. Work shall conform to Martin County Standards

PART 2 - PRODUCTS

2.01 DISINFECTION CHEMICALS

A. Chemicals: The disinfecting agent shall be sodium hypochlorite solution ANSI/AWWA B303 or liquid chlorine ANSI/AWWA B301. Dry hypochlorite, similar to "HTH" or equal may also be used as the disinfecting agent. Bleach or Clorox is not acceptable.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that the installed potable water systems have been cleaned, inspected, and tested.

B. Coordinate scheduling and disinfection activity with the Engineer and Martin County.

3.02 FLUSHING AND PRESSURE TESTING - PIPING

The Contractor shall furnish and install suitable temporary testing plugs or caps for the water lines, all necessary pressure pumps, hose, pipe connections, meters, gauges and other similar equipment, and all labor required, all without additional compensation for conducting pressure and leakage tests and flushing of the new water lines and force mains. Flushing and pressure testing shall be in accordance with the Martin County Standards. If no standards exist, flushing and pressure testing shall be conducted in the following order:

A. After all piping lines have been installed and before pressure testing and final connections to equipment, each run of pipe shall be thoroughly

flushed so as to remove all debris and foreign matter from the piping and equipment. Clean and flush all piping using potable water. Cleaning and Flushing shall be achieved by pigging with two (2) polyurethane foam pigs as manufactured by Girard Poly-Pig Inc. or "an approved equal". The Contractor must ensure that there will be no contaminated water re-entering the main where the pig is flushed out, or it will be re-pigged at the Contractor's expense. Each pig will run through the line prior to running the second pig. On short runs (100 feet or less), or small lines (less than 4"), cleaning shall be accomplished by flushing with a minimum velocity of 2.5 feet per second. Contractor shall furnish and install required pig launch and exit assemblies. Non-abrasive pigs shall be employed. Flushed water may be discharged to the closest public catch basins and be coordinated with Owner. Contractor to provide means of discharging water to catch basins at Contractor's expense.

B. Pressure and leakage tests shall be conducted in the presence of the Engineer, or his representative. All pressure mains, fittings, water services, and appurtenances shall undergo pressure and leakage tests. The Contractor will provide all necessary apparatus including a suitable pressure gage, pump, measuring device, piping connections, and fittings and the necessary labor to conduct the test. Leakage is defined as the quantity of water added to the pipe being tested during the test period. The Contractor shall submit to the Engineer the testing pattern he proposes to follow prior to testing for the Engineer's approval. The Contractor shall <u>not</u> test <u>more than 1,500 feet</u> of pipe in a single test without approval from the Engineer.

C. Pressure testing ductile iron and PVC piping systems:

1. The test pressure for the water piping constructed of ductile iron and PVC pipe shall be 150 psi. The test pressure for force main piping shall be 100 psi. These pressures shall be maintained for a period of not less than two hours. Tests shall be made between valves and as far as practicable and as approved by the Engineer. Potable water from the distribution system shall be used. Pressure shall not vary more than five (5) psi for piping during the test periods or as approved by the Engineer. Additionally, allowable leakage shall be computed on the basis of AWWA C-600, C-605 where practical.

2. All leaks evident at the surface shall be uncovered and repaired regardless of the total leakage as indicated by the test, and all pipes, valves, and fittings and other materials found defective under the test shall be removed and replaced at the Contractor's expense. Tests shall be repeated until leakage has been reduced below the allowable amount.

3. Should, in the judgment of the Engineer, it not be practical to follow the foregoing procedures exactly for any reason, modifications in the procedure shall be made as approved by the Engineer and Martin County. In any event, the Contractor shall be responsible for the ultimate water tightness of the plant piping within the preceding requirements.

3.03 DISINFECTION

A. The Contractor shall furnish and install suitable temporary connections to the piping, all necessary pressure pumps, hose, pipe connections, meters, gauges, and other similar equipment, and all labor required, all without additional compensation for the disinfection of all required potable water piping systems. Disinfection shall be in accordance with the Martin County Standards. If no standards exist, disinfection shall be conducted on the following systems in the following manner:

1. All relocated and new potable water and private fire line piping.

B. Conform to AWWA Standards and as modified herein.

C. Maintain disinfectant for a minimum of 8 hours in such a manner that the entire system will be filled with water containing a minimum chlorine concentration of 50 ppm at any point. At the County and/or the Engineer's request and at no additional cost to the Owner, this step may be required to be performed immediately before pressure testing.

D. After the disinfecting agents have been permitted to remain for the specified contact periods, the water lines, and valves shall be thoroughly flushed with water until the residual chlorine tests are less than 4 PPM in each instance. The determination of the amount of residual chlorine in the system shall be made at such points and in accord with standard tests by means of a standard orthotolodine test set.

E. Replace permanent system devices removed for disinfection.

3.04 BACTERIOLOGICAL SAMPLING

A. It shall be the responsibility of the Contractor under this contract to perform the bacteriological testing required by the Florida Department of Environmental Protection and the County to obtain clearance of all piping. The Contractor shall be responsible to disinfect and repeat testing as needed until clearance is obtained for all required systems. The Contractor shall be responsible to pay for additional water needed if the bacteriological testing must be repeated.

B. The piping requires two (2) passing consecutive daily samples taken from the locations called out on the plans or as determined by the Engineer. The samples shall be taken concurrently at all the respective sample point locations.

C. Sampling must be coordinated with Engineer and other construction activities so as to minimize re-sampling.

D. Contractor shall submit schedule for bacteriological testing and pressure tests.

E. The Contractor shall incur all costs needed to provide bacteriological clearance of the piping systems.

F. If repeated tests of such samples show the presence of coliform organisms, the disinfection shall be repeated until tests indicate an absence of contamination.

3.05 QUALITY CONTROL

A. The laboratory and personnel collecting bacteriological samples shall be Florida State certified in accordance with FDEP requirements.

3.06 CONNECTIONS TO EXISTING MAINS

A. The Contractor shall make connections to existing mains as shown on the drawings. The connections of new watermain to existing watermain shall be made only after the new mains have passed their pressure and leakage test and completed the disinfection and bacteriological clearance procedures as mandated by the FDEP, and shall be under the Owner's immediate supervision.

END OF SECTION

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SECTION 02676
LEAKAGE TESTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Testing for any signs of leakage in all rehabilitated gravity sewers by hydrostatic testing using infiltration / exfiltration methods.

B. Operation of Existing Facilities: Conduct all tests in a manner to minimize as much as possible any interference with the day-to-day operations of existing facilities.

1.2 PERFORMANCE REQUIREMENTS

A. Written Notification of Testing: Provide written notice when the work is ready for testing, and make the tests as soon thereafter as possible.

1. Personnel for reading meters, gauges, or other measuring devices, will be furnished.

2. Furnish all other labor, equipment, air, water and materials, including meters, gauges, smoke producers, blower, pumps, compressors, fuel, water, bulkheads and accessory equipment.

1.3 SUBMITTALS

A. Provide all submittals, including the following, as specified in Division 1.

B. Testing Report: Prior to placing the sewer system in service submit for review and approval a detailed bound report summarizing the leakage test data, describing the test procedure and showing the calculations on which the leakage test data is based.

1. The length and diameter of the section of line tested (MH to MH) including any laterals.

2. A complete description of test procedures and methods, including type of plugs used and where, depth of sewer, ground water pressure over sewer pipe, and amount of leakage measured.

3. The name of the inspector/tester and the date(s) and time(s) of all testing, including any retesting.

4. A description of any repairs made.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 INFILTRATION/EXFILTRATION TEST FOR GRAVITY SEWER

A. The allowable limits of infiltration or exfiltration for the entire system, or any portion thereof, shall not exceed a rate of 50 gallons per inch of inside pipe diameter per mile of pipe per 24 hours.

B. No additional allowance shall be made for house service lines. Any part of or all of the system shall be tested for infiltration or exfiltration, as directed by the ENGINEER or as required by the CITY.

C. The procedures and limitations for conducting infiltration/exfiltration tests shall be established at the pre-construction conference on a project-by-project basis.

D. All testing shall be run continuously for 24 hours, unless the OWNER's REPRESENTATIVE can visually verify that this test duration is not required due to the observed infiltration/exfiltration rate.

E. The amounts of infiltration or exfiltration shall be determined by pumping water into or out of calibrated drums, or by other methods approved by the ENGINEER and the COUNTY, such as in-line V-notch weirs.

F. Infiltration: Prior to testing for infiltration, the system shall be pumped out so that normal infiltration conditions exist at the time of testing. The cumulative results of the entire collection system results shall not be a satisfactory method for gauging infiltration compliance. Each sewer section between manholes must permit infiltration no greater than the maximum allowable, as specified above.

G. Exfiltration: The exfiltration test, when required due to groundwater levels, will be conducted by filling the portion of the system being tested with water to a level 2 feet above the uppermost manhole invert or 1 foot above the pipe crown, whichever is greater, in the section being tested. The cumulative results of the

entire collection system results shall not be a satisfactory method for gauging exfiltration compliance. Each sewer section between manholes must permit exfiltration no greater than the maximum allowable, as specified above.

H. Where infiltration or exfiltration exceeds the allowable limits specified herein, the CONTRACTOR shall, at his own expense, determine the source of leakage. He shall then repair or replace all defective materials and/or workmanship at no additional cost to the CITY until a satisfactory test is achieved.

I. If the defective portions cannot be located, remove and reconstruct as much of the work as is necessary in order to conform to the specified allowable leakage limits.

J. All visible leaks shall be repaired regardless of the amount of leakage.

K. Provide all labor, equipment and materials required and conduct all testing required under the direction of the OWNER's REPRESENTATIVE.

END OF SECTION

SECTION 02750
WASTEWATER FLOW CONTROL

PART 1 GENERAL

1.1 SCOPE OF WORK

A. The work specified in this section includes all labor, materials, accessories, equipment and tools for performing all operations required to bypass pump sewage around a manhole or sewer section in which work is to be performed. The contractor shall be prepared to bypass pump sewage as a part of his operations.

B. The contractor shall provide all pumps, piping, and other equipment to accomplish this task; perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to equal or better condition to the satisfaction of the owner.

1.2 GENERAL

A. When sewer line flows at the upstream manhole of the line being repaired are above the maximum allowable requirements for television survey, or do not allow the proper sewer or manhole repair, the flows shall be reduced to the levels indicated by one of the following methods: manual operation of pumping stations by owner forces, by the contractor plugging/blocking of the flows, or by the contractor pumping/bypassing of the flows as acceptable to the owner.

B. For the initial television survey, before and after any repair with the exception of joint testing and sealing, the sewer line shall be blocked completely. No flow, except infiltration/inflow, will be allowed through the respective sewer line being televised on the pre-repair television survey, and the post-repair television survey.

C. For all other television surveys, including warranty surveys and joint testing and sealing operations, the depth of flow within the sewer shall not block the camera inspection.

D. When sewer line flows at the upstream manhole of the line being repaired, in the opinion of the owner, are too excessive to plug while the rehabilitation is being performed, the contractor shall submit a written plan and pump/bypass the flow as acceptable to the owner.

1.3 SUBMITTALS

A. The contractor shall submit complete, detailed plans for this aspect of the work to the owner for review.

1.4 PUMPING AND BYPASSING

A. When pumping/bypassing is required, as determined by the owner, the contractor will supply the necessary pumps, conduits and other equipment to divert the flow of sewage around the manhole section in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of rain storms. “Lay flat” hoses shall be used whenever possible. “Hard Pipe” hoses may be permitted upon agreement with the OWNER that site conditions require the use of such. The contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. A "setup" consists of

the necessary pumps, conduits and other equipment to divert the flow of sewage around a manhole section, from the start to finish of work performed in the manhole section.

B. Pumps and equipment shall be continuously monitored by the contractor.

1. Pumps. Any sump pumps, bypass pumps, trash pumps or any other type pump which pulls sewage/water or any type of material out of the manhole or sewer shall discharge this material into another manhole, or appropriate vehicle or container acceptable to the owner. Under no circumstances shall this material be discharged, stored or deposited on the ground, swale, road or open environment.

2. Traffic Control. The contractor shall take appropriate steps to ensure that all pumps, piping and hoses that carry raw sewage are protected from traffic. Traffic control shall be performed by the contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02751
PREPARATORY CLEANING, ROOT AND TUBERCULATION REMOVAL

PART 1 GENERAL

1.1 SCOPE

A. This Section covers the preparatory cleaning of sewer lines and manholes as needed prior to the internal survey of the sewer lines by closed-circuit television. It also covers the preparatory cleaning, root and tuberculation removal of sewer lines and the cleaning of manholes prior to rehabilitation. The contractor shall furnish all necessary material, labor, equipment and services required for cleaning the specific sewer lines.

B. Sewer Line Cleaning. The intent of sewer line cleaning is to remove foreign materials from the lines and restore the sewer to a minimum of 95% of the original carrying capacity or as required for proper seating of internal pipe joint sealing packers or performance of other specified work. It is recognized that there are some conditions such as broken pipe, tuberculation and major blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the contractor will not be required to clean those specific sewer sections. If, in the course of normal cleaning operations, damage does result from preexisting and unforeseen conditions such as broken pipe, the contractor will not be held responsible.

C. The designated sewer sections shall be cleaned using hydraulically propelled, high-velocity jet, or mechanically powered equipment. The equipment shall dislodge, transport and remove all sludge, mud, sand, gravel, rocks, bricks, grease, roots, sticks, tubercles and all other debris from the interior of the sewer pipe and manholes. The equipment and methods selected shall be based on the conditions of lines and manholes at the time the work commences and shall be satisfactory to the owner. If cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, the cleaning effort shall be stopped and sufficient inspection performed so that the owner can be notified of the reason for inability to continue.

D. During all cleaning and preparation operations all necessary precautions shall be taken to protect the sewer from damage. During these operations, precautions shall also be taken to insure that no damage is caused to public or private property adjacent to or served by the sewer or its branches.

E. Satisfactory precautions shall be taken in the use of cleaning equipment. When hydraulically propelled cleaning tools (which depend upon water pressure to provide their cleaning force) or tools which retard the flow in the sewer line are used, precautions shall be taken to insure that the water pressure created does not damage or cause flooding of public or private property being served by the sewer. When possible, the flow of sewage in the sewer shall be utilized to provide the necessary pressure for hydraulic cleaning devices. The contractor shall employ operational hydrant meters to be obtained from the owner, and shall obtain water only from the owner's hydrants. No fire hydrant shall be obstructed in case of a fire in the area served by the hydrant.

PART 2 PRODUCT (NOT USED)

PART 3 EXECUTION

3.1 MATERIAL REMOVAL

A. All sludge, dirt, sand, rocks, grease, roots, tubercles and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, which could cause line stoppages, accumulations of sand in wet wells, or damage pumping equipment, shall not be permitted.

B. Under no circumstances shall sludge, tubercles or other debris removed during these operations be dumped or spilled into the streets, ditches, storm drains or other sanitary sewers. The contractor shall remove from the site and properly dispose of all solids or semi-solids recovered during the cleaning operation. The contractor shall obtain permits and make arrangements as required to properly dispose of solids.

C. The contractor is advised that he shall not dispose of this material by legal or illegal dumping on private or public property, by sale to others, or any means other than those given above.

D. The general requirements for vehicles hauling such waste materials are as follows: Transport vehicles must be of type(s) approved for this application by the political jurisdictions involved. General requirements are that the vehicles have watertight bodies, that they be properly equipped and fitted with seals and covers to prohibit material spillage or drainage, and that they are cleaned as often as is necessary to prevent deposit of material on roadways. Vehicles must be loaded within legal weight limits and operated safely within all traffic and speed regulations.

E. The routes used by the contractor for the conveyance of this material on a regular basis shall be subject to approval by the governing authority having jurisdiction over such routes.

F. All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of by the contractor in a legal and sanitary manner as approved by appropriate authorities, at the contractor's cost. Copies of records of all disposals shall be furnished to the owner, indicating disposal site, date, amount and a brief description of material disposed. All materials shall be removed from the site no less often than at the end of each workday.

3.2 ROOT AND TUBERCLES REMOVAL

A. Roots shall be removed in the designated sections and manholes where root intrusion is indicated on the work order. Special attention should be exercised during the cleaning operation to assure almost complete removal of roots from the joints. Any roots which could prevent the proper survey or rehabilitation shall be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and porcupines, and equipment such as high-velocity jet cleaners.

B. Contractor shall carefully evaluate the extent of tuberculation encountered in a pipe prior to proceeding with removal of tubercles. Use of remote power-driven cutting or chain devices during removal of tubercles must be performed avoiding collapse of the host pipe. Contractor must vet the equipment and proposed extent of tubercles removal and obtain authorization from the Project Manager before proceeding with the Work. In order to minimize the risk of sewer collapse during tuberculation removal it would be preferable to

leave some of the existing tuberculation in place and proceed with subsequent lining of the host pipe by using a smaller diameter cure-in-place liner. Contractor shall consult with Project Manager on a case by case basis to get approval on how much removal would be acceptable based on the existing pipe diameter, flow and overall condition of the pipe.

C. Contractor shall have all materials on site that are required to perform lining immediately after tubercles are removed to avoid any delay in necessary lining activities that could compromise the integrity of the host pipe.

3.3 ACCEPTANCE OF CLEANING OPERATION

A. Acceptance of sewer line cleaning shall be made upon the successful completion of the television survey and shall be to the satisfaction of the owner. Liner installation shall not be initiated until the owner has reviewed the post-cleaning television survey tapes and has accepted the cleaning. If television survey shows the cleaning to be unsatisfactory, the contractor shall be required to reclean and reinspect the sewer line until the cleaning is shown to be satisfactory.

B. In the event that special cleaning involving the mechanical removal of roots, grease, and/or tuberculation has been authorized, acceptance of sewer line cleaning shall be made upon the successful completion of the post-cleaning television survey and shall be to the satisfaction of the owner. Liner installation shall not be initiated until the owner has reviewed the post-cleaning television surveys and has accepted the cleaning.

C. In addition, on all those lines which have sags or dips, to an extent that the television camera lens becomes submerged for three (3) or more feet during the television inspection, the contractor shall pull down the water, or draft the water by means of high-velocity jet cleaners. Water removal shall be performed until the television camera lens will no longer submerge. This requirement may be waived by the owner if the water, in which the camera lens is submerged, is clear enough to allow the identification of pipe defects, cracks, holes and location of service taps.

END OF SECTION

SECTION 02752
PIPE INSPECTION (MAINS AND LATERALS)

PART 1 GENERAL

1.1 SCOPE

A. The work consists of furnishing all labor, materials, accessories, equipment, tools, transportation, services and technical competence for performing all operations required to execute the survey to inspect the entire barrel of main line sewers, the pipe connections to the manholes, the lateral connections, and lateral piping using pan and tilt cameras for both mains and laterals.

B. The survey shall show all defects and determine amount of infiltration entering the sewer system.

1.2 GENERAL

A. After Preparatory Cleaning (including special cleaning involving the mechanical removal of roots, grease, and/or tuberculation where authorized), and before and after rehabilitation work, the pipe sections shall be visually surveyed by means of closed-circuit television, the owner may be present at the inspections. The survey shall be performed one manhole-to-manhole section or one lateral at a time and the flow in the section being surveyed shall be suitably controlled to allow for a complete quality view of the interior of the piping. Mainlines shall be surveyed from the upstream manhole to the downstream manhole

B. Pre videos are those videos that the owner has requested of the contractor to video. Post construction videos are those videos taken after a repair. All videos in PACP, LACP formats and the associated reports are to be submitted, in color, indexed and tabulated to the owner. Only pre videos as described above will be payable, all other videos (such as work videos, post videos) are to be included with the respective rehabilitation items in the bid form. Pre videos will only be paid for once per line.

C. All inspection information furnished by the contractor shall be written to digital media and shall be submitted in printed hard copy and electronic data format utilizing WinCan™ V8. The WinCan™ software shall support the NASSCO PACP and LACP coding. The records shall include, but not be limited to the following for mains and laterals: graphic inspection reports, still pictures of each defect, still pictures above ground of all cleanout locations or projected cleanout locations and others as requested, above ground pictures of sonde locations, and infiltration reports. Main and lateral reports will at a minimum be required to have the following tabulated in a spreadsheet format acceptable to the owner: Lift station number, manhole numbers, main footage, lateral location on the main footage, side of the main the sewer lateral is located on as observed from the upstream manhole looking towards the downstream manhole, lateral count on the run, pipe sizes for all piping surveyed (mains and laterals), notation whether a cleanout is visible, lined or unlined pipe, house address (with lateral survey), LF surveyed, and the contractor comments on suggested rehabilitation required. All the reports, videos and suggestions are to be tabulated and turned in for the city to review.

D. All video files and reports shall be labeled consistent with the OWNER's labeling system. Laterals shall be labeled in the following format: Upstream MH #- Distance from upstream MH-side of the pipe. For example, a lateral 23 foot from MH D43-21 on the right side of the line as observed from the upstream manhole would be labeled D43-21-23R.

1.3 EQUIPMENT

A. The television cameras used for the surveys shall be specifically designed and constructed for the surveys and shall be of the pan and tilt type. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera, television monitor, and other components of the video system shall be capable of producing a minimum 700 line resolution color video picture. The contractor shall maintain camera in clear focus at all times. Picture quality and definition shall be to the satisfaction of the owner; and if unsatisfactory, equipment shall be removed and replaced with adequate equipment at no additional cost to the owner.

B. The video camera shall include a titler feature capable of showing on the tape the following information:

1. City and State
2. Date/Time
3. Contractor's Name
4. Line Size, Material, and Depth
5. Manhole Identification (both manholes)
6. On-going Footage Counter

1.4 SUBMITTALS

A. The contractor shall submit shop drawings and other information. The contractor's submittals shall include sample spreadsheet tabulation, sample video & reports for mains and laterals. No video surveys will take place until submittals are approved by the owner. The approved submittals will become the benchmark for all future video acceptance and or rejection. Rejected work will be redone at no additional cost to the owner.

PART 2 PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.01 PRECONSTRUCTION SURVEY

A. Procedure

1. Prior to any repair work, the entire sewer line (from manhole to manhole) shall be televised. The camera shall be placed at the center of the manhole and videotaping shall commence prior to entering the pipe. The contractor shall show the inside of the manhole walls and the pipe connection to the wall at both the upstream and downstream manhole connections (ends of the pipe).

2. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the sewer's condition. In no case shall the television camera be pulled at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, powered rewinds and tractors or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line. If the camera is being pulled through the sewer line by a hydraulic cleaning unit hose the cleaning nozzle shall be located a minimum of eight (8) feet away from the camera to allow a clear, unobstructed view. Jet nozzle shall be used in front of camera while televising through a dip to draft out water. If,

during the survey operation, the television camera will not pass through the entire manhole section, the contractor shall set up his equipment so that the survey can be performed from the opposite manhole no additional payment for this setup will be made.

3. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation for depth of manhole, will not be allowed. Measurement meters shall be accurate to tenths of a foot over the length of the section being surveyed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, electronic distance meter or other suitable device. Manhole numbers and linear footage shall be shown on screen during the video survey.

4. Movement of the television camera shall be temporarily halted for a minimum of five seconds at each visible point source of infiltration and/or inflow until the leakage rate from that source is quantified. The camera shall be stopped at all service connections and the service lateral shall be inspected with the pan and tilt camera and look up the lateral and at the entire main / lateral connection. The camera shall also be stopped at active service connections where flow is discharging. If the discharge persists, the property involved shall be checked to determine whether or not the discharge is sewage. If no flows are being discharged from the building, it shall be considered that the observed flow is infiltration/inflow.

B. Field Documentation

1. Television Inspection Forms (Survey Logs). Printed and electronically stored location records shall be kept by the contractor and will clearly show the location in relation to an adjacent manhole of each infiltration point observed during survey. Upstream footage at face of manhole (0) and downstream footage at face of manhole (e.g., 250) shall be shown on the log. The television inspection forms to be utilized by the contractor shall be those mandated by NASSCO's PACP and LACP. Both the "Header" and "Details" information of the form shall be entered as indicated in the PACP standards. The survey logs shall include, but not be limited to the following information:

    a. Correct pipe segment/manhole numbers
    b. Correct address of manhole location
    c. Pipe size, length and material
    d. Manhole depth (up and downstream)
    e. Lift station service area number
    f. Video number and index
    g. Footage locations, descriptions and estimated leak rates for visible point sources of infiltration inflow.
    h. Footage locations and descriptions of structural defects such as obstructions, any remaining root intrusion, offset joints, cracked pipe, fractured pipe, holes, collapses, sags, protruding service connections and/or blockages in the pipe.

    The terminology to be used shall follow NASSCO's PACP and LACP standards. All information will be recorded and a copy of such electronic records and a hard copy will be supplied to the owner, indexed and tabulated.

2. Photographs: Digital photographs of the video shall be taken by the contractor and included in the digital WinCan report. Photographs will include, pipe defects, manhole connections, lateral connections, property line cleanouts, or property line sonde locates. Above ground pictures of any sonde locates are to be included in the reports.

3. Locating: Sonde locating is required as part of the tv survey for mains and laterals, to locate any point repairs that are necessary and to locate lateral piping or existing cleanouts from within the main and lateral piping.

4. Video Recordings: The purpose of video recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. Recording playback shall be at the same speed that it was recorded. Slow motion or stop motion playback features shall be supplied by the contractor. Once recorded, the video and repots become property of the owner. The contractor shall have all video and necessary playback equipment readily accessible for review by the owner during the project.

   Videos displaying poor video quality will be deemed unacceptable and no payments will be made until lines are retelevised and a new video is submitted. Poor quality refers to, but is not limited to, the following: grease or debris on the lens, camera under water, picture too dark, excessive camera speed through the line, lines improperly cleaned, poor/no audio, etc.

5. Audio. All video shall have audio record. As a preamble, at the beginning of the video, the contractor shall state the following: "(Contractor's Name) is performing a pre/post TV survey for Job No. _____ (provided by the owner)". State date, time, operator's name, area, upstream manhole number to downstream manhole number, pipe size and material, upstream manhole depth, and TV survey will be from up- to downstream, or down- to upstream. The contractor shall verbally state station and position of all laterals and defects. At the end of each line, state: "End of line", upstream manhole number to downstream manhole number, and total linear footage.

3.02 POST CONSTRUCTION SURVEY

A. Procedure

   1. The same procedures shall be used as indicated in PRECONSTRUCTION SURVEY.

   2. In addition, the contractor shall stop camera at all point repairs, sectional repairs, lateral connection repairs and reinstated laterals, and inspect entire repaired pipe section and all material ends and connections. Close attention is required for the inspection of all overlapping materials, manhole connections and lateral connections.

   3. The contractor shall invert white foreground to black as needed in the line section with light background.

   4. In the case of a post-liner survey, the contractor shall fully televise the ends of the all liners at the manholes, main/lateral connections and upstream lateral liner ends so that the finished ends of the liner to the host pipe can be evaluated.

B. Documentation

   1. The same documentation shall be provided as indicated in PRECONSTRUCTION SURVEY.

END OF SECTION

SECTION 02758
SANITARY SEWER DOUBLE WYE
SERVICE CONNECTION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The work specified in this Section includes repairs to sections or segments (up to 15 feet) of existing sanitary sewers service lines, which require excavation from the surface to accurately locate existing staggered wye connections and to replace them by making necessary repairs.

1.2 GENERAL

A. Generally, double service connection replacements are made at specific locations and involve relatively short lengths of sewer and fittings (up to 15 feet) which are to be repaired or replaced. "Isolation" of affected reaches of sewer by plugging and/or bypass pumping, if required, shall be performed as specified in Section 02750 - Wastewater Flow Control.

B. Locations where double service connections are to be made will be made available to the CONTRACTOR through Work Orders and will be based on previously performed television surveys.

C. After the designated repairs have been made, the CONTRACTOR will test them as described in this Section of these Specifications. The costs of testing will be borne by the CONTRACTOR. If a repaired joint or section should prove to be defective, the CONTRACTOR shall re-perform the work at no additional cost to the OWNER and shall also be responsible for the costs of any retesting required by the OWNER.

D. Where work is to be performed on private property, the CONTRACTOR shall consult with the OWNER who will make arrangements and schedules with the property owners before the CONTRACTOR performs the work.

E. Excavation, backfill, exploratory excavation, sheeting and shoring, dewatering, conflicts with other utilities, and miscellaneous work shall conform to the requirements of Section 02316 – Excavation and 02315 – Fill and Backfill.

1.3 SUBMITALS

A. The CONTRACTOR shall submit shop drawings in accordance with Section 01300- Submittals

PART 2 - PRODUCTS

PART 3 EXECUTION

3.1 PROCEDURES

A. The double service connection replacement procedures shall be as follows:

1. Site preparation shall be performed as described in Division 2. When the repairs are to be made on sewers or facilities lying under paved surfaces, those surfaces shall be removed to the limits specified for point repairs of the particular size pipe involved (trench width plus two feet for concrete surfaces) unless otherwise acceptable to the OWNER.

2. The CONTRACTOR shall excavate and backfill in accordance with Section 02316 – Excavation and Section 02315 – Fill and Backfill. Under no circumstances shall the CONTRACTOR be allowed to remove concrete or asphalt without prior cutting. The saw cutting shall be deep enough to produce an even, straight cut.

3. Dewater, sheet and or brace all excavations in accordance with Section 02316 – Excavation and Section 02315 – Fill and Backfill. Well points, pumps, sheeting, bracing and/or sock drain shall be used to provide a safe, dry, open hole for all repairs or replacements specified herein.

4. Excavate down to the pipe, completely exposing the least footage of pipe necessary to locate and replace both existing staggered wyes.

5. After the staggered wyes are located and exposed, CONTRACTOR shall make recommendation and the OWNER will identify the method of replacement. One or a combination of the following methods shall be used:

a. Remove and replace section(s) of pipe and fittings. Remove section(s) of defective pipe or fitting by cutting on each side along lines perpendicular to longitudinal axis of pipe so as to leave "spigot ends" to be connected to replacement pipe. Cut or fabricate replacement section. Make connections using stainless steel shear rings or approved equal. Bedding or embedment shall be placed and compacted. Reconnect to service line . As a minimum, a total of six (6) feet of piping shall be replaced by the CONTRACTOR.

CONTRACTOR shall:

(1) Determine the exact location of the wyes by means of television inspection with an electronic locating device (sonde).

(2) If roots are encountered inside the lateral being repaired, a minimum of 15 feet of lateral shall be replaced.

(3) A cleanout shall be installed at or near the property line on each leg of the wye (see detail S216).that location in both the back yard and front yard easements.

(4) Where the OWNER has indicated a fused-on saddle, sewer service connections shall be joined to the fold-and-formed pipe by means of an electrofusion sewer saddle as manufactured by Central Plastics Company, or approved equal. The installation of the saddle shall be done in accordance with manufacturer's recommended procedures. The outlet shall be gasketed, sized for ASTM D 3034 SDR 35 PVC pipe. The fusion of the saddle base must be achieved by input of 40 volts of current supplied by a micro-processor manufactured by Central Plastics Company, or approved equal.

7. The adequacy of the double wye service connection in sewer laterals shall be demonstrated by the CONTRACTOR by testing. Testing of services may be accomplished by one of two alternate methods, depending on the depth of the line and the difference in elevation of the pipe at the ends of the reach. Smoke testing shall be used if the pipe slope exceeds one percent. Testing shall be performed while dewatering is continued and before backfilling.

a. Smoke-Testing. The reach of sewer in which the repair (or repairs) has been made shall be isolated by plugging the upstream and downstream manholes as necessary not only to temporarily eliminate the flow of sewage through it but also to prohibit the smoke from entering other reaches of sewer. Smoke shall then be introduced into one of the manholes and into the reach using smoke bombs and a blower especially designed or adapted for smoke testing sanitary sewers and acceptable to the OWNER. The repaired area shall then be observed for the emergence of smoke for a period of 15 minutes. If none can be seen, the repair will be deemed to have passed the test.

b. Exfiltration-Testing: This method may be used only on sewers laid on grades less than 1.00 percent. Water, colored with a bright-colored dye acceptable for usage in testing, is introduced into the pipe so as to impose a 2-foot static head over the top of the pipe at the point of repair when the pipe in the lower manhole is plugged. Observations shall then be made by the OWNER to determine if leakage of the colored water occurs at the repair point. Care shall be taken, when this method is used, that:

(1) Not more than 4-feet of static head are induced on the main at the lower end of the reach, and

(2) No back-up problems are caused in service lines.

8. Complete placement and compaction of backfill.

9. Restore surface features to at least as good condition as existed before construction began, including roadways, driveway and walks.

3.2 TELEVISION SURVEY

A. Television survey, including Preconstruction Survey and Post Construction Survey as indicated in Section 02752 – PIPE INSPECTION (MAINS AND LATERALS).

END OF SECTION

SECTION 02759
SANITARY CLEANOUT

PART 1 GENERAL

1.1 SCOPE

A. This Section consists of excavating a section of the existing sewer lateral pipe between mainline and the property line, and furnishing, installing, testing and placing in operation new sewer service cleanout piping, complete in its place, with fittings, and other appurtenances required for a complete installation. This section may include a Double Wye replacement where designated.

B. This Section consists of installing a Vac-a-Tee or approved equivalent on the existing lateral pipe at an approved location to create a clean out with minimal surface restoration.

1.2 GENERAL INFORMATION AND DESCRIPTION

A. The pipe and fittings covered by these specifications shall be furnished by fully qualified manufacturers experienced in the fabrication, casting and manufacture of the pipe materials specified herein. The pipe and fittings shall be designed, fabricated and installed in accordance with the best practice of the trade and the standards specified herein.

B. Portions of existing sanitary sewer service lines shall be excavated to install a cleanout or replace a double wye where approved. Where necessary and directed by the owner, the contractor is to remove test tees, roots, double wye's or defective pipe as required within the area of a cleanout installation. A cleanout installation "area" is to include up to 5' of lateral pipe replacement.

C. Replacement pipe at the property line including cleanout as approved by the owner per owner's minimum standards shall be the same size.

D. The contractor may furnish as an alternate to traditional excavation, vacuumed excavation with a snap-on sewer saddle. Vac-A-Tee or approved equal where approved by the owner.

E. The contractor shall submit shop drawings for all materials, couplings, fittings, pipe, clean out boxes, concrete pads or any other item required for the cleanout installation.

F. The contractor shall furnish all labor, tools, materials, and equipment necessary for installation and jointing of the pipe. All piping shall be installed in accordance with the contract documents in a neat workmanlike manner and shall be set for accurate line and elevation. All piping shall be thoroughly cleaned before installation, and care shall be taken to keep the piping clean throughout the installation, no foreign material is to be allowed to enter the system.

G. The existing laterals shall be hand excavated to a joint, saw cut, clean and square and the appropriate adapter installed to connect the replacement laterals. Care shall be taken to maintain the slopes of the existing laterals.

H. The contractor is to maintain traffic so that it causes minimal disruption to the public. Any road closure or work in the public right of way will require an approval prior to work commencing.

PART 2 PRODUCTS

2.1 PIPE-TO-PIPE CONNECTIONS

A. Pipe-to-pipe connections shall be made by using stainless steel shear rings as manufactured by Fernco, or approved equal.

PART 3 EXECTUION

3.1 GENERAL

A. After the site has been located for a particular cleanout installation which is to be installed, operations shall progress generally as follows:

1. Call for locations of existing utilities, Sunshine State One-Call, 811. No excavations are to be done without proper locations.

2. Take photographs of the area prior to the excavation and after the excavation and restoration is completed. The photographs will be used in case there is a discrepancy in the restoration required.

3. Carefully remove or protect surface features in work area. Excavate to completely expose the existing pipe, taking adequate precautions not to disturb any other existing underground facilities and handling excavated materials in a manner that will not cause further restoration.

4. The section or reach of pipe being worked on shall be isolated by plugging and/or by-pass pumping where necessary. There is no payment for bypass pumping for this section of work any bypassing required Is to be include in the bid item for cleanout installation.

5. Remove and dispose of the existing pipe as necessary, no foreign materials are to be backfilled in the trench.

6. The trench bottom shall be overexcavated a minimum of 8-inches and new embedment material to go beneath the pipe placed and shaped so as to form uniform support for the pipe barrel and newly installed cleanout piping.

7. Pipe shall be installed in accordance with the manufacturer's recommendations and to the grade and slope as its existing condition. Pipe shall be installed and jointed, normally beginning at its low or outlet end and proceeding upstream, with the bell ends facing upstream toward the direction of flow. Complete embedment or encasement and place compacted backfill as necessary to avoid pipe settlement during backfilling or compaction. Any pipe connection found to be leaking, offset, improperly cut or aligned will be re-excavated and replace at no additional charge to the owner.

8. Perform leakage test if requested. When this has been successfully completed and acceptable to the owner, remove temporary plugs and reconnect wyes or tees to service lines.

9. Complete placement and compaction of backfill.

10. Restore surface features to at least as good condition as existed before construction began, including roadways, driveways and walks.

11. Excavated cleanouts, restoration items, sod, asphalt or concrete. These items are limited to a maximum of 5' x 5' restoration area. For excavations deeper than 5-feet the restoration area will increase by 1-foot for each additional foot of excavation depth beyond 6-feet. Payment for restoration items will not exceed the dimensions of the existing item being restored. Actual field measurements will be paid up to the preceding maximum dimensions. The contractor is directed to adjust his restoration items to include the "limits of construction" restrictions, any restoration required outside of these limits will be considered the contractors responsibility unless approved by the owner in writing prior to restoration work.

END OF SECTION

SECTION 02764
CURED-IN-PLACE SECTIONAL PIPE LINING

PART 1 GENERAL

1.1 SCOPE

A. The work specified in this section consists of rehabilitating existing sanitary sewer pipe by installing a resin impregnated fiberglass/polyester felt tube into an existing pipe to restore its structural and hydraulic integrity.

1.2 GENERAL

A. The finished sectional pipe liner in place shall be fabricated from materials which, when installed, will be chemically resistant to withstand internal exposure to domestic sewage.

1.3 SUBMITTALS

A. The Contractor shall submit shop drawings and other information to the OWNER for review in accordance with Section 01300, “Submittals”. Included shall be design calculations for the work.

1.4 QUALIFICATIONS

A. The Qualifications of the CONTRACTOR shall be submitted prior to contract award. These Qualifications shall include detailed descriptions of the following:

1. Name, business address and telephone number of the CONTRACTOR.

2. Name(s) of all supervisory personnel to be directly involved with this project.

3. The CONTRACTOR shall sign and date the information provided and certify that to the extent of his knowledge, the information is true and accurate, and that the supervisory personnel will be directly involved with and used on this project. Substitutions of personnel and/or methods will not be allowed without written authorization of the OWNER.

4. Specialty technicians shall be certified by the equipment manufacturer and/or its authorized representative. Certifications shall be submitted to the OWNER.

5. The CONTRACTOR (the company bidding, not individuals) shall provide his references of previous project lists going back five years including his customers’ names, addresses, and telephone numbers.

6. To be acceptable, a minimum of 500 sectional liner installations must be documented.

7. To be acceptable, the installer must have had a minimum of five (4) years active experience in the commercial installation of the product.

PART 2 -- PRODUCTS

2.1 GENERAL

A. The finished liner shall be fabricated from material as specified in this section which when cured will be chemically resistant to the corrosive effects of the raw sewage and hydrogen sulfide.

B. The contractor shall submit shop drawings, samples of materials, and design calculations to the OWNER for review.

2.2 LINER SIZING

A. The liner shall be fabricated to a size that when installed will neatly fit the internal circumference of the conduit to be repaired as specified by the OWNER.

B. The length and number of liners shall be that deemed necessary by the OWNER to effectively carry out the repairs. The CONTRACTOR shall verify the lengths in the field before cutting liner to length. The minimum length shall be 6 feet and cover a minimum of 1 foot on either side of the pipe joints.

2.3 LINER MATERIAL

A. The tube will consist of one or more layers of flexible needled felt or an equivalent non-woven material. The tube will be continuous in length exhibiting a uniform minimum wall thickness based upon design calculations found in ASTM F1216 appendix XI. No overlapping sections shall be allowed in the circumference or the length of the liner. The tube will be capable of conforming to offset joints, bells, and disfigured pipe sections.

B. The resin will be polyester, vinyl or epoxy ester with proper catalysts as designed for the specific application:

C. The Sectional liner seal shall be installed with Insigia Seals at the liner end seated on sound pipe so that when compressed there is a compression gasket seal. Insignia Seals or equal must be used, use of hydrophilic paste or caulk will not be permitted.

D. The cured resin material shall have the following properties:

Item	Test Value	Reference Standard
Flexural Strength	4,500 psi	ASTM D 790
Flexural Modulus	250,000 psi	ASTM D 790

2.4 LINER DESIGN

A. The required structural CIPP wall thickness shall be based at a minimum, on the physical properties described above and in accordance with the design equations in the appendix of ASTM F 1216, and the following design parameters:

PROPERTY	TEST METHOD	RESULTS

Flexural Stress	ASTM D-790 (short term)	4,500 psi
Modulus of Elasticity	ASTM D-790	250,000 psi

Design Safety Factor	2.0
Retention Factor for Long-Term Flexural Modulus to be used in Design	50 %
Ovality*	2 %
Groundwater Depth = Pipe Depth (above invert)*	ft.
Soil Depth (above crown)*	ft.
Soil Modulus	700 psi
Soil Density	120 pcf
Live Load	Two H20 passing trucks
Design Condition	Fully deteriorated
**Denotes information which can be provided here or in inspection video tapes or project construction plans. Multiple line segments may require a table of values.*	

B. The lining manufacturer shall submit to the OWNER for review complete design calculations for the liner, signed and sealed by a Professional Engineer registered in the State of Florida and certified by the manufacturer as to the compliance of his materials to the values used in the calculations. A safety factor of 2 shall be applied in the design calculation. The host pipe shall be considered fully deteriorated. The liner shall be designed to withstand a live load equivalent to two H-20 passing truck plus all pertinent dead loads, hydrostatic pressure and grout pressure (if any). For design purposes, the water table shall be considered at grade elevation. The liner shall be designed in accordance with ASTM F 1216. The buckling analysis shall account for the combination of dead load, live load, hydrostatic pressure and grout pressure (if any). The liner side support shall be considered as if provided by soil pressure against the liner. The existing pipe shall not be considered as providing any structural support. Modulus of soil reaction shall be 700, corresponding to a moderate degree of compaction of bedding and a fine-grained soil as shown in AWWA Manual M45, Fiberglass Pipe Design.

C. Liner shall be neither accepted nor installed until design calculations are acceptable to the OWNER.

2.5 REFERENCES

A. ASTM F2599 – The Sectional Repair of Damaged Pipe By Means of An Inverted Cured-In-Place Liner.

B. ASTM F1216 - Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

C. ASTM D-790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

D. ASTM D-792 Standard Test Methods for Density and Specific Gravity of Plastics by displacement.

E. ASTM D-2990 Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics

F. ASTM D5813 Standard Specification for Cured-in Place Thermosetting Resin Sewer Pipe.

PART 3 EXECUTION

3.1 CLEANING SEWER LINES

A. Prior to any lining of a pipe so designated, it shall be the responsibility of the CONTRACTOR to remove internal deposits from the pipeline in accordance with Section 02751 - Preparatory Cleaning, Root and Tuberculation Removal.

3. 2 TELEVISION SURVEY

A. Television survey shall be performed in accordance with Section 02752 – Pipe Inspection (Mains and Laterals).

B. The interior of the pipeline shall be carefully surveyed to determine the locations and extent of any structural failures. The location of any conditions which may prevent proper installation of lining materials into the pipelines shall be noted so that these conditions can be corrected. A video tape and suitable log shall be kept and turned over to the OWNER.

C. For the sewer line with sectional cured-in-place liner installed, a variance for post-TV and tapes shall be allowed as follows:

1. The post-TV shall commence at the upstream manhole (downstream for reverse setups) and shall proceed at a maximum speed of 30 feet per minute until the repair is reached. No panning of defects or laterals needs to be done. Upon reaching the sectional liner, the CONTRACTOR shall stop and carefully pan the beginning and the end of the liner to show that the repair has been successfully completed. If a lateral connection has been lined over and reopened, the CONTRACTOR shall pan this opening and the lateral. The rest of the line shall be televised without stopping until the downstream manhole has been reached.

2. One log (pre-TV log) shall be furnished with a statement under the comments line as to the linear footage of the beginning of the sectional liner, the length of the liner, and the number of laterals reinstated (if any), and their location.

3.3 FLOW BYPASSING

A. The CONTRACTOR, when required, shall provide for the transfer of flow, through or around a section or sections of pipe that are to be repaired. The proposed bypassing

system shall be acceptable in advance by the OWNER. The acceptance of the bypassing system in advance by the OWNER shall in no way relieve the CONTRACTOR of his responsibility and/or public liability. The flow bypassing shall be done in accordance with Section 02750 - Wastewater Flow Control.

Note: If the repair can be made in a few hours, bypass pumping may not be required. The placement carriage shall be equipped with a bypass section to allow flow once liner is pressed into place.

3.04 LINE OBSTRUCTIONS

A. It shall be the responsibility of the CONTRACTOR to clear the line of obstruction. If survey reveals an obstruction that cannot be removed by conventional cleaning equipment, the CONTRACTOR shall make a point repair excavation in accordance with Section 02757 - Point Repair of Sanitary Sewers, to uncover and remove or repair the obstruction. Such excavation shall be accepted in writing by the OWNER prior to the commencement of the work.

3.05 LINER INSTALLATION

A. Prior to liner installation, all active severe leaks which may affect the success of liner installation shall be stopped using chemical grout. The CONTRACTOR shall impregnate the liner. Drop cloths, tarpaulins, and etc. shall be used to prevent material from contacting the adjacent ground. Place the liner on the placement carriage and maneuver carriage and liner into position with the use of a video camera. Force the liner against the inside wall of the damaged host pipe allowing epoxy resin to permeate into any cracks in the host pipe. Allow lines to cure for approximately 2 hours in accordance with the manufacturer's recommendations. Heat may be introduced to speed up curing time. Retract the placement carriage and remove from pipe.

B. After the sectional liner has been cured in place, the CONTRACTOR shall reconnect the service connections if required. Cutting of the liner pipe shall be done from the interior of the pipeline using a robotic cutter. Where holes are cut through the liner, they shall be neat and smooth in order to prevent blockage at the service connections. Cut-in service connections shall be opened to a minimum of 95 percent of the flow capacity of the building sewer. Cuts shall be wire-brushed to remove jagged edges. All coupons shall be recovered at the downstream manhole and removed. All reinstated service lateral connections (between the liner and the existing pipe) shall be grouted. The reinstatement of the service connections shall be a separate pay item.

3.06 ACCEPTANCE

A. The finished liner shall be continuous over the entire length of the installation. The liner shall be free from visual defects, damage, deflection, holes, delamination, uncured resin, and the like. There shall be no visible infiltration through the liner or from behind the liner.

3.07 CLEANUP

A. After the liner installation has been completed and accepted, the CONTRACTOR shall clean up the entire project area and return the ground cover to grade. All excess

material and debris not incorporated into the permanent installation shall be disposed of by the CONTRACTOR.

3.08 WARRANTY

A. The liner shall be certified by the manufacturer for specified material properties for a particular job. The manufacturer warrants the liner to be free from defects in raw materials for five years from the date of acceptance. During the warranty period, any defects which affect the integrity or strength of the pipe shall be repaired at the CONTRACTOR's expense in a manner mutually agreed by the OWNER and the CONTRACTOR.

END OF SECTION

SECTION 02765
CURED-IN-PLACE PIPE LINING

PART 1 GENERAL

1.1 SCOPE

A. It is the intent of this specification to provide for the reconstruction of pipelines and conduits by the installation of a resin-impregnated flexible tube which is formed to the original conduit and cured to produce a continuous and tight fitting Cured-In-Place Pipe (CIPP).

B. The work specified in this Section includes all labor, materials, accessories, equipment and tools necessary to install and test cured-in-place pipe lining in main lines and in service laterals.

1.2 GENERAL

A. This specification references ASTM F1216 (Rehabilitation of pipelines by the inversion and curing of a resin-impregnated tube), ASTM F1743 (Rehabilitation of pipelines by pulled-in-place installation of a cured-in-place thermosetting resin pipe), and ASTM D790 (Test methods for flexural properties of unreinforced plastics) which are made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification will govern.

1.3 SUBMITTALS

A. The CONTRACTOR shall submit shop drawings and other information to the OWNER for review in accordance with Section 01300, "Submittals".

B. With the bid, the following submittals are required.

1. Documentation as outlined herein under the section titled, PRODUCT AND INSTALLER ACCEPTABILITY, including installation references of projects that are similar in size and scope to this project. The submittal shall include, at a minimum, the client contact name, phone number, and the diameter and footage of pipe rehabilitated. Documentation for product and installation experience must be satisfactory to the OWNER.

C. After contract award, the following submittals are required.

1. Detailed design calculations as specified herein under the section titled, MATERIALS FOR MAIN LINES.

2. Various test results as specified herein under the section titled, TESTING REQUIREMENTS.

3. Documentation as specified herein under the sections titled WET-OUT AND CURE REPORT and TELEVISION SURVEY.

1.4 PRODUCT AND INSTALLER ACCEPTABILITY

A. Since sewer products are intended to have a 50 year design life, and in order to minimize the OWNER'S risk, only proven products and installers with substantial successful long term track records will be approved.

B. Products and installers seeking approval must document an ability to meet all of the following criteria to be deemed commercially acceptable:

1. For a product to be considered commercially proven, a minimum of 500,000 linear feet or 2,000 manhole-to-manhole line sections of successful wastewater collection system installations in the U.S. must be documented to the satisfaction of the OWNER to assure commercial viability. In addition, at least 250,000 linear feet of the product shall have been in successful service within the State of Florida for a minimum of five years.

2. For an Installer to be considered as commercially proven, the installer must satisfy all insurance, financial, and bonding requirements of the OWNER, and must have had at least 5 (five) years active experience in the commercial installation of the product in Florida. For sewer mains, the installer must have successfully installed at least 250,000 feet of the product in wastewater collection systems in Florida.

3. Sewer rehabilitation products submitted for approval must provide third party test results supporting the long term performance and structural strength of the product and such data shall be satisfactory to the OWNER. Test samples shall be prepared so as to simulate installation methods and trauma of the product. No product will be approved without independent third party testing verification.

PART 2 PRODUCTS

2.01 MATERIALS FOR MAIN LINES

A. The sewn tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216 or ASTM F1743, Section 5. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge breaks and missing sections of the existing pipe, and stretch to fit irregular pipe sections. The new jointless pipe-within-a-pipe must fit tightly against the old pipe wall and consolidate all disconnected sections into a single continuous conduit, substantially reducing or eliminating infiltration or exfiltration.

B. The wetout tube shall have a uniform thickness that when compressed at installation pressures will meet or exceed the Design thickness.

C. The tube shall be sewn to a size that when installed will tightly fit the internal circumference and length of the original pipe with minimal shrinkage, in such a way as to minimize water migration (tracking) between the liner and the host pipe. Allowance should be made for circumferential stretching during inversion, and longitudinal stretching during pull in. Overlapped layers of felt in longitudinal seams that cause lumps in the final product shall not be utilized.

D. The minimum tube length shall be that deemed necessary by the Contractor to effectively span the distance between the access points and to facilitate a good, "non-

tracking" seal. The Contractor shall verify the lengths in the field before cutting liner to length and otherwise preparing it for installation.

E. The outside layer of the tube (before wetout) shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wetout) procedure.

F. The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.

G. The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.

H. Seams in the tube shall be stronger than the unseamed felt.

I. The outside of the tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturers name or identifying symbol. The tubes must be manufactured in the USA.

J. Contractor is to install Hydrophilic End Seals at all manhole penetrations. The End Seals must be in a tubular form which, when installed, will form a 360 degree seal between the host pipe and the newly installed liner and must be a minimum of three inches wide. The use of caulking, rope or band type of an end seal will not be allowed. Acceptable End Seals are Insignia™ End Seals by LMK Enterprises, 1779 Chessie Lane, Ottawa, IL 61350 (815) 433-1275, or pre-approved equal.

K. If the end of the host pipe is cracked or otherwise damaged at the connection to the manhole such that a watertight fit cannot be achieved solely through the use of Insignia End Seals, the Contractor shall use AV-202 multigrout or approved equal in addition to the Insignia End Seals to fill all gaps until a watertight fit between the host pipe and the liner is achieved.

L. The resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured within the tube composite meets the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the Design of the CIPP for this project. The resin shall produce CIPP which will comply with the structural and chemical resistance requirements of this specification.

M. The finished pipe in place shall be fabricated from materials which when cured will be chemically resistant to withstand internal exposure to domestic sewage. All constituent materials will be suitable for service in the environment intended. The final product will not deteriorate, corrode or lose structural strength that will reduce the projected product life. In industrial areas a liner system using epoxy vinyl ester resin shall be utilized and a polyester resin shall be used in non-industrial areas. The OWNER shall determine the type of appropriate resin to be utilized for each line segment.

N. The CIPP shall be designed as per ASTM F1216, Appendix X1. The CIPP design shall assume no bonding to the original pipe wall. The structural performance of the finished pipe must be adequate to accommodate all anticipated loads throughout its design life.

O. The CIPP must have a minimum design life of fifty (50) years. The minimum design life may be documented by submitting life estimates by national and/or international authorities or specifying agencies. Otherwise, long-term testing and long-term in-service results (minimum ten (10) years) may be used, with the results extrapolated to fifty (50) years.

P. The CONTRACTOR must have performed long-term testing for flexural creep of the CIPP pipe material installed by his company. Such testing results are to be used to determine the long-term, time dependent flexural modulus to be utilized in the product design. This is a performance test of the materials (tube and resin) and general workmanship of the installation and curing. A percentage of the instantaneous flexural modulus value (as measured by ASTM D-790 testing) will be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, will be verified by this testing. Values in excess of 50% will not be applied unless substantiated by qualified third party test data. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in design.

Q. The minimum required structural CIPP wall thickness shall be based on the physical and structural properties described herein and in accordance with the design equations in the appendix of ASTM F 1216, and the following design parameters:

Design Safety Factor	2.0
Retention Factor for Long-Term Flexural Modulus to be used in Design *(as determined by Long-Term tests described in paragraph 2.02.B)*	50 %
Ovality*	2 %
Water Table = Grade Elevation	ft.
Soil Depth (above crown)*	ft.
Soil Modulus	700 psi
Soil Density	120 pcf
Live Load	Two H20 passing trucks
Design Condition	Fully deteriorated
**Denotes information which can be provided here or in inspection video tapes or project construction plans. Multiple line segments may require a table of values.*	

R. The lining manufacturer shall submit to the OWNER for review complete design calculations for the liner, signed and sealed by a Professional Engineer registered in the State of Florida and certified by the manufacturer as to the compliance of his materials to the values used in the calculations. The buckling analysis shall account for the combination of dead load, live load, hydrostatic pressure and grout pressure (if any). The liner side support shall be considered as if provided by soil pressure against the liner. The existing pipe shall not be considered as providing any structural support. Modulus of soil reaction shall be 700, corresponding to a moderate degree of compaction of bedding and a fine-grained soil as shown in AWWA Manual M45, Fiberglass Pipe Design.

S. As part of the design calculation submittal, the liner manufacturer shall submit a tabulation of time versus temperature. This tabulation shall show the lengths of time that exposed portions of the liner will endure without self-initiated cure or other deterioration beginning. This tabulation shall be at five degree Fahrenheit increments ranging from 70

degrees F to 100 degrees F. The manufacturer shall also submit his analysis of the progressive effects of such "pre-cure" on the insertion and cured properties of the liner. This information shall be submitted in a timely fashion prior to the preconstruction conference so that the OWNER may set procedures for dealing with such an instance caused by construction delays.

T. The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. If separation of the layers occurs during testing of field samples, new samples will be cut from the work. Any reoccurrence may cause rejection of the work.

U. Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

V. Liner shall be neither accepted nor installed until design calculations are acceptable to the OWNER. Liner shall be as manufactured by Inliner Technologies, Insituform, or National liner, or approved equal.

2.2 STRUCTURAL REQUIREMENTS FOR MAIN LINES

A. Since the pipe strength is related to the uniformity and density of the pipe wall, only resin vacuum impregnation will be allowed. Resin impregnation without vacuum entraps air and creates voids which weaken the pipe wall. If reinforcing materials (fiberglass, etc.) are used, the reinforcing material must be fully encapsulated within the resin to assure that the reinforcement is not exposed, either to the inside of the pipe or at the interface of the CIPP and the existing pipe.

B. The design for the CIPP wall thickness will be based on the following strengths, unless otherwise submitted to and approved by the OWNER.

Property	Test Method	Cured Composite per ASTM F1216
Flexural Modulus of Elasticity	ASTM D-790	250,000 psi
Flexural Stress	ASTM D-790	4,500 psi

2.3 TESTING REQUIREMENTS

A. Chemical Resistance - The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical testing requirements.

B. Hydraulic Capacity - Overall, the hydraulic profile shall be maintained as large as possible. The CIPP shall provide at least 100 percent of the flow capacity of the original pipe before rehabilitation. In lieu of actual measurements, calculated capacities may be derived using commonly accepted equations and values of the Manning flow coefficients (designated "n" coefficients). The original pipe material and condition at the time of

reconstruction will determine the Manning coefficient used in the host pipe. A Manning coefficient of 0.009 for a jointless, relatively smooth-wall cured-in-place pipe will be used for the lateral CIPP flow calculation.

C. CIPP Field Samples - When requested by the OWNER, the CONTRACTOR shall submit test results from field installations in the USA of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified herein have been achieved in previous field applications.

D. Prior to any liner installation, the CONTRACTOR shall submit technical data sheets showing the physical and chemical properties and infrared spectrum analysis per ASTM E1252 (chemical fingerprint) of the proposed resin system as modified for the cured-in-place process. Additionally, copies of the certificates of analysis for resin used on the project must be made available to the OWNER. The CONTRACTOR shall test each lot of resin used by conducting infrared spectrum analyses on field samples. These analyses shall be conducted at the CONTRACTOR's expense.

E. The CONTRACTOR shall provide resin samples as directed by the OWNER during the duration of the project and infrared spectrography chemical fingerprints shall be run and compared to the submitted fingerprint to verify the resin used is the resin submitted for use on this project. These analyses shall be conducted at the OWNER's expense.

F. In the case of liner installation performed under this contract, CIPP samples shall be prepared and physical properties tested in accordance with ASTM F1216 or ASTM F1743, Section 8, using either method proposed.

1. The CONTRACTOR shall submit a method to the OWNER, for approval, to obtain representative samples from the installed liners. These samples will be tested by the OWNER, at the OWNER's expense, to verify compliance with the installed material specifications. The CONTRACTOR shall produce these test samples when so directed by the OWNER. The OWNER reserves the right to request samples from as many as 10 percent of the liners installed, unless a pattern of failure occurs. In this case, the CONTRACTOR will be requested to provide a greater quantity of samples, up to 100 percent, at no additional cost, and the CONTRACTOR shall bear all costs of this additional testing. Liners which do not pass these material tests will be accepted at reduced payment or rejected pursuant to Section 01025.

2. The cost for sample collection shall be included in the bid price for rehabilitation.

3. Test specimens shall be marked in indelible ink with the appropriate lateral or main section, work order number, date of installation, and orientation to the top of the pipe (direction of up) so the results can be correlated to the field work performed. All test results shall use this designated labeling as a reference.

4. The extraction and labeling of test specimens shall be done in the presence of the OWNER. The OWNER and CONTRACTOR shall, upon completion of sample extraction and labeling, both sign a chain-of-custody form that shall subsequently accompany the sample at all times and shall ultimately be received and signed at the testing laboratory. Test reports shall include a copy of the chain-of-custody form with all signatures to ensure that reported test results are for the correct sample.

5. The flexural properties must meet or exceed the values specified herein.

6. Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743.

7. Visual inspection of the CIPP shall be by closed-circuit television.

PART 3 EXECUTION

3.1 CLEANING/SURFACE PREPARATION

A. It shall be the responsibility of the CONTRACTOR to clean the pipeline with a high-pressure water jet and to remove all internal debris out of the pipeline in accordance with Section 02751, "Cleaning and Root Removal".

3.2 SEWER REPAIRS

A. Any protruding pieces of concrete, dropped joints or broken pipe shall be subjected to point repairs so that the pipe is left in a clean smooth condition in all respects ready for lining, unless otherwise jointly determined by the Contractor and the OWNER that the defect will not compromise the integrity of the liner.

B. If conditions such as broken pipe and major blockages are found that will prevent proper cleaning, or where additional damage would result if cleaning is attempted or continued, the CONTRACTOR, with the advance concurrence of the OWNER, shall perform the necessary point repair(s), and then complete the cleaning.

3.3 JOINT, CRACK, ANNULAR SPACE, AND LINER END CHEMICAL SEALING

A. Prior to cured-in-place liner installation, all active leaks of a magnitude to compromise the integrity of the liner shall be stopped using chemical grout, at no additional cost to the OWNER.

B. Materials used on this Project shall have the following properties: react quickly to form a permanent watertight seal; resultant seal shall be flexible and immune to the effects of wet/dry cycles; non-biodegradable and immune to the effects of acids, alkalis, and organics in sewage; component packaging and mixing compatible with field conditions and worker safety; extraneous sealant left inside pipe shall be readily removable; and shall be compatible with the CIPP liner resin system utilized. The chemical sealing materials shall be acrylic resin type and shall be furnished with activators, initiators, inhibitors and any other materials recommended by the manufacturer for a complete grout system. Sealing grout shall be furnished in liquid form in standard manufacturer's containers. Sealing grout shall be AV-202 manufactured by Avanti International, Houston, Texas (1-800-877-2570), or approved equal.

C. The Contractor shall modify his equipment as necessary to seal the leaks, however both his equipment and sealing method must meet the approval of the OWNER prior to use. Extreme caution shall be utilized during leak sealing (pressure) operations in order to avoid damaging the already weakened sewer pipe. If any damage occurs, it shall be repaired at the CONTRACTOR’s cost and to the satisfaction of the OWNER. Excessive pumping of grout which might plug a service lateral shall be avoided. Any service laterals blocked by the grouting operation shall be cleared immediately by the Contractor.

3.4 FLOW CONTROL

A. Flow control shall be exercised as required to ensure that no flowing sewage comes into contact with sections of the sewer under repair. See Section 02750, "Wastewater Flow Control" for additional information.

3.5 LINER INSTALLATION FOR MAIN LINES

A. The pre-lining video of the prepared pipe shall be reviewed and be acceptable to the OWNER for cleanliness and smoothness before the CONTRACTOR begins to line the pipe.

B. The CONTRACTOR shall present to the OWNER, for review, a description of his methods for avoiding liner stoppage due to conflict and friction with such points as the manhole entrance and the bend into the pipe entrance. He shall also present plans for dealing with a liner stopped by snagging within the pipe. This information shall be rendered to the OWNER in a timely fashion prior to the preconstruction conference.

C. The CONTRACTOR shall immediately notify the OWNER of any construction delays taking place during the insertion operation. Such delays shall possibly require sampling and testing by an independent laboratory of portions of the cured liner at the OWNER's discretion. The cost of such test shall be borne by the CONTRACTOR and no extra compensation will be allowed. Any failure of sample tests or a lack of immediate notification of delay shall be automatic cause for rejection of that part of the work at the OWNER's discretion.

D. The CONTRACTOR shall designate a location where the tube will be impregnated with resin prior to installation. The CONTRACTOR shall allow the OWNER to inspect the materials and the "wet-out" procedure.

E. The CONTRACTOR shall submit construction schedules for advance approval by the OWNER. At no time will any service lateral remain inoperative for more than an eight (8)-hour period. Any service that will be out of service for more than eight (8) hours will be temporarily by-passed into a mainline sanitary sewer, at the CONTRACTOR's expense.

F. The materials and processes must be reasonably available for pre-installation, installation and post-installation inspections. Areas which require inspection include, but are not limited to, the following:

1. Product materials should exhibit sufficient transparency to visually verify the quality of resin impregnation.

2. Temperature sensing devices, such as thermocouples, shall be located between the existing pipe and the CIPP to ensure the quality of the cure of the wall laminate.

3.6 LINER INSTALLATION FOR MAIN LINES

A. After the inversion is complete, the CONTRACTOR shall supply a suitable heat source and water recirculation equipment to circulate heated water throughout the pipeline. The equipment shall be capable of delivering hot water throughout the pipeline to uniformly

raise the water temperature to a level required to effectively cure the resin. The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. Another such gage shall be placed between the tube and the host pipe at the termination end at or near the bottom to determine the temperatures during cure. Water temperature in the pipe during the cure period shall be as recommended by the resin manufacturer.

B. Initial cure shall be deemed complete when the exposed portions of the tube appear to be hard and sound and the temperature sensor indicates that the temperature is of a magnitude to realize an exotherm. The cure period shall be of a duration recommended by the resin manufacturer and may require continuous recirculation of the water to maintain the temperature. The CONTRACTOR shall have on hand at all times, for use by his personnel and the OWNER, a digital thermometer or other means of accurately and quickly checking the temperature of exposed portions of the liner.

C. CIPP installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with modifications as listed herein.

D. Resin Impregnation: The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used. To insure thorough resin saturation throughout the length of the felt tube, the point of vacuum shall be no further than 25 feet from the point of initial resin introduction. After vacuum in the tube is established, a vacuum point shall be no further than 75 feet from the leading edge of the resin. The leading edge of the resin slug shall be as near to perpendicular as possible. A roller system shall be used to uniformly distribute the resin throughout the tube. If the Installer uses an alternate method of resin impregnation, the method must produce the same results. Any alternate resin impregnation method must be proven.

E. Tube Insertion: The wetout tube shall be positioned in the pipeline using either inversion or a pull-in method. If pulled into place, a power winch should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.

F. Temperature gauges shall be placed inside the tube at the invert level of each end to monitor the temperatures during the cure cycle.

G. Curing shall be accomplished by utilizing hot water under hydrostatic pressure in accordance with the manufacturer's recommended cure schedule.

H. Cooldown: The CONTRACTOR shall cool the hardened pipe to a temperature below 100 F before relieving the hydrostatic head. Cooldown may be accomplished by the introduction of cool water into the inversion standpipe to replace water being pumped out of the manhole. Care should be taken in release of static head so that vacuum will not be developed that could damage the newly installed liner.

I. Finish: The new pipe shall be cut off in the manhole at a suitable location. The finished product shall be continuous over the length of pipe reconstructed and be free from dry spots, delamination and lifts. Should the liner not make a tight seal at the inside manhole wall, a watertight seal shall be made by use of extra polyester fiber felt and epoxy resin. Pipe entries and exists shall be smooth, free of irregularities, and

watertight. No visible leaks shall be present and the CONTRACTOR shall be responsible for grouting to remove leaks or fill voids between the host pipe and the liner. 100% of all lateral reconnections, drop connections and manhole connections are to be chemically grouted. During the warranty period, any defects which will affect the integrity or strength of the product shall be repaired at the CONTRACTOR's expense, in a manner mutually agreed upon by the OWNER and the CONTRACTOR.

3.7 REINSTATEMENT OF SERVICE LATERALS, BRANCH CONNECTIONS, AND DROP MANHOLE CONNECTIONS

A. After the pipe has been cured in place, the CONTRACTOR shall reconnect the existing service connections. This shall be done from the interior of the pipeline without excavation using a robotic cutter. Where holes are cut through the liner, they shall be neat and smooth in order to prevent blockage at the service connections. Cut-in service connections shall be opened to a minimum of 95 percent of the flow capacity of the building sewer. Cuts shall be wire-brushed to remove jagged edges. All coupons shall be recovered at the downstream manhole and removed. The CONTRACTOR shall stop all visible leaks, including at service connections. All reinstated service lateral connections (between the liner and the existing pipe) shall be grouted. Grouting of service laterals is considered incidental to the lateral reinstatement and shall not be a separate pay item.

B. The CONTRACTOR shall seal all laterals after the reinstatements are 100% cut and brushed. The sealing is to be in compliance with ASTM F2454. The lateral sealing area is to include the first joint or 18” into the lateral pipe whichever is more. A test is necessary after the annular space is sealed in keeping with the ASTM Standard. If the test fails any resealing will be done at the expense of the contractor. All grout sealing required (lateral connections and manholes penetrations) are to be 100% complete before the final video is done to document that the completed section is ready to be submitted for payment. The final video must show the entire surface of the lateral (pan the lateral) and the up and down stream manhole connections. During the sealing and testing of the lateral connections the contractor is to have an inspector present to document the procedure. The contractor is also directed to video tape the seal and completed testing as follows. To be paid for a lateral reinstatement the video must show 1) a 5 second video prior to sealing, 2) a 15 second video of the test pressure showing the lateral passed the pressure test. The screen must have the lift station number, manhole to manhole numbers and the station footage of the lateral on the main. The video must not run the entire time, just as described above.

C. It is the intent of these specifications that service laterals be reopened without excavation, utilizing a remote controlled cutting device, monitored by a video TV camera. The Contractor shall certify he has a minimum of 2 complete working cutters plus spare key components on the site before each liner installation. No additional payment will be made for excavations for the purpose of reopening connections and the Contractor will be responsible for all costs and liability associated with such excavation and restoration work.

D. Unless otherwise directed by the OWNER, all laterals will be reinstated. The OWNER will provide specific direction concerning any laterals that will be abandoned and will therefore not require reinstatement. The CONTRACTOR shall abandon a lateral by not reinstating the lateral only with consent of the OWNER. A record of all laterals not reinstated shall be provided to the Inspector at the end of each day.

E. The language in this section applies equally to branch connections and drop manhole connections.

3.8 ACCEPTANCE

A. The finished liner shall be continuous over the entire length of the installation. The liner shall be free from visual defects, damage, deflection, holes, delamination, uncured resin, and the like. No pinholes, cracks, thin spots, dry spots, or other defects in the liner will be permitted. There shall be no visible infiltration through the liner or from behind the liner at manholes and service connections. Cut-ins and attachments at service connections shall be neat and smooth.

B. Ridges or wrinkles in the installed liner shall be accepted or rejected at the sole discretion of the OWNER. If, in the opinion of the OWNER, such defects could cause structural weakening of the liner, impede the progress of a camera during internal television inspection, or encourage solids deposition and potential interruptions to flow, such defects shall be corrected at the CONTRACTOR’s expense in a manner acceptable to the OWNER.

3.9 WET-OUT AND CURE REPORT

A. The CONTRACTOR shall submit "wet out" and "cure" reports documenting the specific details of the liner's vacuum impregnation and saturation with resin and the CIPP installation of the liner. A copy of all "wet out" and "cure" records shall be made available to the OWNER upon request, and shall be turned over to the OWNER on a weekly basis and prior to request for payment. If the "wet out" and "cure" reports are not presented prior to a payment request for a repair work order, payment for the work will not be made and the request will be rejected. At a minimum, this report shall include, in addition to CONTRACTOR and Contract identification:

1. Line identification and location
2. Wet-out date
3. Sample identification(s) and technician
4. Installation (in sewer) date
5. Host sewer pipe inside diameter
6. Liner thickness
7. Liner length
8. Liner and resin batch numbers
9. Resin type
10. Wet out length

11. Quantity of resin and catalyst utilized

12. Wet out technicians

13. Time wet out started and completed

14. Applicable remarks

15. Boiler and liner heating fluid pressure and temperature versus time log during cure period

16. Cool down report

3.10 CLEANUP

A. After the liner installation has been completed and accepted, the CONTRACTOR shall cleanup the entire project area and return the ground cover to the original or better condition. All excess material and debris not incorporated into the permanent installation shall be disposed of by the CONTRACTOR.

3.11 TELEVISION SURVEY

A. Television survey, including Preconstruction Survey, Post Construction Survey, as indicated in Section 02752 "Pipe Inspection (Mains and Laterals)", is required for all cured-in-place lining, including main lines and service laterals, and shall be completed and submitted for Owners review within 2 weeks of liner installation.

3.12 PUBLIC NOTIFICATION

A. The Contractor shall make every effort to maintain service usage throughout the duration of the project. In the event that a service will be out of service, the maximum amount of time of no service shall be 8 hours for any property served by the sewer. A public notification program shall be implemented, and shall as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sanitary sewer and informing them of the work to be conducted, and when the sewer will be off-line. The Contractor shall also provide the following:

1. Whether or not an interruption in service is expected, written notice to be delivered to each home or business the day prior to the beginning of work being conducted on the section, and a local telephone number of the Contractor the home or business can call to discuss the project or any problems which could arise.

2. Personal contact with any home or business which cannot be reconnected within the time stated in the written notice.

3.13 WARRANTY

A. The liner shall be certified by the manufacturer for specified material properties for a particular job. The manufacturer warrants the liner to be free from defects in raw materials for five years from the date of acceptance. During the warranty period, any defects which affect the integrity or strength of the pipe shall be repaired at the

CONTRACTOR's expense in a manner mutually agreed by the OWNER and the CONTRACTOR.

B The CONTRACTOR warrants his work to be sealed tight at each end of the liner, drop connections, and also at each service connection for a period of five years.

END OF SECTION

SECTION 02770
CURED-IN-PLACE PIPE LINING - LATERALS

PART 1 GENERAL

1. INTENT

This specification covers material requirements, installation practices, and test methods for the reconstruction of a sewer service lateral pipe and the main connection without excavation. The pipe renovation shall be accomplished by the inversion and inflation of a resin impregnated, single-piece lateral and main connection liner. When cured, the liner extends over a predetermined length of the service lateral and the full circumference of the main pipe at the connection (CIPP) outfitted with gasket seals. The Materials and Installation practices shall, at a minimum, adhere to the requirements of ASTM F2561-11 “Standard Practice for Rehabilitation of a Sewer Service Lateral and its Connection to the Main Using a One-Piece Main and Lateral Cured-in Place Liner”

This specification takes precedence over any other similar specification that may be found in other sections of the bid documents.

1.1 GENERAL

The reconstruction shall be accomplished using a resin absorbent textile tube of particular length and a thermo-set resin with physical and chemical properties appropriate for the application. The launching device and launching hose is winched through the mainline and positioned at the appropriate service lateral connection. The mainline bladder is inflated seating the hydrophilic seals and presses the connection liner against the main pipe at the connection while the lateral tube inverts up into the lateral pipe by the action of the inversion bladder. Once the resin-saturated liner is cured and the hydrophilic gaskets are in place then the inversion bladder and launching device are removed.

PART 2 PRODUCTS

2. PRODUCT AND INSTALLER ACCEPTABILITY

2.1 All sewer products are intended to have a minimum 50 year design life, in order to minimize the owner’s long term risk of failure, only proven products and installers with substantial successful long term track records will be considered.

2.2 Products and installers must document the following minimum criteria to be deemed commercially acceptable:

Product	Unit	Florida Minimum Requirement	U.S. Minimum Requirement
Lateral Liner	LF	10,000	100,000
Main / Lateral Connections	EA	4,000	40,000
Stack Single or Double Wye	EA	25	25
Lateral Transitions	EA	100	500

a. For materials and product to be considered commercially proven, the above referenced minimum units of successful wastewater collection system installations must be documented to the satisfaction of the owner to assure commercial viability of the proposed liner system. If changes in the product (installation, resin, materials, configuration, assembly, seals) did occur the date and scope of changes must be part of the product history documentation for the owner to review and tabulated to show the quantity of each specific product type or version. Any modifications to the finished product bid must show the date and reason the change was made.

b. All sewer rehabilitation products submitted for approval must provide third party test results supporting the long term performance and structural strength of the product and such data shall be satisfactory to the owner. Tests are to include the main, laterals, and main/lateral connection materials and hydrophilic gasket seals. Test samples shall be prepared so as to simulate installation methods and trauma of the product. No product will be approved without independent third party testing verification for all components proposed.

c. The Contractor or named subcontractor must meet the minimum requirements above. This is a company requirement; personal history is valuable, however will not be considered in evaluating the company's ability to meet the minimum requirements of this specification. The Contractor or named subcontractor must have installed the same product (in the same constructed configuration) proposed for a minimum of five years.

3.0 MATERIAL

3.1 *Liner Assembly*- The liner assembly shall be continuous in length and consist of one or more layers of absorbent needle punched felt, circular knit or circular braid that meet the requirements of ASTM F1216 and ASTM D5813 Sections 6 and 8. No intermediate or encapsulated elastomeric layers shall be in the textile that may cause de-lamination in the CIPP. The textile tube and sheet shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe segments, and flexibility to fit irregular pipe sections. The resin saturated textile tube and sheet shall meet ASTM F 1216, 7.2 as applicable, and the tube shall have 5% to 10% excess resin distribution (full resin

contact with the host pipe) that when compressed and cured will meet or exceed the design thickness.

3.2 *Mainline Liner Tube*- The main liner tube shall be formed from a flat sheet of resin absorbent material suitable for CIPP. The forming of the tube is accomplished by one end of the textile sheet overlapping the second end and sized accordingly to create a circular lining equal to the inner diameter of the lined main pipe. The interior of the textile sheet shall be laminated with an impermeable, translucent flexible membrane. The textile sheet before insertion shall be permanently marked on the membrane as a "Lateral Identification" correlating to the address of the building the lateral pipe provides service.

3.3 *Lateral Liner Tube*- The exterior of the lateral liner tube shall be laminated with an impermeable, translucent flexible membrane. Longitudinal seams in the tube shall be stitched and thermally sealed. The lateral tube will be continuous in length. The lateral tube will be capable of conforming to offset joints, bends, bells, disfigured pipe sections and pipe diameter transitions. The lateral tube shall be manufactured in an offsite manufacturing facility to conform to the specifications of the lateral to be lined.

3.4 *Mainline Connection*- The main tube and lateral tube shall form a one-piece assembly by stitching the lateral tube to the mainsheet aperture. The connecting end of the lateral tube shall be shaped to match the aperture and curvature of the main tube. The lateral tube and main tube shall be sealed by use of a flexible UV cured adhesive/sealant. The main/lateral tube assembly shall take the shape of a "TEE" or "WYE" with corresponding dimensions such as a curved circle or a curved elliptical opening in the pipefitting. Submittals for the liner assembly must include the manufacturer's assembly methods and test protocol for the main/lateral liner assembly to be certified as airtight prior to resin saturation. Each liner assembly must include this test data and be certified by the manufacturer to be airtight prior to resin saturation.

3.5 *Gasket Seals*- The mainline connection shall include a seamless molded flange shaped gasket attached to the main liner tube. The gasket must be a minimum of 2.5mm and must retain this minimum thickness under installation pressures. The lateral tube shall include a compression O-ring gasket attached six-inches from the terminating end of the lateral tube. The gasket seals required must be a manufactured molded neoprene seal. Paste or caulk type of sealants are inconsistent in their placement and application and are not acceptable. All seals must be visible after the installation to verify their proper placement.

3.6 *Mainline End Seal Test Data*- The hydrophilic gasket seals shall include test data that supports substantial expansion properties so to form a watertight compression end seal at the terminating ends of the CIP-lateral liner. The test protocol shall simulate subterranean conditions and hydraulic loading at surface. Gasket seal submittals must include tests data simulating hydration/ dehydration conditions for a period of 10,000-hours and the test results must successfully demonstrate and document long-term performance without deterioration, loss of material, flexibility, and expansion of the gasket during repeated cycles of hydration and dehydration.

3.7 *Bladder Assembly*- The liner assembly shall be surrounded by a second impermeable, inflatable, invertible, flexible translucent membrane bladder that

will form a liner/bladder assembly. The translucent bladder shall facilitate vacuum impregnation while monitoring the resin saturation process.

4.0 RESIN SYSTEM

4.1 The resin/liner system shall conform to ASTM D5813 Section 8.2.2.

4.2 The resin shall be a corrosion resistant polyester, vinylester, epoxy or silicate resin and catalyst system that when properly cured within the composite liner assembly, meets the requirements of ASTM F1216, the physical properties herein, and those which are to be utilized in the design of the CIPP, for this project.

4.3 The resin shall produce a CIPP, which will comply with the structural and chemical resistance requirements of ASTM F1216.

Table 1 CIPP INITIAL STRUCTURAL PROPERTIES

Property	ASTM Test	Minimum Value	
		PSI	(MPa)
Flexural Strength	D 790	4,500	(31)
Flexural Modulus	D 790	250,000	(1,724)

5.0 DESIGN CONSIDERATIONS

5.1 The CIPP shall be designed per ASTM F1216, Appendix X1.

5.2 The CIPP design for the lateral tube and main sheet shall assume no bonding to the original pipe.

5.3 The resin saturated lateral tube and the main sheet must place the resin in full contact with the host pipe. The cured liner must have any coating on the interior of the lateral piping.

5.4 The liner must be smooth and have an average roughness coefficient “n” factor of 0.013 or lower.

6.0 REFERENCES

6.1 ASTM F-2561 - Standard Practice for Rehabilitation of a Sewer Service Lateral and Its Connection to the Main Using a One-Piece Main and Lateral Cured-In-Place Liner.

6.2 ASTM F1216 - Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

6.3 ASTM D-790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

6.4 ASTM D-792 Standard Test Methods for Density and Specific Gravity of Plastics by displacement.

6.5 ASTM D-2990 Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics

6.6 ASTM D5813 Standard Specification for Cured-in Place Thermosetting Resin Sewer Pipe.

ASTM F2561-11 references several complementing standards; one of which is ASTM F1216. The ASTM F1216 standard is referenced for purposes of tube design considerations for a CIPP. ASTM F1216 is not a lateral pipe lining standard and is not applicable to the sealing of lateral connections to mainline pipe and a branch pipe using CIPP. ASTM F2561 is the industry standard for renewing lateral pipes and main/lateral connections with CIPP and pre-molded compression gaskets.

PART 3 EXECUTION

7.0 INSTALLATION RECOMMENDATIONS

7.1 *Access Safety* – Prior to entering access areas such as manholes, an excavation pit, performing inspection or cleaning operations, an evaluation of the atmosphere to determine the presence of toxic or flammable vapors or lack of oxygen shall be undertaken in accordance with local, state, or federal safety regulations.

7.2 *Cleaning and Inspection* – As per NASSCO Standards.

7.3 *Cleaning Accessing the Lateral Pipe* – A cleanout is required to be located on the City side of the property line. The cleanout fitting shall be TEE shaped so to allow upstream and downstream access to the lateral pipe. The cleanout shall be located within two (2) feet of where the finished liner is to terminate.

7.4 *Plugging* – The upstream side of the cleanout shall be plugged during insertion and curing of the liner assembly ensuring no flows enter the pipe and no air, steam or odors will enter the building. When required, the main pipe flows will be by-passed. The pumping system shall be sized for peak flow conditions. The upstream manhole shall be monitored at all times and an emergency deflating system will be incorporated so that the plugs may be removed at any time without requiring confined space entry.

7.5 *Inspection of Pipelines* – The interior of the pipeline shall be carefully inspected to determine the location of any condition that shall prevent proper installation, such as roots, severe offsets, and collapsed or crushed pipe sections. Experienced personnel trained in locating breaks, obstacles, and service connections by closed circuit television shall perform inspection of pipelines.

7.6 *Line Obstructions* – The existing lateral pipe shall be clear of obstructions that prevent the proper insertion and expansion of the lining system. Changes in pipe size shall be accommodated, if the lateral tube is sized according to the pipe

diameter and condition. Obstructions may include dropped or offset joints of no more than 20% of inside pipe diameter.

7.7 *Resin Impregnation* – The liner assembly is encapsulated within the translucent bladder (liner/bladder assembly), the entire liner including the flat sheet shall be saturated with the resin system (wet-out) under controlled vacuum conditions. The volume of resin used shall be sufficient to fill all voids in the textile lining material at nominal thickness and diameter. The volume shall be adjusted by adding 5% to 10% excess resin for the change in resin volume due to polymerization and to allow for any migration of resin into the cracks and joints in the original pipe. No dry or unsaturated area in the mainline sheet or lateral tube shall be acceptable upon visual inspection.

7.8 *Liner Insertion* – The lateral tube and inversion bladder shall be inserted into the launching hose. The main bladder and flat textile sheet (main liner tube) shall be wrapped around a "T" launching device, formed into a tube and secured by use of rubber bands. A seamless molded flange shaped gasket shall be attached to the main liner tube by use of stainless steel snaps. The flanged gasket shall be inserted into the lateral pipe at the main/lateral juncture so that the brim of the flanged gasket is firmly seated against the mainline pipe liner. An O-ring end seal shall be positioned 6-inches from the terminating end of the lateral liner tube. The launching device is inserted into the pipe and pulled to the point of repair. The pull is complete when the lateral tube is exactly aligned with the lateral pipe connection. The lateral tube is completely protected during the pull. The mainline liner is supported on a rigid "T" launcher that is elevated above the pipe invert through the use of a rotating skid system. The liner assembly shall not be contaminated or diluted by exposure to dirt or debris during the pull.

7.9 *Bladder* – The main bladder shall be inflated causing the main sheet to unwrap and expand; pressing the main tube firmly into contact with the main pipe and embedding the flange shaped gasket between the main tube and the main pipe at the lateral opening. The lateral tube is inverted through the main tube aperture by the action of the lateral bladder extending into the lateral pipe to a termination point that shall be no less than 2-feet from the exterior cleanout. The bladder assembly shall extend beyond each end of the liner, so the liner remains open-ended and no cutting shall be required.

8.0 CIPP PROCESSING

8.1 *Curing* – After the liner has been fully deployed into the lateral pipe, pressure is maintained pressing the liner firmly against the inner pipe wall until the liner is cured at ambient temperatures or by a suitable heat source. The heating equipment shall be capable of delivering a mixture of steam and air throughout the liner bladder assembly to a uniform raise the temperature above the temperature required to cure the resin. The curing of the CIPP shall take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of the soil). The heat source temperatures shall be monitored and logged during the cure and cool down cycles. The manufacturer's recommended cure schedule shall be submitted and followed.

8.2 *CIPP Processing* – Curing shall be done without pressure interruption with air or a mixture of air and steam for the proper duration of time per the resin manufacturer's recommendations. The curing process is complete when the temperature of the CIPP cools to 100 degrees Fahrenheit or less.

9.0 FINISH

The finished CIPP – CIPP Shall be a homogenous CIPP liner assembly located within a lateral service pipe for a specific length, and extending into the main pipe to renew 18-inches of the main pipe at the main/lateral service connection. The CIPP shall be smooth with minimal wrinkling and shall increase flow rate. The CIPP shall be free of dry spots, lifts, and delamination. The CIPP shall include a textile taper at each end providing a smooth transition to the host mainline liner for accommodating video equipment and maintaining proper flow in the mainline. After the work is completed, the installer will provide the owner with video footage documenting the repair and the visual markings on the CIPP liner assembly identifying the building address. The finished product shall provide a verifiable non-leaking connection between the mainline liner and the CIP-Lateral liner.

10.0 RECOMMENDED INSPECTION AND TESTING PRACTICES

10.1 *Sampling* – As designated in the purchase agreement, the preparation of a CIPP sample is required. The sample shall be prepared by securing a flat plate mold using the textile tube material and resin system as used for the rehabilitated pipe.

10.2 *Pressure* – The pressure applied on the plate sample will be equal to the highest pressure exerted on the lateral tube during the inversion process.

10.3 *Length* – The minimum length of the sample must be able to produce at least five specimens for testing in accordance with ASTM D-790-03.

10.4 *Conditioning* – Condition the test specimens at 73.4 ± 3.6º F (23 ± 2ºC) and 50 ± 5% relative humidity for not less than 40 hour prior to test in accordance with Practice ASTM D 618, for those tests where conditioning is required.

10.5 *Short-Term Flexural (Bending) Properties* – The initial tangent flexural modulus of elasticity and flexural stress shall be measured for gravity and pressure pipe applications in accordance with Test Method D 790 and shall meet the minimum requirements of Table 1.

10.6 *Gravity Pipe Leakage Testing* – If required by the owner in the contract documents or purchase order, gravity pipes should be tested using an air test method where a test plug is placed adjacent to the upstream and downstream ends of the main sheet CIPP and at the upper most end of the lateral tube. This test should take place no less than 72-hours after returning the lateral pipe back into service. This test is limited to pipe lengths with no service connections. The test pressure shall be 4-PSI for a test time of three-minutes; the pressure shall not drop below 3.5 PSI.

11.0 WARRANTY

All CIPP liners shall be certified by the manufacturer for specified material properties for the particular repair. The manufacturer warrants the liner to be free from defects in raw materials

for ten years from the date of acceptance. The contractor guarantees the work to be free from defects caused by faulty workmanship for a period of five years from the date of acceptance. During the warranty period, any defects which affect the integrity, strength or water tightness of the installed pipe shall be repaired at the contractor's expense.

END OF SECTION

SECTION 02957
SEWER MANHOLE REHABILITATION

PART 1 GENERAL

1.1 DESCRIPTION

A. Section includes requirements for repair and rehabilitation of sanitary sewer manholes.

1.2 QUALITY ASSURANCE

A. Follow national standards and as specified herein.

B. Contractor's personnel involved in installation of materials: Certified by manufacturer that they have successfully completed training in handling, applying and finishing materials used.

C. Contractor: Inspecting pre-rehabilitation work, rehabilitation operations, and post-rehabilitation work.

D. For a product to be considered commercially proven, a minimum of 1,000 vertical linear feet of manhole rehabilitation must have been completed over a period of at least 3 years with the material proposed, by the Contractor or by other contractors.

1. Submit description of each project including material used, vertical linear feet of manhole rehabilitated and owner's contact information.

1.3 SUBMITTALS

A. Submit:

1. Grout, Cementitious Reconstruction, Patching Materials, Chimney Seals, Manhole Liners.

a. Material type and manufacturer to be used, including catalog data showing manufacturer's clarifications and updates, ASTM references, material composition, specifications, physical properties and chemical resistance, manufacturer's recommended mix, additives and set time.

b. Manufacturer's detailed description of recommended procedures for handling and storing material to include use of strip recorder to monitor temperature at storage location.

c. Manufacturer's detailed description of processes to execute the use of material including equipment required.

d. Detailed description of field testing processes and procedures.

e. Certification: Backup equipment is available and deliverable to project sites within 24 hours.

f. Shipping manifest:

1) Date shipped.
2) Origination and delivery locations
3) Shipping method and carrier
4) Shipping order number
5) Purchase order number
6) Shipped item
7) Stock number
8) Lot number
9) Manufacturer
10) Any shipping, storage, or safety requirements, including MSDS documents
11) Received by, and date
12) Signature of receiver

2. Shop drawings and manufacturer's installation requirements for internal rubber sleeve chimney seals.

3. Bypass pumping plan.

    a. Intake manhole
    b. Service over pumping
    c. Receiving manhole
    d. Expected flows
    e. Pump size
    f. Pipe layout
    g. Backup equipment
    h. Procedures to monitor upstream mains for backup impacts
    i. Procedures for setup and breakdown of pumping operations

4. Emergency plan detailing procedures to be followed in event of pump failures, sewer overflows, service backups, and sewage spillage.

    a. Maintain copy on site for duration of project.

B. Submit:

1. Certified statement from manufacturer that Contractor is approved installer of the material or system with certificates of training for each crew member involved in each process from manufacturer.

    a. Documentation for products and installers must be approved by Contract Manager before installation of material.

2. For each manhole rehabilitated, complete and accurate record of work completed.

    a. Show identifying number and location, quantities of rehabilitation material used, estimate of infiltration/inflow eliminated, and results of post-rehabilitation inspection.

3. Field test reports.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect, store, and handle during transportation and delivery, while stored on-site, and during installation following approved submittals.

1. Maintain temperature less than 120 degrees Fahrenheit while in storage.

B. Material Found to be Defective or Damaged Due to Manufacture or Shipment.

1. Repair following manufacturer's recommendations if Contract Manager deems repairable.

2. Material not deemed repairable: Rejected, removed from Project site, and replace at Contract Manager's direction.

PART 2 PRODUCTS

2.1 MATERIALS

A. Acrylic or Acrylate Base Grout.

1. Two-part grout mixed at point of injection.

2. Minimum 25 percent acrylic or acrylate base material by volume.

a. Use higher concentration of base material at Contract Manager's direction to increase strength or offset dilution during injection period.

3. Controllable reaction time: 10 seconds to 1 hour.

4. Viscosity: 1.5 centipoise water.

a. May increase viscosity to no more than 2.5 centipoise water, at Contract Manager's direction.

b. Remain constant throughout injection period.

5. Tolerates dilution and reacts in moving water.

6. Final reaction:

a. Continuous irreversible, impermeable, non-porous still gel in pure form.

b. Stabilized soil in ground that will not become brittle or rigid.

7. Gel does not bleed water under stress.

8. Dehydrated gel returns to 90 percent of its original volume and form after prolonged period of low ground water.

9. Do not use catalyst containing dimethyl amino propionitrile (DMAPM).

10. Use root inhibitor (50% active dichlobenil) when roots are present in manholes.

11. Use Latex additive for increased tensile strength.

12. Tinted to allow detection of grout in drill holes or at leakage locations.

13. Approved Manufacturers.

    a. Grout:

        1) Avanti International, AV 118 Duriflex
        2) De Neef, Inc., AC400
        3) Or Equal

    b. Root Inhibitor:

        1) Avanti, Norosac AC 50W
        2) Or Equal

    c. Latex Additive:

        1) Avanti, AV-257 Icoset
        2) Or Equal

B. Urethane Base Grout.

1. Ratio: One part urethane prepolymer to 1 to 10 parts water by volume (10 to 50 percent prepolymer).

2. Liquid prepolymer:

    a. Solids content: 77 to 83 percent.
    b. Specific Gravity: 1.04
    c. Flash Point: 20 degrees Centigrade
    d. Viscosity: 200 to 1,200 centipoise at 70 degrees Fahrenheit

3. Water for reacting prepolymer: pH of 5 to 9
4. Use gel control agent to control cure time as required

5. Final Reaction:

a. Chemically stable, non-biodegradable, flexible gel, impermeable to water at pressures up to 15 psi.

6. Use root inhibitor (50 percent active dichlobenil) when roots are present in manholes.

7. Use Latex additive for increased tensile strength.

8. Tinted to allow detection of grout in drill holes or at leakage locations.

9. Approved Manufacturers:

   a. Grout:

      1) 3M Corporation, Scotch-Seal 5610
      2) De Neef, Inc., Hydroactive Multigel NF
      3) Avanti International, AV 350
      4) Or Equal.

   b. Root Inhibitor:

      1) Avanti, Norosac AC 50W
      2) Or Equal

   c. Latex Additive:

      1) Avanti, AV-257 Icoset
      2) Or Equal

C. Cementitious Reconstruction for Manhole Restoration.

1. Quick setting, high strength, corrosion resistant cementitious material

2. Suitable for rotary spray application to inside of manhole
3. Use additives to increase corrosion resistance or bond strength at manufacturer's direction and with Contract Manager's approval.
4. Initial set time per manufacturer's recommendation and per project conditions.
5. Density when applied: 135 lb/cf +/- 5 lb/cf

6. Compressive strength 9ASTM C109) at 1 day:
   a. Per manufacturer's recommendation
   b. Minimum acceptable for "or equal" products: 2,800 psi

7. Compressive strength (ASTM C109) at 28 days:
   a. Per manufacturer's recommendation
   b. Minimum acceptable or "equal" products: 5,800 psi

8. Bond Strength (ASTM C882) at 28 days:
    a. Per manufacturer's recommendation
    b. Minimum acceptable "or equal" products: 1,640 psi

9. Flexural Strength 9ASTM C78) at 28 days:
    a. Per manufacturer's recommendation
    b. Minimum acceptable "or equal" products: 1,500 psi

10. Shrinkage (ASTM C596) at 28 days: 0 percent

11. Approved Manufacturers:
    a. IPA Systems, Inc., Octocrete
    b. The Strong Company, INc., Strong-Seal
    c. AP/M Permaform, Permacast MS-10,000 or CR-9,000
    d. Sauereisen, F-120 Underlayment
    e. QuadEx Aluminaliner
    f. Or Equal

D. Hydraulic Water Plugs.
1. Rapid setting hydraulic water plug to plug active leaks prior to other rehabilitation work
2. Initial Set Time at 70 degrees Fahrenheit: 60 to 90 seconds
3. Final Set Time at 70 degrees Fahrenheit: One hour

4. Compressive Strength 9ASTM C109) at 28 days:
    a. Per manufacturer's recommendation
    b. Minimum acceptable "or equal" products: 4,000 psi

5. Length Change (ASTM C157): 0 percent

6. Approved Manufacturers:
    a. Saureisen, Instaplug F-180
    b. IPA Systems, Inc., Octoplug Plus
    c. The Strong Company, Inc., Strong-Seal Strong-Plug
    d. AP/M Permaform, Permacast-Plug
    e. Or Equal

E. Oil-free Oakum Water Plugs.
1. Rapid setting oil-free oakum and hydrophilic grout to plug active water leaks prior to other rehabilitation work
2. Oil-free oakum meeting Federal Specification HH-P-117
3. Two-part urethane resin

4. Initial set time: 5 to 10 minutes.
    a. Use accelerator to decrease initial set time

5. Approved Manufacturers:
    a. Avanti International, Oil-free Oakum (AV-219) and Multigrout (AV-202)
    b. DeNeef, Inc., Oil-free Oakum and Hydro Active Sealfoam or Hydro Active Flex LV grout
    c. Or Equal

F. Manhole Chimney Seals.
1. Elastomeric hand applied lining or flexible internal rubber sleeve and appurtenances.

2. Elastomeric liner.
    a. Two part urethane-based elastomer
    b. Initial set time at 70 degrees Fahrenheit: One hour
    c. Minimum thickness: 125 mils.
    d. Tensile strength (ASTM D638): 54 lb/sq. in

3. Internal Rubber Sleeve.
    a. Extruded or molded from high grade rubber compound following ASTM C923
    b. Minimum Tensile Strength (ASTM D412): 1,500 psi
    c. Maximum Compression set: 18 percent
    d. Hardness (durometer): 48 +/- 5
    e. Minimum thickness: 3/16 inch
    f. Sealing fins for watertight seal against manhole chimney
    g. Top and Bottom Expansion Bands: 16 gauge Type 304 stainless steel, minimum width of 1-3/4 inches

4. Approved Manufacturers:
    a. Internal Rubber Sleeve.
        1) Cretex Specialty Products, Manhole Chimney Sleeve
        2) NPC, FlexRib Manhole Frame-Chimney Seal
        3) Or Equal

    b. Elastomeric Liner.
        1) Sauereisen, Manhole Chimney Seal F-88
        2) Or Equal

G. Manhole Liners.
1. Cured in Place Liners.
    a. Multiple structural layers of fiberglass with non-porous membrane layer between fiberglass, or Polyvinyl Chloride/Polyester (PVCP) liner with a fiberglass layer, bonded to manhole under pressure and heat.
    b. Liner fabricated to match manhole dimensions for custom fit.

    c. Epoxy resin.

1) Polyamide Bisphenol “A” Epichlorodhydrin for use with fiberglass lines
2) Modified epoxy resin for use with PVCP liner

d. Approved Manufacturers:
1) Terre-Hill, Multi-Plexx Liner System
2) Poly-Triplex Technologies, Poly Triplex Liner System
3) Or Equal

2. Spray on Epoxy Liners.
a. Two or 3 part epoxy to protect concrete and steel from chemical attack.

b. Minimum thickness
1) Spray on epoxy: 60 mils.
2) Rotary spray on epoxy: 125 mils.

c. Tensile Strength (ASTM C307): Minimum 2,500 psi
d. Flexural Strength (ASTM C580): Minimum 4,600 psi
e. Working time at 70 degrees Fahrenheit: 30 minutes
f. Initial set time at 70 degrees Fahrenheit: 17 hours

g. Approved Manufacturers:
1) Sauereisen, Sewer Gard No. 210, No. 210S or No. 210RS
2) Raven, Raven 400S
3) Terre Hill, Hydropoxxy
4) AP/M Permaform, Cor+Gard
5) SprayRoq, Inc., Spray Wall
6) Or Equal

3. Concrete Protective Liners.
a. High density Polyethylene (HDPE) concrete protective liner.
1) Integrally extruded with anchoring studs, minimum 39 studs per square foot
2) Minimum thickness of liner sheet with anchoring studs: 2 mm
3) Minimum thickness of flat liner sheet at joint overlaps: 3 mm
4) Joints sealed using thermal welding
5) Density (ASTM D792): 0.945 gm/cm^3
6) Elongation at Break (ASTM D638): Greater than 400 percent
7) Minimum abrasion resistance (ASTM D4833): 160 pounds

8) Steel profiles for mounting liner.
a. Maintain minimum 2.5 inch annular space when filling with flowable concrete
b. Maintain minimum 1 inch annular space when filling with grout
c. Anchor bolts: minimum penetration of concrete on manhole wall: 1.5 inches
d. Countersink screws to mount liner to profiles

9) Cement in annular space.
    a. Minimum Compressive Strength: 4,000 psi at 28 days
    b. Minimum aggregate size: 8 mm
    c. Maximum aggregate size: 32 mm

10) Grout in annular space
    a. Minimum Compressive Strength: 6,000 psi at 28 days
    b. Low viscosity, high flowability to fill annular space without voids
    c. Bonds to manhole wall

11) Approved Manufacturers:
    a. AGRU, Sure Grip Concrete Protective Liner
    b. Or Equal

b. Polyvinyl Chloride (PVC) Sheet Liner.
    1) Resin: Minimum 99 percent PVC by weight
    2) Do not use copolymer resins or recycled materials
    3) Minimum thickness: 1.65 mm, with integrally extruded anchoring extensions on maximum 2 inch center and minimum ¼ inch deep.
    4) Joints sealed using thermal welding
    5) Tensile Strength (ASTM C307): Minimum 2,200 psi
    6) Elongation at Break (ASTM D638): 200 percent minimum
    7) Mastic primer and 2-part mastic to seal liner to manhole walls

    8) Approved Manufacturers:
        a. Ameron, Arrow-Lock
        b. Or Equal

4. Cast in Place Concrete Liner.
    a. Formed in place seamless concrete manhole within the existing manhole, extending from bench to frame.
        1) Structurally independent of existing manhole structure

    b. Concrete.
        1) Type I/II Portland cement concrete
        2) Maximum Aggregate Size: 5/8 inch
        3) Fiber reinforcement and plasticizers to produce minimum compressive strength of 4,000 psi at 28 days

    c. Formwork:
        1) Segmented forms in cylindrical and conical sections
        2) Allow adequate annular space for concrete

3) Result in minimum finished manhole opening of 20 inches
4) Sealed at bench and pipe openings to form water stop
5) Removable from within new cast concrete manhole wall

d. When specified, provide PVC or polyethylene liner on new interior manhole wall surface.
1) Minimum thickness: 0.065 inch

2) Ribbed or studded for embedment into concrete
a. Minimum pull out strength: 100 pounds per linear inch.

3) Fit securely to exterior of concrete forms
4) Heat fuse or extrusion weld seams

e. Approved Manufacturers:
1) AP/M Permaform, Permaform Liner
2) Or equal

H. Precast Concrete Manholes: See Section 03400 and Section 02530.

I. Manhole Frames and Covers: See Section 02530.

PART 3 EXECUTION

3.1 PUBLIC NOTIFICATION

A. Maintain service usage throughout duration of project.
1. Maximum amount of time of no service: 8 hours for any property served by sewer.
a. Any service out longer than 8 hours will be bypassed to a sanitary sewer.

2. Public Notification Program.
a. Deliver written notices to each home or business 48 hours before commencement of work being conducted on section, including local telephone number of Contractor contact for inquiries or complaints.
b. Provide owner or occupant a summary of work to be completed, and time and duration of service interruption to building.
c. Contact any home or business that cannot be reconnected within time stated in written notice.
d. Fax or email copies of all delivered notices to Contract Manager.

3.2 MANHOLE PREPARATION

A. Sewer Bypass Pumping

B. Clean interior surfaces of manhole of debris, dirt, oil, grease, remains of old coating materials, and any other extraneous materials following approved submittals for rehabilitation products used.
C. Pressure wash manhole walls to remove loose mortar, concrete, debris following approved submittals for rehabilitation products used.
D. Repair irregularities in manhole following approved submittals for rehabilitation products used.
E. Repair leakage in manhole following approved submittals for rehabilitation products used.
F. Trim and grout incoming laterals and pipes following approved submittals for rehabilitation products used.

G. Remove debris from manhole and sewer.
    1. Handle cleaning water in closed discharge hoses to prevent water and residue from causing damage.

    2. Do not discharge debris through sanitary sewer system
    3. Filter solids-laden water through an approved desilting device
    4. Dispose of residue from cleaning and other construction operations in a manner satisfactory to Contract Manager and authority having jurisdiction over area where work site is located.

3.3 GROUTING

A. Provide 48 hour notice to Contract Manager prior to start of work for equipment inspection.
    1. Allow measurements to be taken
    2. Demonstrate acceptable grout volumetric measuring technique

B. Adjust chemical mixing ratios required for specific application.
    1. Minimum gel time 30 seconds or at Contract Manager's direction

C. Do not block pipes entering/exiting manhole with grout
    1. Use mirror or camera to confirm pipes are not blocked
D. Do not damage manhole structure during operations.
    1. Repair damage at Contract Manager's direction.

E. Protect area of manhole below repair work.
    1. Do not allow solid material to enter sewage flow
    2. Remove protective devices as soon as practicable

F. Manhole Sealing.
    1. Following ASTM F2414 and specified herein
        a. Do not use curtain grout sealing around brick manholes
        b. Drill only the amount of holes necessary to stop leakage
        c. Seal manhole base when specified.

1) Drill holes and inject grout through manhole base.

G. Cementitious Reconstruction.
   1. Mix and handle following approved submittals.
   2. Apply coating materials using rotary spray equipment or spray gun following approved submittals.

   3. Apply beginning at the top of the manhole and work down to bench
      a. Seal around pipe connections and steps

   4. Do not allow solid material to enter sewage flow

   5. Apply thickness following approved submittals
      a. Minimum total thickness: ½ inch

   6. Trowel and brush finish following approved submittals

   7. Cure following approved submittals.
      a. Use curing compound when recommended by manufacturer
      b. Do not allow flow in manhole or traffic over manhole, until manufacturer's minimum cure times have been achieved.

H. Hydraulic Water Plugs
   1. Provide mechanical key by undercutting or square cutting the opening and removing loose materials following approved submittals
   2. Mix, handle, place and cure following approved submittals
   3. Furnish surface following approved submittals and as required for other rehabilitation work.

I. Oil-free Oakum Water Plugs.
   1. Saturate oakum with resin following approved submittals
      a. Use additives as required

   2. Place and cure following approved submittals

J. Manhole Chimney Seals.
   1. Provide smooth circular surface for internal rubber sleeve following manufacturer's requirements
      a. Install following Standard Details
      b. Realign manhole frame and cover if required

   2. Mix, handle, apply and cure elastomeric lining following approved submittals.

K. Manhole Liners.
   1. Cured in Place Liners.
      a. Custom fabricate liner to individual manhole dimensions

1) When finished, liner forms a monolithic structure from the manhole frame to the bench.

b. Line bench area with material placed in the bottom of the manhole and extending a minimum of 6 inches up to the manhole wall
c. Remove manhole steps
d. Saturate liner with resin, place into manhole, pressurize with air or water and cure with hot water, steam or hot air following approved submittals.
e. Finish liner following approved submittals.

2. Epoxy Liners.
   a. Mix and apply following approved submittals
   b. Sagging of epoxy coating not permitted
   c. Seal around pipe connections and steps
   d. Cure following approved submittals

3. Concrete Protective Liners.
   a. Remove manhole steps

   b. Liner attached to wall using supports.
      1) Insert liner sheet into manhole and support following approved submittals
         a. Apply bonding agent compatible with grout or concrete to manhole wall before placing liner
         b. Provide adequate annular space between liner sheet and manhole wall to allow placement of concrete or grout
         c. Secure liner supports to manhole walls
         d. Secure liner to supports
         e. Form liner seams following approved submittals

         f. Place concrete or grout with no wrinkling of liner
            1) Vibrate to prevent voids

         g. After curing, remove internal forms or supports
         h. Finish seams following approved submittals

   c. Liner Attached to Wall Using Mastic.
      1) Apply mastic primer to manhole wall and cure following approved submittals
      2) Apply mastic to primed manhole wall

      3) Apply liner to mastic
         a) Embed anchoring extensions in mastic
         b) Wrinkling of liner not permitted

      4) Finish liner seams following approved submittals

4. Formed in Place Concrete Liner.
    a. Remove manhole steps
    b. Place pipe extensions in manhole at main line and pipes entering manhole

    c. Erect internal forms
        1) Place PVC or PE liner with forms when specified
        2) Seal forms at bench to prevent concrete leakage

    d. Place concrete to prevent segregation of aggregate and cement
    e. Consolidate concrete to fill pockets, seams and cracks in existing manhole wall
    f. Remove formwork when concrete is cured
    g. Finish liner seams following approved submittals
    h. Seal concrete liner at frame and at pipe penetrations following approved submittals.

3.4 RESET/REPLACE FRAME AND COVER

A. Follow Section 02530 and Standard Details.

3.5 REPLACE MANHOLE

A. Follow Section 02530 and Standard Details

3.6 FIELD TESTING

A. Visual inspection to determine integrity of rehabilitation materials and water-tightness.
    1. Provide flow-through plugs for duration of 6 hours
    2. No infiltration or inflow permitted
    3. Repair damage and leakage

B. Test manhole lining for continuity following ASTM D4787 and approved submittals.
    1. Repair holes and discontinuities following manufacturer's recommendations.

C. Test grout and concrete for compressive strength following ASTM C109.

3.7 WARRANTY INSPECTIONS

A. Conduct visual inspection to determine integrity of rehabilitation materials and water-tightness within 3 months of expiration of guarantee period.
    1. Preferably conducted in spring season

B. Accompany Contract Manager on inspections.
C. Inspect 25 percent of manholes rehabilitated at locations selected by Contract Manager.
    1. No infiltration or inflow permitted
    2. If any manhole fails warranty inspection, inspect all manholes in contract with Contract Manager.

PART 4 MEASUREMENT AND PAYMENT

4.1 REPLACE FRAME AND COVER

A. Measurement: By each manhole frame and cover replaced.
B. Payment: At unit price listed in Bid Schedule.
   1. Payment includes removal of existing frame and cover, replacing frame and cover, and disposal of old frame and cover following Section 02530 and Standard Details.

4.2 ADJUSTMENT MATERIALS

A. Measurement: By vertical linear foot of adjustment materials provided.
B. Payment: At price per linear foot listed in Bid Schedule.
   1. Payment includes providing adjustment materials following Standard Details, including at least one grade ring, from bottom of frame and cover to top of manhole cone following Section 02530.

END OF SECTION

SECTION 02958
STRUCTURAL MANHOLE LINING

PART 1 GENERAL

1.1 DESCRIPTION

A. Section includes Work required for the various type of manhole linings identified in the repair schedule contained in the plans. The materials and methods included in this section are designed to eliminate infiltration through manhole walls and enhance structural integrity of severely deteriorated manholes. Materials of linings are spray applied polymeric (epoxy and polyurethane) resins.

1.2 SUBMITTALS

2.1 Contractor shall submit manufacturer's technical literature on material and description of installation method including, but not limited to:

1. Requirements for application, such as temperature and humidity.
2. Requirements for worker safety, such as ventilation and safe handling procedures.
3. Maximum storage life
4. Mixing and proportioning requirements for specific application
5. Pot life
6. Curing time
7. Physical properties
8. Test results on resistance to abrasive chemicals.

1.3 QUALITY ASSURANCE

A. Product application shall be performed only by workmen trained and experienced with specified and trained in confined space entry.

1. Certification: Applicators for spray-applied coating installation shall be certified by the manufacturer.
2. Contractor Experience: Minimum of five (5) years of experience with similar applications of the materials specified.

PART 2 PRODUCTS

2.1 SPRAY APPLIED RESINS

A. The spray-applied coating shall be resistant to hydrogen sulfide gas, sulfuric acid, and other chemical typically found in sanitary sewers.

B. The spray-applied coating shall also be resistant to damage due to impact and abrasion.

C. The spray-applied coating shall be either Raven coating system, or IET coating system or approved equal. The liner shall conform to the minimum physical requirements listed below.

Compressive strength, ASTM D695	10,500 psi
Flexural modulus (initial), ASTM D790	73,500
Flexural strength, ASTM D790	12,000 psi
Bond strength, ASTM D4541	Must exceed substrate tensile strength
Tensile strength, ASTM D638	7,000 psi
Chemical Resistance (ASTM D543) – Exposure to sodium hypochlorite (10 percent) and sulfuric acid (15 percent) for 168 hours	No degradation in physical or mechanical properties.

PART 3 EXECUTION

3.1. GENERAL

A. All pipes in service shall be plugged or bypassed in accordance with Section 02750 before any work is started on the structure. No debris shall be flushed down the line.

B. Only personnel who are aptly trained in confined space entry shall be permitted to enter the structure. All OSHA requirements for confined space entry equipment and permitting shall be complied with. The Contractor shall obtain a confined space entry permit prior to beginning any work.

C. Liners shall completely cover cone, wall, chimney, bench and channel, as applicable, as a one piece solid liner. No voids, leaks, channels or gaps may remain behind the installed liner.

3.2. PREINSTALLATION/SURFACE PREPARATION

A. High Pressure grout: High pressure grout shall be injected from the interior of the manhole surfaces into cracks and voids in order to stop leaks. The use of hydraulic cement will not be allowed.

1. Suitable equipment shall be utilized for pumping the grout from above ground through a hose and injecting the grout under pressure to fill voids beyond the manhole structures. The equipment shall have a means of measuring the among of grout used in gallons.
2. Grout shall be used in accordance with the manufacturer's recommendations for the specific application.
3. The following are acceptable grout products: Avanti AV-202 Multigrout or pre-approved equal.

B. Patching cement: After all loose and deteriorated material has been removed from the interior surfaces of the manhole and after all leaks have been grouted, patching

cement shall be applied to fill in any irregularities to achieve an acceptable smooth surface.

1. Patching cement shall be compatible with the liner material as specified in item 2.1

C. Evaluation of Atmosphere: Prior to entering structures, an evaluation of the atmosphere shall be conducted to determine the presence of toxic, flammable vapors or possible lack of oxygen. The evaluation shall be in accordance with local, state or federal safety regulations.

D. Clean manhole ring and cover free of rust and debris so the lid will properly seat when reinstalling the lid. Use power brushing such as wire wheel on a grinder/needle gun as most types of debris cannot be removed by hand wire brushing.

E. Surfaces to be lined shall be cleaned and abraded to produce a sound surface with adequate profile and porosity to provide strong bond between the lining and substrate.

F. High pressure water jetting (NACE Standard No. 5/SSPC-SP12) abrasive (sand) blasting, and mechanical wire-brushing shall be the methods to remove previous coatings, laitance, contaminated, disintegrated or chalky material. Detergent water cleaning and hot water blasting may be necessary to remove oil and grease.

G. Use of acid for cleaning purposes, no matter how dilute, will not be allowed. Loose or protruding brick, mortar and concrete shall be removed by using a mason's hammer and chisel. Fill any large voids with quick setting cement patch mix recommended by the manufacturer of liner products. The surface to be repaired must be clean and free of any loose materials.

H. Application of liner shall not be made unless the ambient Temperature inside the structure is 50 degrees F or higher and all manhole surfaces are sufficiently dry to ensure proper adhesion of the liner to the existing manhole walls.

I. After the patched areas have cured sufficiently, prepare manhole wall surfaces in accordance with the manhole liner manufacturer's recommendations.

J. All resurfaced or repaired surfaces shall be inspected for cleanliness and suitability to receive spray-applied loner. Additional surface preparation may be necessary prior to application.

K. Apply manhole liner in accordance with manufacturer's recommendation regarding temperature and installation procedures and in accordance with City of Fort

Lauderdale specifications. The liner shall be applied to the invert and walls of the manhole from the bench up to the bottom of the casting.

L. Only manufacturer-certified personnel shall be permitted to install spray-applied liner.

M. Spray equipment shall be specifically designed to accurately ration and apply the coating products and shall be in good working order.

N. Prepared surfaces shall be lined by spray application to a minimum wet film thickness of 200 mils.

O. During application, a wet film thickness gauge meeting ASTM D4414 shall be used. All necessary measurements shall be taken and attested to by the CONTRACTOR. Written reports signed by the CONTRACTOR shall be given to the OWNER and PROJECT MANAGER.

P. Allow the final application to cure for the amount of time recommended by the manufacturer before being subjected to sewage flow, or installation of spray-applied liner (where indicated).

3.3. QUALITY CONTROL

A. Inspect lining system for holidays, crack, and pinholes using the spark-test method and equipment in accordance with NACE RPO 188. Especially check the lining over brick, block, and very rough surfaces.

B. Repair voids and holidays per the manufacturer's instructions.

3.4. SAFETY

A. The CONTRACTOR shall carry out operations under this section in strict accordance with all applicable OSHA Standards. Particular attention is drawn to those safety requirements involving entry into a confined space. It shall be the CONTRACTOR's responsibility to comply with OSHA Standard and Regulations pertaining to all aspects of the work.

PART 4 WARRANTY

Provide a ten (10) year unlimited warranty on all workmanship and products. The work covered by the warranty shall include surface preparation, grouting, line application, as well as other work performed under this section. The warranty shall be effective beginning on the date of final acceptance by City of Fort Lauderdale, and shall guarantee that the manhole will be protected from leaks and from failure due to corrosion from exposure to hydrogen sulfide and other corrosive chemicals normally encountered in raw sewage.

END OF SECTION

SECTION 02958-01
IET COATING SYSTEM

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This specification provides details for furnishing and installing the Integrated Environmental Technologies (IET) coating system for protection of concrete structures against hydrogen sulfide corrosion. Coating materials shall be as manufactured by Integrated Environmental Technologies or pre-approved equal. Installation shall be performed by workers experienced in the application of the coating to be used.

PART 2 PRODUCTS

2.1 IET COATING SYSTEM

A. The IET Coating System shall be as distributed by Integrated Environment Technologies, Santa Barbara, VA or pre-approved equal.

B. Polymorphic Resin shall be a 100% solids, two-component, highly modified polyester resin system, exhibiting no adhesion-interfering shrinkage upon curing. Resin shall cure rapidly within fifteen minutes to one hour without the use of heat or cooling at surface temperatures ranging from -30 degrees Fahrenheit to over +150 degrees. Excellent resistance to a broad range of corrosive chemical, including sulfuric acid created by hydrogen sulfide gas as well as other chemicals typically found in sanitary sewer, and impact and abrasion attack shall be provided.

PART 3 EXECUTION

3.1. IET COATING

A. All pipes in service shall be plugged or bypassed before any work is started on the structure. No debris is to be flushed down the line.

B. Anyone entering the structure must conform to all OSHA requirements for “Confined Space Entry” equipment and permitting.

C. Surface preparation shall meet the requirements of IET Systems Data Sheets on Concrete Preparation and interior surfaces of manhole shall be sound, porous, dry, and free of dust, dirt, oil, grease, and other contaminants prior to application of lining.

D. Interior surface of structure must be pressure washed at 5,000 psi and must be abrasive-blasted with black beauty steel slag to remove all loose patching, old coatings and any contamination in the concrete. No silica sand shall be used.

a. “New” structures shall be abrasive-blasted to remove all oils and patch mud and to open pin holes and expose aggregate.
b. “Rehab” structures shall be abrasive-blasted to remove all loose patching, old coatings, and any contamination that penetrated the concrete. The finished interior of the structure shall be gray. The exposed invert/floor shall also be coated. Where there is severe deterioration of the mortar, place new concrete to match the original interior dimensions after abrasive-blasting and removal of all loose material and by-products of corrosion. Restore invert/floor to the original elevation.
c. Vacuum to remove all abrasives and debris.

E. Repair all leaks by injecting grout using Avanti Multi-grout AV-202 or pre-approved equivalent. Hydraulic cement shall not be used to stop and water leaks.

F. Clean and remove dust material with pressure washing for maximum adhesion. Blow dry concrete at 250 cfm with 12- psi.

G. Apply IET Systems Coating by the use of the IET Systems Spray Unit and IET Systems Spincaster. Apply IET coating at least three different intervals-prime coat, intermediate coat, and finish coat, per IET Systems manufacturer instructions and specifications. The total thickness of the IET coating shall be at least 125 mils.

H. Inspect lining system for holidays, crack and pinholes. Take particular care to check lining over brick, block, heavy spalled surfaces, and other very rough surfaces and locate holes in the lining caused by voids in bricks, block, concrete and structure joints. Fill voids and holidays in accordance with the lining system manufacturer’s instructions.

I. Provide a ten (10) year unlimited warranty on all workmanship and products. The work includes the surface preparation and application of the IET coating system, shall protect the structure for at least ten (10) years from all leaks, and from failure due to corrosion form exposure to corrosive gases such as hydrogen sulfide.

END OF SECTION

SECTION 02958-02
RAVEN COATING SYSTEM

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This specification covers all labor, materials, equipment and services necessary to complete the manhole rehabilitation work using the Raven Coating System as herein specified.

1.2 SUBMITTALS

A. Product Data

1. Technical data sheet on each product used.
2. Material Safety Data Sheet (MSDS) for each product used.
3. Copies of independent testing performed on the coating product indicating the product meets the requirements as specified herein.
4. Technical data sheet and project specific data for repair materials to be topcoated with the coating product(s) including application, cure time and surface preparation procedures.

B. Contractor Data:

1. Current documentation from coating product manufacturer certifying contractor's training and equipment complies with the Quality assurance requirements specified herein.
2. Five (5) recent references of Contractor indicating successful application of coating product(s) of the same material type as specified herein, applied by spray application within the municipal wastewater environment.

1.3 QUALITY ASSURANCE

A. Coating product(s) shall be capable of being installed and curing properly within a manhole environment. Coating product(s) shall be resistant to all forms of chemical or bacteriological attack found in municipal sanitary sewer systems; capable of adhering to the manhole structure substrates.

B. Repair product(s) shall be fully compatible with coating product(s) including ability to bond effectively forming a composite system.

C. Contractor shall be certified by the coating product manufacturer for the handling, mixing, application and inspection of the coating product(s) to be used as specified herein.

D. Inspectors shall be trained in the use of testing or inspection instrumentation and knowledgeable of the proper use, preparation and installation of coating product(s) to be used as specified herein.

E. Contractor shall initiate and enforce quality control procedures consistent with the coating product(s) manufacturer recommendations and applicable NACE or SSPC standards as referenced herein.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Materials are to be kept dry, protected from weather and stored under cover.

B. Protective coating materials are to be stored between 50 F and 90 F. Do not store near flame, heat or strong oxidants.

C. Protective coating materials are to be handled according to their material safety data sheets.

1.5 SITE CONDITIONS

A. Contractor shall conform with all local, state and federal regulations including those set forth by OSHA, RCRA, and the EPA and any other applicable authorities.

B. Confined space entry, flow diversion and/or bypass plans shall be presented by Contractor as necessary to perform the specified work.

1.6 SPECIAL WARRANTY

A. Contractor shall warrant all work against defects in materials and workmanship for a period of ten (10) years, unless otherwise noted, from the date of final acceptance of the project. Contractor shall, within a reasonable time after receipt of written notice thereof, repair defects in material or workmanship which may develop during said ten (10) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and with cost to Owner.

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

A. Standard Portland cement or new concrete (not quick setting high strength cement) must be cured a minimum of 28 days prior to application of the coating product(s).

B. Remove existing coatings prior to application of the coating product(s) which may affect the performance and adhesion of the coating product(s).

C. Thoroughly clean and prepare existing products to effect a seal with the coating product(s)

2.2 REPAIR AND RESURFACING PRODUCTS

A. Repair products shall be used to fill voids, bugholes, and/or smooth transitions between components prior to the installation of the coating product(s). Repair materials must be compatible with the specified coating product(s) and shall be used and applied in accordance with the manufacturer's recommendations.

B. Resurfacing products shall be sued to fill large voids, lost mortar in masonry structures, smooth deteriorated surfaces and rebuild severely deteriorated structures.

C. The following products may be accepted and approved as compatible repair and resurfacing products for use within the specifications:

1. 100% solids, solvent-free epoxy grout specifically formulated for epoxy topcoating compatibility.
2. Factory blended, repair setting, high early strength, fiber reinforced, non-shrink repair mortar that can be trowelled or pneumatically spray applied may be approved is specifically formulated to be suitable for topcoating with the specified coating product(s).

2.3 COATING PRODUCTS

A. Manufacturer: Raven Lining Systems, Broken Arrow, Oklahoma 800-324-2810, 918-615-0020 or FAX 918-615-0140 or **approved equal**.

B. Product: Raven 405 – 100% solids, solvent-free ultra high-build epoxy system exhibiting the following characteristics:

1. Product type: amine cured epoxy
2. VOC Content (ASTM D2584): 0%
3. Tensile Strength, psi (ASTM D695): 18,000 (minimum)
4. Tensile Strength, psi (ASTM D638): 7,500 (minimum)
5. Flexural Modulus, psi (ASTM D790): 600,000 (minimum)
6. Adhesion to Concrete, mode of failure (ASTM D4541): Substrate (concrete) failure.
7. Chemical Resistance (ASTM D5463/G20) all types of service for:
   a. Municipal sanitary sewer environment
   b. Sulfuric acid, 25%
   c. Hydrogen Sulfide Gas, All concentrations
   d. Sodium hydroxide, 5%

2.4 COATING APPLICATION EQUIPMENT

A. Manufacturer approved heated plural component spray equipment.

B. Hard to reach areas, primer application and touch-up may be performed using hand tools.

PART 3 EXECUTION

3.1. EXAMINATION

A. Appropriate actions shall be taken by contractor to comply with local, state and federal regulatory and other applicable agencies with regard to environment, health and safety during work.

B. All structures to be coated shall be readily accessible to Contractor.

C. New Portland cement concrete structures shall have endured a minimum of 28 days since manufacture prior to commencing coating installation

D. Any active flows shall be dammed, plugged or diverted as required to ensure all liquids are maintained below or away from the surfaces to be coated.

E. Temperature of the surface to be coated should be maintained between 40 F and 120 F

F. Specified surfaces should be shielded to avoid exposure of direct sunlight or other intense heat source. Where varying surface temperature do exist, coating installation should be scheduled when the temperature is falling versus rising.

G. Prior to commencing surface preparation, Contractor shall inspect all surfaces specified to receive the coating and notify Owner, in writing, of any noticeable disparity in the site, structure or surfaces which may interfere with the work, use of materials or procedures as specified herein.

3.2. SURFACE PREPARATION

A. Oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts or other contaminants which may affect the performance and adhesion of the coating to the substrate shall be removed.

B. Concrete and/or mortar damaged by corrosion, chemical attack or other means of degradation shall be removed so that only sound substrate remains.

C. Choice of surface preparation method(s) should be based upon the condition of the structure and concrete or masonry surface, potential contaminants present, access to perform work, and required cleanliness and profile of the prepared surface to receive the coating product(s).

D. Surface preparation method, or combination of methods, that may be used include high pressure water cleaning, high pressure water jetting, abrasive blasting, shotblasting, grinding, scarifying, detergent water cleaning, hot water blasting and others described in NACE no. 6/SSPC SP-13. Whichever method(s) are used, they shall be performed in a manner that provides uniform, sound clean neutralized surfaces suitable for topcoating with the coating product(s)

E. Infiltration shall be stopped by using a material which is compatible with the repair products and is suitable for topcoating with the coating product(s).

F. Termination points of the coating product(s) shall be made at the bottom of the manhole frame, a minimum of 1" interfacing with each pipe penetration. The manhole frame and casting shall not be coated.

G. All manhole surfaces shall be sufficiently dry to ensure proper adhesion of liner to the existing manhole walls.

3.3. APPLICATION OF REPAIR AND RESURFACING PRODUCTS

A. Areas where rebar has been exposed and is corroded shall be first prepared in accordance with Section 3.2. The exposed rebar shall them be abrasive blasted and coated with coating product specified.

B. Repair products shall be used to fill voids, bugholes, and other surface defects which may affect the performance or adhesion of the coating product(s).

C. Resurfacing products shall be used to repair, smooth or rebuild surfaces with rough profiles to provide a concrete or masonry substrate suitable for the coating product(s) to be applied. These products shall be installed to minimum thickness as recommended within manufacturers published guidelines.

D. Repair and resurfacing products shall be handled, mixed, installed and cured in accordance with manufacturer guidelines.

E. All repaired or resurfaces shall be inspected for cleanliness and suitability to receive the coating product(s). Additional surface preparation may be required prior to coating application.

3.4. APPLICATION OF COATING PRODUCT(S)

A. Application procedures shall conform to the recommendations of the coating product(s) manufacturer, including environmental controls, product handling, mixing, application equipment and methods.

B. Spray equipment shall be specifically designed to accurately ratio and apply the coating product(s) and shall be in proper working order.

C. Contractors qualified in accordance with section 1.4 of these specifications shall perform all aspects of coating product(s) installation.

D. Prepared surfaces shall be coated by spray application of the coating product(s) described herein to a minimum wet film thickness of 175 mils.

E. Subsequent topcoating or additional coats of the coating product(s) shall occur within the products recoat window. Additional surface preparation procedures will be required if the recoat window is exceeded.

F. Coating product(s) shall interface with adjoining construction materials throughout the manhole structure to effectively seal and protect concrete of masonry substrates from infiltration and attack by corrosive elements. Procedures and materials necessary to effect this interface shall be as recommended by the coating product(s) manufacturer.

G. Termination points of the coating product(s) shall be made at the bottom of the manhole frame, and a minimum of 1" interfacing with each pipe penetration. The manhole frame and casting shall not be coated.

H. Manhole inverts shall be coated.

I. Sewage flow shall be stopped, bypassed or diverted for application of the coating product(s) to the invert and interface with pipe material.

3.5. TESTING AND INSPECTION

A. During application a wet film thickness gauge, meeting ASTM D4414-Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used. Measurements shall be taken, documented and attested to by Contractor for submission to Owner.

B. After the coating product(s) have set in accordance with manufacturer instructions, all surfaces shall be inspected for holidays with high voltage holiday detection equipment. Reference NACE RPO 188-89 for performing holiday detection. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or other hand tooling method. After abrading and cleaning, addition coating can be hand applied to the repair area. All touch-up/repair procedures shall follow the coating manufacturer's recommendations. Documentation on areas tested, results and repairs made shall be provided to Owner by Contractor.

C. Visual inspection shall be made by the project Engineer and/or Inspector. Any deficiencies in the finished coating shall be marked and repaired according to the procedures set forth herein by Contractor.

D. The municipal sewer system may be returned to full operational service as soon as the final inspection has taken place.

END OF SECTION

SECTION 02999
MISCELLANEOUS WORK AND
CLEANUP

PART 1 GENERAL

1.1 SCOPE OF WORK

A. This Section includes operations which cannot be specified in detail as separate items but can be sufficiently described as to the kind and extent of work involved. Furnish all labor, materials, equipment and incidentals to complete the work under this Section.

B. The work of this Section includes, but is not limited to, the following:

1. Restoring of sidewalks, driveways, curbing and gutters.
2. Crossing utilities.
3. Relocation of existing water lines, low pressure, gas lines, telephone lines, electric lines, cable TV lines and storm drains as necessary, all as shown on the drawings.
4. Restoring easements and rights-of-ways.
5. Cleaning up.
6. Incidental work.

1.2 WORK SPECIFIED UNDER OTHER SECTIONS

A. All work shall be completed in a workmanlike manner by competent workmen in full compliance with all applicable sections of these Specifications.

PART 2 PRODUCTS

2.1 MATERIALS

A. Materials required for this Section shall be of at least the same type and quality as materials that are to be restored. Where possible, reuse existing materials that are removed and then replaced, with the exception of paving.

PART 3 EXECUTION

3.1 RESTORING OF CURBING, FENCES, AND GUARD RAILS

A. Existing curbing shall be protected. If necessary, curbing shall be removed from joint to joint and replaced after backfilling. Curbing which is damaged during construction shall be replaced with curing of equal quality and dimension.

3.2 CROSSING UTILITIES

A. This item shall include any extra work required in crossing culverts, water courses, drains, water mains, and other utilities, including all sheeting and bracing, extra excavation and backfill, or any other work required for the crossing, whether or not shown on the drawings.

3.3 RELOCATIONS OF EXISTING GAS LINES, TELEPHONE LINES, ELECTRIC LINES, AND CABLE TV LINES

A. Notify the proper authority of the utility involved when relocation of these lines is required. Coordinate all work by the utility so that the progress of construction will not be hampered.

3.4 PROTECTION AND RESTORATION OF PROPERTY

A. Protection and Restoration of Property: During the course of construction, take special care and provide adequate protection in order to minimize damage to vegetation, surfaced areas, and structures within the construction right-of-way, easement or site, and take full responsibility for the replacement or repair thereof. Immediately repair any damage to private property created by encroachment thereon. Should the removal or trimming of valuable trees, shrubs, or grass be required to facilitate the installation within the designated construction area, this work shall be done in cooperation with the County and/or local communities which the work takes place. Said valuable vegetation, removed or damaged, shall be replanted, if possible, or replaced by items of equal quality, and maintained until growth is re-established. Top soil damaged in the course of work shall be replaced in kind with suitable material, graded to match existing grade. Following construction completion, the work area along the route of the installation shall be finish grade to elevations compatible with the adjacent surface, with grassing or hand raking required within developed areas.

B. Existing lawn surfaces damaged by construction shall be re-graded and re-sodded. These areas shall be maintained until all work under this Contract has been completed and accepted.

3.5 CLEANING UP

A. Remove all construction material, excess excavation, buildings, equipment and other debris remaining on the job as a result of construction operations and shall render the site of the work in a neat and orderly condition.

B. Work site clean-up shall follow construction operations without delay.

3.6 INCIDENTAL WORK

A. Do all incidental work not otherwise specified, but obviously necessary for the proper completion of the Contract as specified and as shown on the drawings.

END OF SECTION

SECTION 15060

PIPING AND FITTINGS

PART 1 - GENERAL

1.1 SCOPE:

A. This section describes materials, testing, and installation of ductile-iron pipe and fittings for water mains, Cast Iron Soil Pipe, and Vitrified Clay Pipe for sanitary Sewer Service, and small diameter Poly Vinyl Chloride Pipe (PVC) with threaded, flanged and solvent cemented joints; Copper Pipe and Fittings, and High Density Polyethylene Pipe for water services. The work included in this section consists of furnishing all material, equipment, craft labor and performing all operations necessary for the supply, installation, and commissioning of all piping, fittings and accessories within the limits of work, as shown on the drawings and specified herein.

B. Where references are made to other standards or codes, unless specific date references are indicated the latest edition of said standard or code shall govern.

1.2 WORK NOT INCLUDED UNDER THIS SECTION:

Piping installation for various types of piping systems is specified other sections herein that constitute City of Fort Lauderdale Design Standards and Construction Details. Installations specified in this section are supplementary to those sections and in the case of conflict the more stringent condition shall prevail. For type PSM SDR-35 PVC and AWWA C900 PVC sewer pipe and fittings see Section UC-250, "Gravity Sewer Systems".

1.3 RELATED SECTIONS:

A. Section 15010 - Basic Mechanical Requirements

B. Section 15065 - Miscellaneous Materials

C. Section 15070 - Jacking and Boring

D. Section 15075 - Aerial Crossings

E. Section UC-250 - Gravity Sewer Systems

F. All sections specifying various types of valves.

1.4 PIPING LAYOUT AND DESIGN CRITERIA:

A. Field verify dimensions prior to preparation of layout and shop drawings. Obtain the following information from the drawings and specifications:

1. Elevation of the pipe centerline and of the completed ground.
2. Alignment of the pipeline.
3. Field test hydraulic gradient elevation (HGL).
4. Nominal internal diameter, ID.
5. Design internal pressure class or HGL

6. Joint types.

B. Obtain shop drawing approval prior to fabrication of piping. All items not specifically mentioned in the Specifications or noted on the approved Plans, but which are reasonably necessary to for a complete, functional, and satisfactory installation shall be included.

1.5 SUBMITTALS

A. Submit shop drawings in accordance with the General Provisions.

B. Provide an affidavit of compliance with standards referenced in this specification, e.g., AWWA C151, AWWA C153, etc.

C. Submit copy of report of pressure tests for qualifying the designs of all sizes and types of pipe and fittings that are being used in the project. The pressure test shall demonstrate that the minimum safety factor described in relevant standard is met.

D. Submit piping layout profile drawings showing location and dimensions of pipe and fittings; submit after equipment and valve submittals have been reviewed and marked **"Resubmittal not required."** Include laying lengths of valves, meters, in-line pumps, and other equipment determining piping dimensions. Label or number each fitting or piece of pipe. Piping having identical design pressure class, laying lengths, and bell-and-spigot dimensions that is to be placed in long straight reaches of alignment may have the same identifying label or number.

E. Provide the following information:

1. Mortar lining thickness.

2. Wall thickness.

3. Material test data for this project.

4. Show deflections at push-on and mechanical joints.

5. Submit joint and fitting details and manufacturer’s data sheets.

F. Fully detailed drawings of all fittings proposed shall be supplied by the manufacturer with his bid. The tabulated nominal weight of each size and type of fitting shall also be supplied by the manufacturer for all items proposed. This weight shall be that of the bare casting prior to application of any lining or coating.

G. Submit calculations and test data proving that the proposed restrained joint arrangement for restrained joint pipe can transmit the required forces with a minimum safety factor of 1.5.

H. Submit copy of manufacturer's quality control check of pipe material and production. Include hydrostatic test records and acceptance test records. For each acceptance test, submit a stress-strain diagram showing yield strength, yield point, tensile strength, elongation, and reduction in area. Provide specimen test section dimensions and speed and method used to determine speed of testing, method used for rounding of test results, and reasons for replacement specimens, if any. Submit ring-bending test of pipe of the same diameter and pressure class as the pipe required for this project to prove ring-bending stress at 48 ksi results in a factor of safety of 2.0.

I. For Ductile Iron Pipe and fittings, submit certificate that cement for mortar lining complies with ASTM C150, designating type.

J. Submit test report on physical properties of rubber compound used in the gaskets.

K. Submit test reports and certifications for ceramic epoxy lining as specified herein. Submit applicators qualifications. Submit manufacturer's written recommendations for application and repair of coating.

L. Submit drawing or manufacturer's data sheet showing flange facing, including design of facing serrations.

M. Submit weld procedure specification, procedure qualification record, and welder's qualifications prior to any welding to ductile-iron pipe or fittings.

1.6 DELIVERY, STORAGE, AND HANDLING

A. During shipping, delivery and installation of pipe and accessories, handle in a manner that is incompliance with the manufacturer's recommendations, and employ procedures that ensure delivery of an undamaged operable product

B. Exercise particular care not to damage coatings by limiting exposure or physical contact with other materials, objects, or the environment.

1.7 INSPECTION

The Owner's Representative will inspect materials, production, and testing of pipes, fittings, and special pieces at manufacturer's plant.

1.8 QUALITY ASSURANCE

All pipe, fittings and other materials supplied under this contract shall be subject to inspection while still on the delivery truck. It is the sole responsibility of the vendor and supplier to make prior contact with the Storekeeper or the Construction Management section and provide a minimum of 48-hours prior notice of delivery. When so notified, the Department will make arrangements for inspection of the material upon arrival or within a reasonable time thereafter. Material shall not be unloaded without inspections taking place either prior to or, if necessary for examination, during the unloading procedure. The Department will not be responsible for any delays or additional costs created by non- compliance with the requirement for prior notification or the requirement for thorough inspection.

Materials shall be delivered in complete compliance with the AWWA Standards as modified herein, without damage, and shall match or exceed the quality of any samples supplied. The Department absolutely reserves the right to require samples of any material supplied and to perform whatever tests considered by the Engineer, whose decision shall be final, to be in the Department's best interest on said samples. Where such tests are of a destructive nature, the sample, if it passes the test will be paid for (at cost as shown by invoice) by the Department. Samples failing will be immediately replaced with suitable material at the supplier's/contractor's expense. Samples required prior to order as a condition for purchase or as a materials submittal for approval will be at the supplier's/contractor's expense but, if approved and not used for destructive tests, may be used in the work with permission from

the Engineer.

Materials found to be defective, not in strict compliance with the quality standards of samples supplied or these specifications shall be immediately returned to the vendor at his expense. If defects are discovered at a later time, the vendor shall be required to remove said items and shall bare all costs for so doing together with any replacement costs. Rejection of items may subject the vendor to liquidated and/or actual damages as specified elsewhere herein.

Foundries supplying materials shall maintain their metallurgical records for a minimum period of two years after fabrication and firms not doing so may be found in default.

Flaws which provide cause for rejection include;

1. Incorrect metallurgy or metallurgy which cannot be verified to the complete satisfaction of the Engineer;

2. Foundry identification/location, size, pressure and material identification information lost, removed, non-existent, or not visible when assembled;

3. Not in complete compliance with all applicable AWWA Standards as modified herein and/or these specifications;

4. Not in compliance with NSF;

5. Not in compliance with approved shop drawings;

6. Out of roundness in excess of AWWA requirements;

7. Dimensional differences in excess of AWWA requirements;

8. Rough exterior coating;

9. Chipped, cracked, scratched or otherwise damaged interior or exterior coatings or linings;

10. Interior or exterior coatings which are too thin;

11. Coatings too thick to allow proper assembly; coatings too thick to allow proper grip by restraining gaskets or other restraining elements;

12. Pin holes or honey combing of pipe;

13. Weld spatter or excess metal in gasket grooves or the whole of the bell area;

14. Bell areas which are distorted or otherwise improperly cast;

15. Spigots which are out of round, not of proper dimension, or not beveled to an extent that will allow easy assembly of the pipe joint;

16. Gaskets which are defective or of the wrong material;

17. Lack of joint materials;

18. Improper or defective joint materials;

19. Bolting of the wrong material or size;

20. Electro galvanizing or other exterior plating when hot-dip galvanizing is required;

21. Incorrect, flawed or damaged interior coating or lining;

22. Lack or non-submittal of all required certifications;

23. Non-timely submission of certifications; incorrect/incomplete certifications or certifications lacking the signature, date and seal of a professional engineer when so required;

24. Flanges which are too thin, not a right angles to the pipe centerline, or otherwise distorted;

25. The above listed items together with all other flaws or defects which in the opinion of the Engineer, whose decision shall be final, adversely affect the assembly and/or function of the piping system as intended.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS: DUCTILE IRON

A. GENERAL

As used herein, "ANSI" denotes the American National Standards Institute, "AWWA" denotes the American Water Works Association, and "ASTM" denotes the American Society for Testing and Materials.

All pipe and fittings to be furnished hereunder shall conform to the referenced ANSI and/or AWWA Standard as modified herein, as appearing in the following sections.

All markings required on pipe and fittings, shall be permanent and clearly legible and located such that they will not be hidden or destroyed when assembled into the intended system. Plainly mark each length of straight pipe and each fitting at the bell end to identify the design pressure class, the wall thickness, and the date of manufacture, and the proper location of the pipe item by reference to the layout schedule. Mark the spigot end of restrained joint pipe to show clearly the required depth of insertion into the bell.

B. DUCTILE IRON PIPE

All pipes shall be ductile iron pipe conforming to ANSI/AWWA Standard C151/A21.51-09, "Ductile-Iron Pipe, Centrifugally Cast, for Water". All pipe and fittings for water applications shall be in full compliance with ANSI/NSF 61, "Drinking Water System Components-Health Effects". Manufacturers shall maintain their NSF certification for the duration of the Contract and any extensions thereof.

The pipe thickness and outside diameter of pipe for sanitary sewer and water usage shall

conform to Tables 1 and 2 (for push-on and mechanical joint pipe, respectively) of ANSI/AWWA Standard C151/A21.51-09 for the following sizes. The pressure class specified is the minimum permitted:

Size	Pressure Class
4-inch through 12-inch	350
14-inch through 20-inch	250
24-inch	200
30-inch through 54-inch	150

For restrained joint pipe, the thickness of the pipe barrel remaining after grooves are cut, if required in the design of restrained end joints, shall not be less than the nominal wall thickness of equal sized non-restrained joint pipe as shown above.

Minimum wall thickness for pipe having threaded flanges shall be Special Class 53 or Pressure Class 350.

Minimum pipe wall thickness required for corporation stops and tapped outlets shall be in accordance with Table A.1 of ANSI/AWWA C151/A21.51-09 for three full threads for design pressures up to 250 psi and four full threads for design pressures over 250 to 350 psi.

For flanged ductile-iron pipe with integrally cast flanges or threaded flanges, the nominal wall thickness of the pipe barrel shall be as specified in Section 3.3, "Joints and Accessories" under "Flanged Joints", herein below.

Minimum wall thicknesses for pipe having grooved-end joints shall be as shown in the following table:

DI Pipe and Fitting Sizes (inches)	**Grooved End Joint Wall Thickness***
16 and smaller	Special Class 53
18	Special Class 54
20	Special Class 55
24 to 36	Special Class 56
42 and larger	Special Class 53 or Pressure Class 350
*Special Class and Pressure Class per AWWA C151-09.	

Each piece of pipe shall be marked as required in Subsection 4.7 of AWWA C151-09. Letters and numerals on pipe sizes 12-inch and smaller shall be not less than 3/8-inch.

The Water and Sewer Department absolutely reserves the right to require the use of "thickness" class pipe or higher pressure class pipe in applications where in the opinion of the Engineer (i.e. the Chief, Engineering Division, M-D WASD or his representative) such use is in the best interest of the Department. The Engineer's decision in this regard shall be final.

A sufficient quantity of non-toxic vegetable soap lubricant shall be supplied with each shipment of pipe. The soap lubricant shall be suitable for use in subaqueous trench

conditions.

Single gasket push-on pipe shall be shipped in standard 18-foot or 20-foot lengths, but not both. Restrained single-gasket push-on joint pipe shall be shipped in standard 18 or 20-foot lengths as specified above or fabricated lengths as noted in each order. At least two lengths of each size of single gasket push-on pipe furnished under each order shall be tested with circumferential gauges to ensure that the pipe may be cut at any point along its length and have an outside diameter which will be within the manufacturer's standard design dimensions and tolerances for plain pipe. These lengths shall be identified with an easily distinguished, painted marking, longitudinally along the full length of the pipe.

C. FITTINGS

Fittings Conforming to ANSI/AWWA C110/A21.11-12 (Water & Sewer Use)

Restrained push-on joint fittings shall be cast ductile iron for use with ductile-iron pipe as specified above. Standard mechanical joint, push-on joint and flanged joint fittings shall also be ductile iron for use with ductile-iron pipe as specified above. Cast ductile-iron fittings in the 3-inch through 24-inch size range shall be pressure rated at 350 psi, minimum; (except flange-joint fittings shall be rated at 250 psi, minimum); and in the 30-inch through 54-inch-inch size range shall be pressure rated at 250 psi, minimum. All fittings with mechanical joints, flange joints and push-on joints shall conform to ANSI/AWWA Standard C110/A21.10-12, "Ductile-Iron and Gray-Iron Fittings ". In addition, fittings with mechanical joints and push-on joints shall conform to ANSI/AWWA Standard C111/A21.11-12, "Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings".

The weight of fittings shall be as given in ANSI/AWWA C110/A21.11-12 for ductile-iron fittings. The weight of mechanical joint fittings shall be as established in Tables 4 through 13. The weight of flanged joint fittings shall as established in Tables 14 through 21.

Fittings Conforming to ANSI/AWWA C153/A21.53-11 (Water & Sewer Use)

All fittings shall be cast ductile-iron for use with ductile-iron pipe as specified above. Fittings in the 3-inch through 24-inch size range shall be pressure rated at 350 psi, minimum; 30-inch through 48-inch size range shall be pressure rated at 250 psi, minimum; and in the 54-inch through 64-inch size range shall be pressure rated at 150 psi, minimum (except for those fittings such as plugs, caps, and sleeves which are normally rated at a higher pressure). No flanged fittings or mixtures of flanged with other end type fittings will be allowed in the range of 3-inch through 48-inch. All fittings with mechanical joints, flange joints and push-on joints shall conform to ANSI/AWWA Standard C153/A21.53-11, "Ductile-Iron Compact Fittings ". In addition, fittings with mechanical joints and push-on joints shall conform to ANSI/AWWA Standard C111/A21.11-12, “Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings" except as otherwise allowed in C153. Mechanical joint glands shall be ductile-iron only.

The weight of a fitting supplied under the contract shall not be less than ninety-five (95) percent of the tabulated nominal weight supplied by the manufacturer’s catalog literature for that fitting. Further, the weight of fittings supplied shall not be more than five (5) percent above the same tabulated nominal weight.

D. JOINTS AND ACCESSORIES

Joints in below-ground piping shall be flexible push-on or Mechanical joints, except where

flanged joints are required to connect to valves, meters, and other equipment. Provide unrestrained buried joints except where restrained joints are specifically shown in the drawings. Joints in aboveground or submerged piping or piping located in vaults and structures shall be grooved end or flanged.

Restrained joints for piping 6 inches and larger shall be American Cast Iron Pipe "Lok-Ring" or "Flex-Ring," U.S. Pipe "TR-Flex," or equal. Weldments for restrained joints shall be tested by the liquid penetrant method per ASTM E165. Restrained joints for field closures shall be “Megalug” by EBAA Iron.

Push-On Type Joints (Single Gasket and Single Gasket with Gasket Restraint)

Push-on joints shall conform to ANSI/AWWA Standard C111/A21.11-12, except that the gaskets for pipe and fittings shall be neoprene unless otherwise specified.

The required number of gaskets for each push-on joint pipe plus one extra for every 50 joints or fraction thereof, shall be furnished with each order. The gaskets shall be shipped in suitable protective containers. All single gasket pipe shall be as manufactured by United States Pipe and Foundry Company (Tyton), by the American Cast Iron Pipe Company (Amarillo Fastite), by McWane, Inc. (Mix of Tyton and Fastite), Tyler/Union (Tyton) or approved equal.

Push-on joints together with both their regular and gasket-restraint gaskets shall be of the design, dimensions and tolerances of either those provided by American Cast Iron Pipe Company (Amarillo Fastite/Fast-Grip) or those provided by United States Pipe and Foundry Company (Tyton/Field Lok). No other designs will be acceptable.

The pressure rating shall be stamped on the restrained gasket. The restrained gasket and joint restraining system shall conform to ANSI/AWWA Standard C111/A21.11-12 (with neoprene required for sewer) rated at the following:

Size	Pressure Rating (Min.)
4-inch through 12-inch	350
14-inch through 20-inch	250
24-inch	200
30-inch and above	150

The restrained gasket shall be manufactured a color other than black to allow for visual inspection of the pipeline. The restrained gasket color shall be consistent throughout the system and shall be inherent within the rubber, not painted.

Mechanical Joints

Mechanical joints for fittings shall conform to ANSI/AWWA Standard C111/A21.11-12, except that the gaskets for each fitting under Groups D and D1 shall be neoprene. Bolt holes for mechanical joints shall be equally spaced, and shall straddle the vertical centerline. Tee head bolts and hexagonal nuts for all mechanical joints in fittings shall be of high strength low-alloy steel with composition, dimensions and threading as specified in ANSI/AWWA Standard C111/A21.11-12. Glands shall be of ductile-iron construction for ductile iron fittings, and cast gray iron or ductile iron for cast gray-iron fittings.

The proper number of gaskets, glands, bolts and nuts, all conforming to ANSI/AWWA Standard C111/A21.11-12, plus one extra gasket for every 10 joints or fraction thereof, shall be furnished with each order. The gaskets and joint accessories shall be shipped in suitable protective containers. Follower glands held in place with set screws will not be acceptable. Segmented glands will not be acceptable.

Mechanical Joint Megalug-Type Restraining Systems

In any mechanical joint or push on joint underground piping system restrained glands may be utilized for underground pipeline. The ASTM A536 ductile iron casting of the restrained gland shall be bonded powder coated. The wedge and wedge assembly shall have a bonded liquid polymer coating applied for corrosion protection. The gland shall utilize torque limiting twist off wedge actuation screws.

Foreign and domestic manufactured restrained glands are allowed for pipelines 24-inches and below unless otherwise required by the Department due to Federal or State funded projects which require domestic manufacture. In sizes 30, 36, 42 and 48-inch the prior written permission of the Engineer is required to use non-domestic manufactured restraining glands. The country of origin shall be clearly identified on the restraining gland and shop drawing.

The Department absolutely reserves the right to require other forms of restraint where in the opinion of the Engineer the use of this form of restraint is not in the best interest of the Department and his decision shall be final. Use of this type of restraint is restricted to underground mechanical joint or push-on joint applications and in general may not be used above grade or as a substitute for flanged joints.

The Megalug restraint systems manufactured by EBAA Iron Sales, Eastland Texas, will be considered the standard of quality for comparison purposes and if the Department has any doubts as to the durability, quality or ability to restrain of a proffered substitute, the entity offering the substitute shall bear the entire burden of proving this equality to the complete satisfaction of the Engineer. Other manufacturers producing this type of restraint system shall submit data with their shop drawings showing that their restraint system has been in the marketplace for a minimum of three years in this country.

Each thrust-resistant mechanical joint or push on joint made up with this type of restraint and the pipe and fitting of which it is a part, shall be designed to withstand an axial thrust from an internal pipeline pressure of at least 150 psi at bulkhead conditions without reduction because of its position in the pipeline nor for support from external thrust blocks.

This type of joint restraint shall not be used above grade except as previously specified nor shall it be used as a carrier pipe within a casing. This type of restraint shall not be used with tape wrapped pipe or with too great a coating thickness on the exterior of the pipe.

Restrained Push-on Joints (Single Gasket Non-Gasket Restrained)

Restrained joints in pipe and fittings shall be of the single gasket push-on type, and shall conform to all applicable provisions of ANSI/AWWA Standard C111/A21.11-12, except that gaskets for pipe and fittings shall be neoprene, where so specified, and the following requirements:

Thickness of the pipe barrel remaining at grooves cut, if required in the design of restrained end joints, shall not be less than the nominal wall thickness of equal sized non-restrained pipe

as specified in Section 3.1 above.

Restrained joints using field welding, set screws, or gaskets with expanding metal inserts are not acceptable.

The restraining components, when not cast integrally with the pipe and fittings, shall be ductile iron or a high strength non-corrosive alloy steel.

Tee head bolts and hexagonal nuts for all restrained joints in pipe and fittings shall be of high strength low-alloy steel with composition, dimensions and threading as specified in ANSI/AWWA Standard C111/A21.11-12, except that the length of the bolts shall meet the requirements for the restrained joint design.

The proper number of gaskets, bolts, nuts and all necessary joint material, plus one extra gasket for every 10 joints or fraction thereof, shall be furnished with each order. The gaskets and joint accessories shall be shipped in suitable protection containers.

Each thrust-resistant joint and the pipe and fitting of which it is a part, shall be designed to withstand the axial thrust from an internal pipeline pressure of at least 150 psi at bulkhead conditions without reduction because of its position in the pipeline nor for support from external thrust blocks.

Restrained push-on joint pipe and fittings shall be capable of being deflected after assembly. During deflection, all components in the restrained system shall be in contact to provide an equal force on all contact areas.

When restrained spigot ends are ordered for items of Group A, the corresponding bell ends of the pipe to be restrained (also within Group A), shall be furnished with the required matching restraining features at no additional cost other than the price bid per foot of pipe.

Flanged Joints

Connecting pieces with one end flanged and the other end either plain-end or mechanical joint, shall conform to ANSI/AWWA Standard C110/A21.10-12. Joint material for both the flanged end and the mechanical joint accessories for connecting pieces with a mechanical joint end shall be furnished as specified.

Other types of flanged fittings, and flanged pipe, shall conform to the following requirements unless otherwise stated in the order:

Flanged fittings shall conform to ANSI/AWWA Standard C110/A21.10-12, as specified hereinabove.

Flanged ductile-iron pipe with integrally cast flanges shall be manufactured in accordance with ANSI/AWWA Standard C151/A21.51-09, and with provisions contained hereinabove for centrifugally cast ductile iron pipe, and shall be furnished with ANSI Standard Class 125 flanges, plain faced and drilled, conforming to ANSI Standard B16.1, "Cast Iron Pipe Flanges and Flanged Fittings", latest revision. Hollow back flanges are not acceptable.

Flanged ductile-iron pipe with threaded flanges shall be manufactured in accordance with ANSI/AWWA Standard C115/A21.15-11, "Flanged Ductile-Iron Pipe With Ductile-Iron or Grey-Iron Threaded Flanges", and shall be rated for a working pressure of 250 psi, minimum. The

nominal thickness of flanged ductile-iron pipe, 6-inch and larger, shall not be less than those shown in Table 1 of ANSI/AWWA Standard C115/A21.15-11. The nominal thickness of 4-inch flanged ductile-iron pipe shall be Class 54 (min.) conforming to Tables 3 and 4 of ANSI/ Standard C151/A21.51-09. Flanges shall be solid-back.

The pipe shall be furnished with ANSI Standard Class 125 flanges, plain faced and drilled, conforming to ANSI Standard B16.1, latest revision. Hollow back flanges and grey-iron flanges shall not be acceptable for use as threaded flanges. Threaded flanges shall be individually fitted and machine tightened on the threaded pipe by the manufacturer, and shall not be interchangeable in the field.

Flanges shall be back-faced parallel to the face of flange. Prior to assembly of the flange onto the pipe, apply a thread compound to the threads to provide a leak-free connection. There shall be zero leakage through the threads at a hydrostatic test pressure of 250 psi without the use of the gasket. Pipe lengths shall be as ordered. Removal of flanges, cutting and re-threading the pipe, and re-installing the flanges will not be permitted in any case. Where a raised face flange connects to a flat-faced flange, remove the raised face of the flange.

All flanges on ductile-iron pipe and fittings shall be of ductile iron, class 70-50-5 in accordance with ANSI/AWWA C110/A21.10. All joint materials for flanged pipe and fittings, shall be supplied with all pipe or fittings ordered. Bolts and nuts shall comply with all requirements of Appendix Section A.1 of ANSI/AWWA Standard C115/A21.15-11 except that both shall be stainless steel. Bolts shall be of sufficient length to fully engage all threads in the nut. Unless ring gaskets are specified, gaskets shall be full-faced, and gaskets shall be of 1/8-inch thickness. Gaskets shall fully conform to the requirements of ANSI/AWWA Standard C115/A21.15-11 Appendix Section A.2 except that gaskets shall be SBR for water and neoprene for sewer usages.

Grooved-end Fittings and Couplings

Grooved-end fittings shall conform to ANSI/AWWA C110/A21.10-12 with grooved ends conforming to ANSI/AWWA C606-11, radius cut rigid joints. Fitting material shall conform to ASTM A48, Class 30; ASTM A126, Class B; or ASTM A536, Grade 65-42-10. Wall thickness of ductile-iron (ASTM A536) fittings shall conform to AWWA C110 or C153; wall thickness of cast-iron fittings shall conform to AWWA C110. Fittings and couplings shall be furnished by the same manufacturer.

Grooved-end pipe couplings shall be ductile iron, ASTM A536 (Grade 65-45-12). Gaskets shall be Buna-N and shall conform to ASTM D2000. Bolts in exposed service shall conform to ASTM A183, 110,000-psi tensile strength. Bolts in buried or submerged service shall be ASTM A193, Grade B8, and Class 2.

Couplings for pipe 24 inches and smaller shall conform to AWWA C606 for flexible radius ductile-iron pipe, except where rigid radius couplings are required to connect to fittings. Couplings for pipe sizes 30 and 36 inches shall be in accordance with the coupling manufacturer's published literature for tolerances and dimensions for flexible and rigid radius cut joints. Couplings shall be Victaulic Style 31, Gustin-Bacon No. 500, or equal.

Couplings for pipe larger than 36 inches shall conform to AWWA C606 for shouldered end pipe. Couplings shall be Victaulic Style 44 or equal.

Grooved-end adapter flanges for piping 24 inches and smaller having an operating pressure of 150 psi and less shall be Victaulic Style 341 or 342 or equal. Flange dimensions shall conform to ASME B16.1, Class 125.

Grooved-end transition couplings for connecting ductile-iron pipe 12 inches and smaller to steel pipe shall be Victaulic Style 307 or equal.

Outlets and Nozzles

Provide outlets three quarters of an inch and smaller by direct tapping Ductile Iron Pipe in accordance with AWWA C600-10, Section 4.8. Provide outlets larger than three quarters of an inch up to 2 inches by tapping the pipe and attaching a service clamp. or use a threaded welded-on boss. Use stainless steel clamps for exposed piping. For outlets larger than 2 inches, use a tee with a flanged outlet. For outlets larger than 2 inches in buried piping, use a tee with a restrained joint outlet.

Ductile-Iron Pipe Weldments

All welding to ductile-iron pipe, such as for bosses, joint restraint, and joint bond cables, shall be done at the place of manufacture of the pipe. Perform welding by skilled welders experienced in the method and materials to be used. Welders shall be qualified under the standard qualification procedures of the ASME Boiler and Pressure Vessel Code, Section IX, Welding Qualifications.

Welds shall be of uniform composition, neat, smooth, full strength, and ductile. Completely grind out porosity and cracks, trapped welding flux, and other defects in the welds in such a manner that will permit proper and complete repair by welding.

Material for fittings with welded-on bosses shall have a Charpy notch impact value of minimum 10 ft-lbs under the conditions defined in ANSI/AWWA C151/A21.51-09. Test completed welds by the liquid penetrant method per ASTM E165.

Completed welds shall be inspected at the place of manufacture by the liquid penetrant method. Conform to the requirements specified in ASTM E165, Method A, Type I or Type II. The materials used shall be water washable and nonflammable.

E. LININGS AND COATINGS

Polyethylene Encasement

For non-submerged applications, all Ductile Iron Pipe and fittings shall be wrapped with V-Bio Polyethylene Enhanced Encasement in accordance with AWWA C600 and ANSI/AWWA C105/A21.5-, Standard for Polyethylene Encasement of Ductile-Iron Pipe Systems. . Film low-density, polyethylene film and shall be 8 mils thick. Color shall be Blue for Potable Water, Purple for Recycled water, and green for sanitary sewage service. Alternatively, or if specified, polyethylene encasement for use with ductile iron pipe systems shall consist of three layers of co-extruded linear low density polyethylene (LLDPE), fused into a single thickness of not less than eight mils. The inside surface of the polyethylene wrap to be in contact with the pipe exterior shall be infused with a blend of antimicrobial biocide to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion. Product: V-

Bio or equal.

Polyethylene encasement for ductile-iron pipe shall be supplied as a flat tube meeting the dimensions of Table 1 in AWWA C105 and shall be supplied by the ductile-iron pipe manufacturer.

Plastic adhesive tape shall consist of polyolefin backing and adhesive which bonds to common pipeline coatings including polyethylene. Products: Canusa Wrapid Tape; Tapecoat 35; Polyken 934; AA Thread Seal Tape, Inc.; or equal.

Install the polyethylene to completely encase the pipe and fittings to provide a watertight corrosion barrier. Continuously secure overlaps and ends of sheet and tube with polyethylene tape. Make circumferential seams with two or more complete wraps, with no exposed edges. Tape longitudinal seams and longitudinal overlaps, extending tape beyond and beneath circumferential seams. Wrap bell-spigot interfaces, restrained joint components, and other irregular surfaces with wax tape or moldable sealant prior to placing polyethylene encasement. Minimize voids beneath polyethylene.

Place circumferential or spiral wraps of polyethylene tape at 2-foot intervals along the barrel of the pipe to minimize the space between the pipe and the polyethylene. Overlap adjoining polyethylene tube coatings a minimum of 1 foot and wrap prior to placing concrete anchors, collars, supports, or thrust blocks. Hand-wrap the polyethylene sheet, apply two complete wraps with no exposed edges to provide a watertight corrosion barrier, and secure in place with 2-inch-wide plastic adhesive tape. Repair polyethylene material that is damaged during installation. Use polyethylene sheet, place over damaged or torn area, and secure in place with 2-inch-wide plastic adhesive tape.

Repair polyethylene encasement at all service connections in accordance with AWWA C600-10, Section 4.8.

Asphaltic Coating

All Ductile Iron pipe and fittings shall be outside-coated with an asphaltic material applied by means of the airless spray method. The exterior coating shall comply with ANSI/AWWA C151/A21.51-09 for this type of coating, shall be smooth without pinholes, thin, bare or overly thick areas. Smoothness shall be such that when hand rubbed, no “sand paper” feeling will be experienced and such that the spigot area will readily slide through the gasket without pulling, tearing, rolling or otherwise disturbing the sealing capabilities of the gasket. Spigot ends shall be beveled prior to coating to an extent that will permit ready insertion of the spigot through the gasket area.

Cement-Mortar Lining

Ductile Iron Pipe and fittings unless otherwise specified shall be double-thickness cement-lined and seal-coated in accordance with ANSI/AWWA Standard C104/A21.4-14, "Cement-Mortar Lining for Ductile-Iron Pipe and Fittings ".

Ceramic Epoxy Lining

Ductile Iron Pipe and fittings where so specified shall be lined with ceramic epoxy

Ceramic epoxy shall contain pigmentation to resist ultraviolet exposure under the same

conditions.

All ductile iron pipe and fittings for which ceramic epoxy lining is to be applied shall be delivered to the application facility without asphalt, cement lining or other lining on the interior surface or the first 6 inches on the spigot end of the pipe exterior.
Ceramic epoxy material shall be a high-build multi-component Amine cured Novalac epoxy, Protecto 401, by Vulcan Painters, Inc. of Bessemer, AL 35021 or Department-approved equal.

Ceramic epoxy material shall meet the following criteria and shall be accompanied by certification of the following test results:

A. A permeability rating of 0.00 when tested according to Method A of ASTM E96-00 "Test Method for Water Vapor Transmission of Materials", Procedure A with a test duration of 30 days.

B. The following test must be run on coupons from factory lined ductile iron pipe:

   1. ASTM B117 Salt Spray (scribed panel) - Results to equal no more than 0.5mm undercutting after one year.

   2. ASTM G95 Cathodic Disbondment 1.5 volts @ 77 degrees F. Results to equal no more than 0.5mm undercutting after 30 days.

   3. Immersion Testing rating using ASTM D714-87 (1994).
      a. 20% Sulfuric Acid - No effect after one year.
      b. 25% Sodium Hydroxide - No effect after one year.
      c. 160° F. Distilled Water - No effect after one year.
      d. 120° F. Tap Water (scribed panel) - 0.0 undercutting after one year with no effect.

C. A statement from the manufacturer attesting to the fact that at least 20% of the volume of the lining contains ceramic quartz pigment.

D. A statement concerning recoat ability and repair to the lining.

<u>Ceramic Epoxy Application</u>

a. The lining shall be applied by a competent firm with a successful history of applying linings to the interior of ductile iron pipe and fittings.

b. Surface Preparation
   Prior to abrasive blasting, the entire area which will receive the protective compound shall be inspected for oil, grease, etc. Any areas where oil, grease or any substance is present which can be removed by solvent shall be solvent cleaned using the guidelines outlined in SSPC-1 Solvent Cleaning. After the surface has been made free of grease, oil or other substances, all areas to receive the protective compounds shall be abrasive blasted using compressed air nozzles with sand or grit abrasive media. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface. Only slight stains and tightly adhering annealing oxide may be left on the surface. Any area where rust reappears before coating must be re-blasted to remove all rust.

c. Lining Application

After the surface preparation and within 8 hours of surface preparation, apply to the interior of pipe and fittings a minimum forty (40) mils dry film thickness of the protective lining. No lining shall take place when the substrate or ambient temperature is below 40 degrees Fahrenheit. The surface also shall be dry and dust free. If flange ends are included in the Project, the linings shall not be used on the face of the flange; however, full face gaskets must be used to protect the ends of the pipe. The 40-mil system shall not be applied in the gasket grooves.

d. Coating of Gasket and Spigot Ends

Coat the gasket area and exterior of the spigot end for 6 inches back from the end of the spigot with six (6) mils minimum, ten (10) mils maximum of Protecto Joint Compound. This coating shall be applied by brush to ensure complete coverage. Care shall be taken that the coating is smooth without excess buildup in the gasket groove or on the spigot end. All material for the gasket groove and spigot end shall be applied after the application of the lining as specified in the preceding paragraph.

e. Number of Coats

The number of coats of lining material applied shall be as recommended by the lining manufacturer. However, in no case shall this material be applied above the dry thickness per coat recommended by the lining manufacturer in printed literature. The time between coats shall never exceed that time recommended by the lining material manufacturer. No material shall be used for lining which is not indefinitely recoated able with itself without roughening the surface.

f. Touch-Up and Repair

Protecto Joint Compound shall be used for touch-up or repair. Procedures shall be in accordance with manufacturer's recommendations.

F. INSPECTION AND CERTIFICATION

a. Inspection

1. All ceramic epoxy lined ductile iron pipe and fitting linings shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PC-2 Film Thickness Rating. Re-line any pipe whose lining is below the specified minimum thickness.

2. The interior lining of all pipe and fittings shall be tested for pinholes with a nondestructive 2,500 volt test. Re-line any pipe not passing the test.

3. Each pipe joint and fitting shall be marked with the date of application of the lining system and with its numerical sequence of application on the date.

<u>Procedures for Sealing Cut Ends and Repairing Field Damaged Areas</u>

1. Remove burrs caused by field cutting of ends or handling damage and smooth out the edge of the lining if rough.

2. Remove all traces of oil, grease, asphalt, dust, dirt, etc.

3. Areas of loose or damaged lining associated with field cutting the pipe shall be repaired, if approved by the Engineer, as recommended by the pipe manufacturer. The damaged area shall be stripped back by chiseling or scraping about 1 to 2 inches into the well-adhered

lining before patching.

The exposed metal and the 1 to 2-inch lining overlap shall be roughened with a coarse grade of emery cloth (#40 grit), rasp or small chisel. Avoid wire brushing or similar buffing which would make the surface too smooth for good adhesion.

4. With the area to be sealed or repaired absolutely, clean and suitably roughened, apply a coat of Protecto Joint Compound by brush in accordance with the manufacturer's recommendations.

2.2 PIPE AND FITTINGS: CAST IRON SOIL

A. Cast iron soil pipe and fittings shall be cast gray iron, extra heavy, conforming to the requirements of ASTM Standard A74 "Cast Iron Soil, Pipe and Fittings".

B. Joints in soil pipe and fittings shall be made with neoprene rubber, compression type gaskets conforming to ASTM Standard C564, "Rubber Gaskets for Cast Iron Soil Pipe and Fittings".

C. Hubless EHCI with stainless steel and neoprene "Band-Aid" connections is only approved for use in size 2-inches. All EHCI of larger diameter shall be hub pipe.

2.3 PIPE AND FITTINGS: POLY VINYL CHLORIDE (PVC)

A. Poly (vinyl chloride (PVC) pipe and fittings specified herein are small diameter PVC with threaded, flanged and solvent cemented joints.

B. All poly (vinyl chloride) (PVC) pipe and fittings shall be made from high impact, rigid poly (vinyl chloride) compounds. Pipe and fittings shall be marked indicating size, type and schedule, ASTM Designation, manufacturer or trade mark, and shall bear the NSF (National Sanitation Foundation) seal of approval. Wherever the abbreviation PVC is used in these Specifications in relation to pipe and fittings, it shall mean poly (vinyl chloride) plastic pipe and fittings as specified herein.

C. PVC pipe shall be Schedule 80 unless Schedule 120 pipe is called for on the Plans or by the Engineer, Type I, Grade I, or Class 12454B with socket ends, and shall comply with ASTM Standard D1785, "Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120".Products intended for contact with potable water shall be evaluated, tested, and certified for conformance with ANSI/NSF Standard No. 61 or the health effects portion of NSF Standard No. 14 by an acceptable certifying organization when required by the regulatory authority having jurisdiction.

D. Schedule 80 Socket-type fittings shall comply with ASTM Standard D2467, "Socket-Type Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80" and D2464 "Specification for Threaded Poly Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80, for threaded fittings.

E. Joining cement for PVC pipe and fittings shall comply with ASTM Standard D2564, "Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings". Cemented joints shall be made in accordance with ASTM Standard D-2855, "Recommended Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings".

F. Flanges: One piece molded hub type flat face flanges, 125 pound standard as specified under fittings hereinbefore.

G. Gaskets: Full faced, 1/8-inch thick, neoprene (for sewer) or SBR (for water).

H. AISI Type 316 stainless steel, ASTM A193, Grade B8M hex bolts and ASTM A 194 Grade E8 hex head nuts. Bolts shall be fabricated in accordance with ANSI B 1812 and provided with washers of the same materials as the bolts.

2.4 PIPE AND FITTINGS: COPPER

A. Pipe: Copper pipe shall be Type K for interior piping and Type K Soft Temper for exterior piping, both conforming to ASTM B88, seamless, round, drawn tubing.

B. Fittings: Solder joint fittings shall be wrought copper and bronze fittings conforming to ANSI B16.22 or cast brass fittings conforming to ANSI Standard B16.18. Fittings for use with copper tubing shall be one of the following:

A. Cast Bronze Solder-Joint Fittings: Solder joint fittings of this type shall be cast bronze fittings conforming to ANSI B16.18, "Cast Brass Solder-Joint Fittings", and ASTM Standard B62, "Composition Bronze or Ounce Metal Castings", as manufactured by Chase Brass and Copper Co., Stanley G. Flagg & Co., Inc., or Department-approved equal.

B. Wrought Copper Solder-Joint Fittings: Solder joint fittings of this type shall be wrought copper fittings in accordance with ASNI B16.22, "Wrought Copper and Bronze Solder-Joint Pressure Fittings".

C. Solder: Solder shall consist of 95 percent tin and 5 percent antimony. Soldering shall be in conformance with Section 3 of the Copper and Brass Research Association Copper Tube Handbook.

D. Connection of copper pipe or fittings with galvanized pipe or fittings shall be made with dielectric fittings. Connect copper pipe to direct-taps to Ductile Iron Pipe with an insulating union. Wrap the copper pipe with polyethylene tape at least two feet in length beyond the point of connection.

2.5 PIPE AND FITTINGS: VITRIFIED CLAY

Vitrified clay pipe and fittings for gravity sewers shall be extra-strength, non-perforated. Pipe and fittings shall conform to the latest edition of ASTM Standard C700, "Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated", and the following requirements.

A. Any fracture or crack passing through the socket of the pipe bell and exceeding a length of one-half (½) inch in any direction shall be cause for rejection of the pipe. This requirement supersedes the portion of the ASTM Specifications cited above in conflict herewith.

B. Only factory bonded joints will be permitted for all vitrified clay pipe. The joints shall have rubber "O" ring type compression seals conforming to "Standard Specification for Compression Joints for Vitrified Clay Pipe and Fittings", ASTM C425, latest edition. Department approved pipe joints are Polyester Ring-Type joints as manufactured by Logan Clay Products Company under the trade name of "Logan-O-Ring", Can-Tex Industries under the trade name of "Can-O-Lock," or approved equal.

C. Where cast iron soil pipe or ductile iron pipe laterals are used with vitrified clay mains, the wye or tee shall be vitrified clay. For the joint between the vitrified clay wye or tee and the lateral

pipe use FERNCO "Donut" No. 6-10-601 with E.H.C.I. soil pipe and "Donut" No. 6-08-607 with ductile iron laterals, or approved equals. When using E.H.C.I. soil pipe with ductile iron tees or wyes, use transition gasket by Romac or approved equal.

2.6 HIGH DENSITY POLYETHYLENE (HDPE) PIPE FOR USE IN POTABLE WATER SERVICES

A. Smooth wall high density polyethylene pipe for use in potable water services 3.5-inch nominal outside diameter and less shall meet ASTM D3350, and shall be PE 335434C. Pipe shall meet the standards of ASTM F714, as modified herein, including the "Government/Military Procurement" sections. Minimum hydrostatic design basis shall be 1600 psi. In all cases, hydrostatic design basis and pressure rating shall be as determined using the methods of ASTM F714. Pipe of this type shall be butt-fusion welded at joints. All welding of joints shall be in strict conformity with the recommendations of the pipe manufacturer and by a firm or individual recommended to the Engineer of Record in writing by the manufacturer.

B. As a part of the shop drawing submittals, submit the following signed by a Florida Registered Engineer, all calculations to determine, the pipe thickness, SDR rating, allowable stresses, in accordance with ASME B31.8 -1992, Table A842.22 as required by the pipe manufacturer.

C. All mechanical fittings utilized with HDPE pipe and tubing services, shall conform with ANSI/AWWA C800-01 "Underground Service Line Valves and Fittings" as modified herein, shall utilize AWWA Standard (Mueller) threads on tapped pipe and tapping saddles; shall be; designed and manufactured to withstand a sustained working pressure of 150 psi and to restrain the pipe against pull out under loading beyond that causing tensile yield in the HDPE pipe or tubing connected. The manufacturer shall supply certification of these capabilities and fittings shall not be accepted or installed without said certification. If fittings are being supplied to the Department the certification shall ship with the fittings and payment will not be made without this certification. At the discretion of the Engineer, this certification may be required to be signed and sealed by a professional engineer licensed to practice in the state where the supplying firm is located or in the State of Florida. His decision in this regard shall be final.

D. In all cases, fittings shall be installed in strict accordance with the manufacturer's instructions.

A. <u>HDPE PIPE FOR WATER SERVICES</u>:

All 2-inch high density polyethylene pipe used for services shall be IPS-O.D. controlled with Standard Outside Dimension Ratio (SODR) of 9, pressure rating of 200 psi at a Factor of Safety of 2.5 or greater, nominal outside diameter of 2.375-inches, minimum wall thickness of 0.264-inches, PE 3408, all in conformance with ASTM D3035-95 "Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter". Pipe shall comply with ANSI/AWWA C901-96 "Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm), for Water Service" as modified herein. Pipe shall have a (natural) inner core with a blue colored outer shell.

Pipe shall have footage marks at a maximum interval of every two feet. Polyethylene material shall have a minimum cell classification in accordance with ASTM D3350-14 "Polyethylene Plastics Pipe and Fitting Materials" of 345444D for the core, which shall be 100% virgin material, and 345444E for the outer shell. Note that both of these materials are UV stabilized as signified by the "D" for natural colored and "E" for the colored shell. Pipe shall comply with NSF 61 or 14.

Submit manufacturer’s certification of compliance with all of the above requirements. Certification shall ship with the pipe on material sold to the Department and shall always be

submitted with shop drawings and catalogue cuts. Certification shall be signed and sealed by a professional engineer licensed to practice in the State of Florida.

B. HDPE TUBING FOR WATER SERVICES:

All 1-inch high density polyethylene tubing used for services shall be CTS-O.D. Controlled with Standard Outside Dimension Ratio (SODR) of 9, pressure rating of 200 psi, nominal outside diameter of 1.125-inches, minimum wall thickness of 0.125-inches, PE 3608, all in conformance with ASTM D2737-12 "Polyethylene (PE) Plastic Tubing". Tubing shall comply with ANSI/AWWA C901-08 "Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm), for Water Service" as modified herein. Tubing shall have a (natural) inner core with a blue colored outer shell.

Tubing shall have footage marks at a maximum interval of every two feet. Polyethylene material shall have a minimum cell classification in accordance with ASTM D3350-14 "Polyethylene Plastics Pipe and Fitting Materials" of 345444D for the core, which shall be 100% virgin material, and 345444E for the outer shell. Note that both of these materials are UV stabilized as signified by the "D" for natural colored and "E" for the colored shell.

Tubing shall comply with NSF 61 or 14. Submit Manufacturer' shall supply certification of compliance with all of the above requirements. Certification shall ship with the tubing on material sold to the Department and shall always be submitted with shop drawings and catalogue cuts. When required by the Chief, Engineering Division, Miami-Dade Water and Sewer Department or his designee, certification shall be signed and sealed by a professional engineer licensed to practice in the State of Florida.

2.7 WALL SLEEVES, PIPES AND CASTINGS

A. Wall Sleeves: Wall sleeves shall be of cast iron, ductile iron or carbon steel with steel galvanized after fabrication as specified in Section 15065, Miscellaneous Materials, under wall pipe. Sleeves shall be provided with seals and shall be oversized as required for the installation of seals. Sleeves shall terminate flush with finished surfaces of walls and ceilings, and shall extend 2-inches above the finished floor. Escutcheons shall be provided at walls and floor to completely conceal the sleeves smaller than 3-inches. Escutcheons shall be brass or cast iron, nickel plated split-type.

B. Interior: Wall sleeves shall be installed for all piping passing through interior walls and floors, except where noted on the Drawings. Sleeves shall be of sufficient size to pass the pipe without binding.

C. Wall Sleeve Seals: Wall sleeve seals shall be modular mechanical type consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and wall sleeve. Links shall be loosely assembled with bolts to form a continuous rubber belt around the pipe with a pressure plate under each bolt head and nut. After the seal assembly is positioned in the sleeve, tightening of the bolts shall cause the rubber sealing elements to expand and provide an absolutely water-tight seal between the pipe and wall sleeve. The synthetic rubber shall be suitable for exposure to treated sewage effluent and groundwater. Bolts, nuts and hardware shall be 18-8 stainless steel. The seals shall be Link Seal as manufactured by Thunderline Corporation or Department-approved equal, and the wall sleeve and seal shall be sized as recommended by the seal manufacturer.

D. All piping passing through exterior walls and base slabs shall be provided with wall pipes. All

wall pipes shall be of ductile iron and shall have an intermediate flange or waterstop located in the center of the wall. Each wall pipe shall be of the same grade, thickness and interior coating as the piping to which it is joined. Those portions of the wall pipes that are buried shall have a coal tar outside coating.

2.8 STEEL CASING (JACKING AND BORING)

See Section 15070, "Jacking and Boring"

2.9 STEEL PIPE (AERIAL CROSSING)

See Section 15075, "Aerial Crossings"

PART 3 - EXECUTION

3.1 General:

A. Furnish and maintain all barricades and flashing warning lights necessary to warn of the construction throughout the Project.

B. Pipe and fittings shall at all times be handled with great care to avoid damage. Exercise particular care not to injure pipe coatings. In loading and unloading, they shall be lifted with cranes or hoists or slid or rolled on skidways in such manner as to avoid shock. Under no circumstances shall this material be dropped or allowed to roll or slide against obstructions.

C All work shall be performed by skilled workmen experienced in pipeline construction.

D. All pipe and fittings shall be adequately supported by clamps, brackets, straps, concrete supports, rollers or other devices as shown and/or specified. Supports or hangers shall be spaced so that maximum deflection between supports or hangers shall not exceed 0.050 inch for pipe filled with liquid, but shall not be further than 6 feet apart, whichever is closer, unless otherwise shown. All pipe supports shall be secured to structures by approved inserts or expansion shields and bolts.

E. All pipe shall be thoroughly cleaned internally before being installed. All pipes, except oxygen service, air and gas, shall be flushed with water and swabbed to assure removal of all foreign matter before installation. Air and gas piping shall be tapped with a hammer to loosen scale or other foreign matter that might be within the pipe, and then thoroughly blown with a high pressure air hose. Furnish and maintain suitable air compressor.

F. Whenever possible, the pipe shall be installed with minimum 48-inches of cover. Deviations shall not be installed without written approval by the Owner.

G. At all horizontal or vertical pipe deviation, install both restrained pipe and thrust blocks. Joints may only be opened to adjust alignment by half of the AWWA or manufacturer's recommended opening (which is smaller).

H. Pipe Sleeves and Wall Casings: Pipe sleeves and wall casings shall be provided at the locations called for on the Drawings and specified herein. These units shall be as detailed and of the material as noted on the Drawings and specified herein. They shall be accurately set in the concrete or masonry to the elevations shown. All wall sleeves and castings required in the walls shall be in place when the walls are poured. Ends of all wall casings and wall sleeves

shall be of a type consistent with the piping to be connected to them.

I. Tie Rods: Unless otherwise indicated on the Drawings, the size and number of tie rods for a joint or installation shall be as recommended by the manufacturer's design chart for a working pressure of 150 psi. Tie rods shall be installed as recommended by the manufacturer.

3.2 EXCAVATION FOR PIPING

A. Make all excavation necessary for the construction of the pipelines, connections, valves and appurtenances, to the lines and grades shown on the Plans.

B. Excavate the trench at least 6 inches below pipe laying grade as shown on the Plans. Install sheeting and shoring for the protection of workers in trenches, and where it is necessary for pipe installation and property protection or required by the Trench Safety Act. The cost of de-watering any excavation shall be at the Contractor's expense. The disposal of water removed from an excavation shall be in a manner which will not create a hazard, or be detrimental to the public health or to public or private property.

C. Obtain all necessary permits approving the location and proposed method of disposal before discharging water from any excavation into any portion of the public right-of-way or into any existing drainage structure or facility. Furnish and maintain all construction signs required.

3.3 INSTALLATION OF PIPE, FITTINGS AND VALVES

A. General:

1. The design Drawings are in some cases diagrammatic. They may not show every bend, off-set, elbow or other fitting which may be required in the piping for installation in the space allotted. . Install gravity lines at uniform grade to low point after field verification of low point invert.

2. The centerline of the pipe shall not vary by more than 2 inches from the location shown on the Plans and the top of the pipe shall not vary by more than 2 inches from the established grade, except at points where this tolerance must be changed to clear obstructions, or make connections.

3. Limit onsite pipe storage to a maximum of one week. Use unloading and installation procedures that avoid cracking of the lining. If necessary, use plastic sheet bulkheads to close pipe ends and keep cement-mortar lining moist. Deliver the pipe alongside the pipe laying access road over which the pipe trailer-tractors can travel under their own power. Place the pipe in the order in which it is to be installed and secure it from rolling. Sandbags may be used to support the pipe in the ditch but no pipe shall be laid on blocks, except by the written permission of the Engineer of Record. Do not move pipe by inserting any devices or pieces of equipment into the pipe barrel. Field repair linings damaged by unloading or installation procedures. Flanged joints, mechanical joints and push-on joints in cast iron pipe and fittings may be made under water.

B. Installation of Ductile Iron Pipe

1. Install Ductile Iron Pipe in accordance with ANSI/AWWA C600-10 “Installation of Ductile-iron Mains and Their Appurtenances”, and the following. For potable water pipelines, comply with NSF/ANSI 61 “Drinking Water System Components – Health Effects. All bends,

tees, and plugs, unless otherwise specified, shall be backed with concrete to undisturbed ground. Provision shall be made to prevent concrete from adhering to plugs or bolts by wrapping in polyethylene sheet complying with ANSI/AWWA C105/A21.5-05.

2. Bolts, nuts and rubber gaskets for use in flanged and mechanical joints shall be stored under cover. During laying operations, do not place tools, clothing, or other materials in the pipe Gaskets shall not be exposed to heat, light or any petroleum products, shall be kept clean and shall not be handled with greasy or dirty hands. When pipe laying is not in progress, close the ends of the installed pipe by a child- and vermin-proof plug.

3. Assemble Flanged joints in accordance with the written recommendations of the pipe manufacturer. Before making up flanged joints in cast iron pipe and fittings, the back of each flange under the bolt heads, and the face of each flange shall have all lumps, blisters and excess bituminous coating removed and shall be wire brushed and wiped clean and dry. Cut the bore of the gaskets such that the gaskets do not protrude into the pipe when the flange bolts are tightened.

4. Before laying the ductile iron pipe, all lumps, blisters and excess asphaltic coating shall be removed from the bell and spigot ends of each pipe and the outside of the spigot and the inside of the bell wire brushed and wiped clean and dry. The entire gasket groove area shall be free of bumps or any foreign matter which might displace the gasket. The cleaned spigot and gasket shall not be allowed to touch the trench walls or trench bottom at any time. Vegetable soap lubricant shall be applied in accordance with the pipe manufacturer's recommendations, to aid in making the joint. Exercise caution to prevent damage to the gasket or the adherence of grease or particles of sand or dirt. Deflections shall be made only after the joint has been assembled.

5. Cutting of ductile iron pipe for inserting valves, fittings, etc., shall be done with a mechanical pipe saw in a neat and workmanlike manner without damage to the pipe, the lining, or the coating.

6. Unless otherwise directed, ductile iron pipe shall be laid with the bell ends facing in the direction of laying; and for lines on an appreciable slope, the bells shall, at the discretion of the Engineer, face upgrade. Small angular changes (less than 2.5 degrees) in horizontal alignment defined in the drawings by a point of inflection (PI) with no accompanying curve data shall be approximated as a curve by deflecting an equal amount of equal length pipe segments to create a curve equally distributed on both sides of the given PI. Accomplish a larger (greater than or equal to 2.5 degrees) change in horizontal alignment where a curve is not called for in the drawings through the use of an elbow placed at the station of the PI shown in the drawings. Small angular changes (less than 2.5 degrees) in vertical alignment may be accomplished by the use of pulled joints. For larger vertical deflections, place an elbow at the station and elevation of the vertical PI shown in the drawings.

7. Push-on and mechanical joints in ductile iron pipe and fittings shall be made in accordance with the manufacturer's written recommendations except as otherwise specified herein. Joints between push-on and mechanical joint pipe and/or fittings shall be made in accordance with AWWA Standard Specifications, "Installation of Ductile Iron Water Mains and Appurtenances," C600-10, except that deflection at joints shall not exceed one-half of the manufacturer's recommended allowable deflection, or one-half of the allowable deflection specified in AWWA C600-10, whichever is the lesser amount.

8. Flanged joints shall be used only where indicated on the Plans. Before making up flanged

joints in the pipeline, the back of each flange under the bolt heads and the face of each flange shall have all lumps, blisters and excess bituminous coating removed and shall be wire brushed and wiped clean and dry. Flange faces shall be kept clean and dry when making up the joint, and the workmen shall exercise caution to prevent damage to the gasket or the adherence of grease or particles of sand or dirt. Bolts and nuts shall be tightened by opposites in order to keep flange faces square with each other, and to insure that bolt stresses are evenly distributed.

9. Bolts and nuts in flanged and mechanical joints shall be tightened in accordance with the written recommendations of the pipe manufacturer for a leak-free joint. Exercise caution to prevent overstress. Torque wrenches shall be used until, in the opinion of the Engineer, the workmen have become accustomed to the proper amount of pressure to apply on standard wrenches.

C. Installation of PVC Pipe:

1. In the installation of glue joint PVC pipe, the pipe shall first be cut square and smooth. Wipe all surfaces to be connected with a cloth moistened with an appropriate solvent and remove any foreign matter from socket of fitting. Using an ordinary paint brush of width about equal to the nominal pipe size, apply a generous coat of cement to inside and shoulder of socket, flowing on but not brushing out. A similar coat shall then be applied to the end of the pipe for at least the same distance on the pipe as the depth of socket, and to the cut end. Pipe and fittings shall then be pressed firmly together and the pipe turned a quarter to a half turn to evenly distribute the cement. The cementing and joining operation must not exceed one minute. Allow 24 hours set-up time before applying pressure. Sand shall be used as backfill material around pipe installed underground.

2. Thread Sealant: Teflon tape.

3. All rigid PVC pipe shall be cut, made up, and installed in accordance with the pipe manufacturer's recommendations. Plastic pipe shall be laid by snaking the pipe from one side of the trench to the other. Offset shall be as recommended by the manufacturer for the maximum temperature variation between time of solvent welding and during operation.

4. Schedule 80 pipe shall not be threaded. Use Schedule 80 threaded nipple where necessary to connect to threaded valve or fitting.

5. Only strap wrenches shall be used for tightening threaded plastic joints, and care shall be taken not to over tighten these fittings.

6. Provide adequate ventilation when working with pipe joint solvent cement.

7. Testing: All lines shall be hydrostatically tested at the pressures specified elsewhere herein or at the design pressures.

8. Supports And Hangers: In accordance with the manufacturer's recommendations.

D. Installation of Copper Pipe:

1. Tubing above ground shall, whenever possible, be run in full lengths between fittings, valves and connections and joints shall be kept to a minimum. All connections shall be made without sharp bends or kinks in the tubing. Above ground tubing shall be supported at short intervals to prevent sagging and vibration.

2. All copper pipe shall be reamed to full diameter before joining. The ends of pipe and the inside of fittings shall be cleaned and flux applied to the entire area of pipe to be soldered.

E. Joint Pipe:

1. Threaded Pipe: Ream all pipe after cutting and before threading. Use non-hardening pipe compound "Tite-Seal" or approved equal, on male threads only.

2. Provide nipples of same material and weight as pipe used. Provide extra strong nipples when length of unthreaded part of nipple is less than 1-1/2".

3. Provide reducing fittings rather than bushings where changes in pipe sizes occur.

4. Provide dielectric unions or flanges between copper and steel piping and between brass-ware and steel. Do not use steel and copper piping in the same system without such isolation.

F. Unions: Provide unions or flanges in all domestic water service lines at each piece of equipment, specialty valves or at other locations required for ready disconnect.

G. Pipe Protection:

1. Paint all un-insulated metal (ductile iron or steel) piping underground with two coats of asphaltic paint.

2. Wrap soil pipe that touches metal or is exposed to masonry with a layer of 6 mil polyethylene.

3. Spirally wrap all pipe lines embedded in concrete with two layers of 30 lb. felt prior to placing the concrete.

4. Coat all exposed threads on galvanized steel pipe after assembly with two coats of zinc chromate.

H. Cleaning and Testing: All of the piping installed under this project shall be tested as follows and as directed by the Engineer.

1. With exceptions as noted below, all ductile iron piping installed under this Contract shall be cleaned and tested according to Paragraph I hereinbelow in this Section:
   a) Only potable water piping shall be disinfected.
   b) No leakage shall be permitted for flanged piping.
   c) No leakage shall be permitted for any type of above ground piping.

2. Unless otherwise specified elsewhere herein, all PVC pressure system bushings and galvanized steel piping shall be tested at 100 psig. No leakage will be permitted.

I. Installation of Aboveground and Exposed Piping

1. Aboveground and exposed pipe fittings, valves and accessories shall be installed as shown or indicated on the Drawings.

2. Piping shall be cut accurately to measurements established at the job site and shall be worked into place without springing or forcing, properly clearing all equipment access areas and openings. Changes in sizes shall be made with appropriate reducing fittings rather than bushings. Pipe connections shall be made in accordance with the details shown and manufacturer's recommendations. Open ends of pipe lines shall be properly capped or plugged during installation to keep dirt and other foreign material out of the system. Pipe supports and hangers shall be provided where indicated and as required to insure adequate support of the piping.

3. Welded connections shall be made in conformity with the requirements of AWWA Standard C 206 and shall be done only by qualified welders. The Engineer may, at his option, require certificates that welders employed on the work are qualified in conformity with the requirements of this standard and/or sample welds to verify the qualifications of the welders. Before testing, field welded joints shall be coated with the same material as used for coating its pipe in accordance with the requirements of AWWA.

4. Flanged joints shall be made up by installing the gasket between the flanges. The threads of the bolts and the faces of the gaskets shall be coated with a suitable lubricant immediately before installation.

5. Joints using Dresser couplings shall be made up as recommended by the manufacturer.

6. Use of perforated band iron (plumber's strap), wire or chain as pipe hangers will not be acceptable. Supports for pipe less than 1-1/2 inches nominal size shall not be more than 8-feet on centers and pipe 2-inches nominal size and larger shall be supported at not more than 10-feet on centers, unless otherwise indicated. Supports for PVC pipe shall be spaced one-half the distance specified above unless otherwise indicated. Any noticeable sagging shall be corrected by the addition of extra supports at the Contractor's expense.

J. INSTALLATION OF HDPE SERVICES

Furnish and install a 10 gauge stranded copper blue tracer wire above all HDPE services.

3.4 FIELD QUALITY CONTROL

A. All water mains shall be flushed to remove all sand, debris, rock and other foreign matter. Dispose of the flushing water without causing a nuisance or property damage.

B. Pressure and Leakage Testing: Hydrostatically test all pressure pipe. Test Ductile Iron Pipe mains in accordance with ANSI/AWWA C600-10 once all backfill is in place and fully compacted, and after all thrust blocks have cured to their design strength. Do not test against closed valves. All pumps, piping and gauges shall be furnished, installed and operated by the Contractor and all such equipment and devices and their installation shall be approved by the Engineer. Pump shall be of a non-pulsating type suitable for this application and gauge accuracy certification may be required at the Engineer of Record's discretion. All pressure and leakage testing shall be done in the presence of a representative of the Department as a condition precedent to the approval and acceptance of the system.

C Disinfection:

Disinfect in accordance with ANSI/AWWA C651-14 – Disinfecting Water Mains. During the period that the chlorine solution or slug is in the section of pipeline, open and close valves to obtain a chlorine residual at hydrants and other pipeline appurtenances. Swab exposed faces of valves and blind flanges prior to bolting flanges in place with a 1% sodium hypochlorite solution. Disinfect isolation valves, pipe, and appurtenances per AWWA C651, Section 4.7.

Flush with potable water until discolored water, mud, and debris are eliminated. Swab interior of pipe and fittings with a 1% sodium hypochlorite solution. After disinfection, flush with potable water again until water is free of chlorine odor. After confirming the chlorine residual, flush the excess chlorine solution from the pipeline until the chlorine concentration in the water leaving the pipe is either within 0.5 mg/L of the replacement water or no higher than that generally prevailing in the distribution system.

Discharge of chlorinated water into watercourses or surface waters is regulated by the National Pollutant Discharge Elimination System (NPDES). Disposal of the chlorinated disinfection water and the flushing water is the Contractor's responsibility. Schedule the rate of flow and locations of discharges in advance to permit review and coordination with Owner and cognizant regulatory authorities. For measuring chlorine concentration, supply and use a medium range, drop count, DPD drop dilution method kit per AWWA C651, Appendix A.1. Maintain kits in good working order available for immediate test of residuals at point of sampling.

D. Tests for Drain and Gravity Sewer Lines:

1. Drain and gravity sewer lines shall be tested for infiltration and exfiltration.

2. The allowable limits of infiltration or exfiltration or leakage for the drain or sewer lines, or any portion thereof shall not exceed a rate of 100 gallons per inch of internal pipe diameter per mile of pipe per 24 hours with no allowance for laterals or manholes. Duration of test shall be a minimum of two hours.

3. Any part or all of the system may be tested for infiltration or exfiltration, as directed by the Engineer. Prior to testing for infiltration, the system shall be pumped out so that normal infiltration conditions exist at the time of testing. The amounts of infiltration or exfiltration shall be determined by pumping into or out of calibrated drums, or by other approved methods.

4. The exfiltration test will be conducted by filling the portion of the system being tested with water to a level which will provide a minimum head of 2-feet in a lateral connected to the test portion, or, in the event there are no laterals in the test portion, a minimum difference in elevation of 5-feet between the crown of the highest portion of the drain or sewer and the test level.

5. Where infiltration or exfiltration exceeds the allowable limits specified herein, the defective pipe, joints, or other faulty construction shall be located and repaired by the Contractor.

6. Furnish all labor, equipment and materials and shall conduct all testing required, under the direction of the Engineer of Record. No separate payment will be made for this work and the cost for this work shall be included in the prices quoted in the Proposal.

7. Locate and repair all leaks until the leakage is reduced to the limits specified. Any observed leaks or obviously defective joints or pipes shall be repaired or replaced as directed by the Engineer of Record, even though the total leakage is below that specified above.

END OF SECTION

SECTION 221313
FACILITY SANITARY SEWERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Non-pressure and pressure couplings.
3. Expansion joints and deflection fittings.
4. Backwater valves.
5. Cleanouts.
6. Encasement for piping.
7. Manholes.

1.3 DEFINITIONS

A. FRP: Fiberglass-reinforced plastic.

1.4 ACTION SUBMITTALS

A. Product Data: For the following:

1. Expansion joints and deflection fittings.
2. Backwater valves.

B. Shop Drawings:
1. Pipes.
2. Manholes. Include plans, elevations, sections, details, and frames and covers.
3. Valves.
4. H-20 Rated Hatch including Frame and Cover.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from sewer system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.

B. Profile Drawings: Show system piping in elevation. Draw profiles to horizontal scale of not less than 1 inch equals 50 feet (1:500) and to vertical scale of not less than 1 inch equals 5

feet (1:50). Indicate manholes and piping. Show types, sizes, materials, and elevations of other utilities crossing system piping.

C. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer.

D. Field quality-control reports.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic manholes, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

C. Handle manholes according to manufacturer's written rigging instructions.

1.7 PROJECT CONDITIONS

A. Interruption of Existing Sanitary Sewerage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify [**Project Manager**] no fewer than [**two**] days in advance of proposed interruption of service.
2. Do not proceed with interruption of service without [**Project Manager's**] written permission.

PART 2 - PRODUCTS

2.1 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

A. Pipe and Fittings: ASTM A 74, [**Service class**] [**Service and Extra-Heavy classes**] [**and**] [**Extra-Heavy class**].

B. Gaskets: ASTM C 564, rubber.

C. Calking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

2.2 HUBLESS CAST-IRON SOIL PIPE AND FITTINGS

A. Pipe and Fittings: ASTM A 888 or CISPI 301.

B. CISPI-Trademark, Shielded Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. ANACO-Husky.
b. Dallas Specialty & Mfg. Co.
c. Fernco Inc.
d. Mission Rubber Company; a division of MCP Industries, Inc.
e. Stant; a Tompkins company.
f. Tyler Pipe.

3. Description: ASTM C 1277 and CISPI 310, with stainless-steel corrugated shield; stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

C. Heavy-Duty, Shielded Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. ANACO-Husky.
b. Clamp-All Corp.
c. Dallas Specialty & Mfg. Co.
d. Mission Rubber Company; a division of MCP Industries, Inc.
e. Stant; a Tompkins company.
f. Tyler Pipe.

3. Description: ASTM C 1277 and ASTM C 1540, with stainless-steel shield; stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

D. Cast-Iron, Shielded Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. MG Piping Products Company.

3. Description: ASTM C 1277 with ASTM A 48/A 48M, two-piece, cast-iron housing; stainless-steel bolts and nuts; and ASTM C 564, rubber sleeve with integral, center pipe stop.

E. Unshielded Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. ANACO-Husky.

3. Description: ASTM C 1277 and ASTM C 1461, rigid, sleeve-type, reducing- or transition-type mechanical coupling, with integral, center pipe stop, molded from ASTM C 1440, TPE material; with corrosion-resistant-metal tension band and tightening mechanism on each end.

2.3 DUCTILE-IRON, GRAVITY SEWER PIPE AND FITTINGS

A. Pipe: ASTM A 746, for push-on joints.

B. Standard Fittings: AWWA C110, ductile or gray iron, for push-on joints.

C. Compact Fittings: AWWA C153, ductile iron, for push-on joints.

D. Gaskets: AWWA C111, rubber.

2.4 DUCTILE-IRON, PRESSURE PIPE AND FITTINGS

A. Push-on-Joint Piping:

1. Pipe: AWWA C151.
2. Standard Fittings: AWWA C110, ductile or gray iron.
3. Compact Fittings: AWWA C153.
4. Gaskets: AWWA C111, rubber, of shape matching pipe and fittings.

B. Mechanical-Joint Piping:

1. Pipe: AWWA C151, with bolt holes in bell.
2. Standard Fittings: AWWA C110, ductile or gray iron, with bolt holes in bell.
3. Compact Fittings: AWWA C153, with bolt holes in bells.
4. Glands: Cast or ductile iron; with bolt holes and high-strength, cast-iron or high-strength, low-alloy steel bolts and nuts.
5. Gaskets: AWWA C111, rubber, of shape matching pipe, fittings, and glands.

2.5 ABS PIPE AND FITTINGS

A. ABS Sewer Pipe and Fittings: ASTM D 2751, with bell-and-spigot ends for gasketed joints.

1. NPS 3 to NPS 6 (DN 80 to DN 150): SDR 35.
2. NPS 8 to NPS 12 (DN 200 to DN 300): SDR 42.

B. Gaskets: ASTM F 477, elastomeric seals.

2.6 PVC PIPE AND FITTINGS

A. PVC Cellular-Core Sewer Piping:

1. Pipe: ASTM F 891, Sewer and Drain Series, PS 50 minimum stiffness, PVC cellular-core pipe with plain ends for solvent-cemented joints.
2. Fittings: ASTM D 3034, [**SDR 35**], PVC socket-type fittings.

B. PVC Corrugated Sewer Piping:

1. Pipe: ASTM F 949, PVC corrugated pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM F 949, PVC molded or fabricated, socket type.
3. Gaskets: ASTM F 477, elastomeric seals.

C. PVC Profile Sewer Piping:

1. Pipe: ASTM F 794, PVC profile, gravity sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D 3034, PVC with bell ends.
3. Gaskets: ASTM F 477, elastomeric seals.

D. PVC Type PSM Sewer Piping:

1. Pipe: ASTM D 3034, [**SDR 35**], PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D 3034, PVC with bell ends.
3. Gaskets: ASTM F 477, elastomeric seals.

E. PVC Gravity Sewer Piping:

1. Pipe and Fittings: ASTM F 679, [**T-1**] [**T-2**] wall thickness, PVC gravity sewer pipe with bell-and-spigot ends and with integral ASTM F 477, elastomeric seals for gasketed joints.

F. PVC Pressure Piping:

1. Pipe: AWWA C900, [**Class 100**] [**Class 150**] [**and**] [**Class 200**] PVC pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: AWWA C900, [**Class 100**] [**Class 150**] [**and**] [**Class 200**] PVC pipe with bell ends.
3. Gaskets: ASTM F 477, elastomeric seals.

G. PVC Water-Service Piping:

1. Pipe: ASTM D 1785, [**Schedule 40**] [**and**] [**Schedule 80**] PVC, with plain ends for solvent-cemented joints.
2. Fittings: [**ASTM D 2466, Schedule 40**] [**and**] [**ASTM D 2467, Schedule 80**] PVC, socket type.

2.7 FIBERGLASS PIPE AND FITTINGS

A. Fiberglass Sewer Pipe: ASTM D 3262, RTRP, for gasketed joints fabricated with [**Type 2, polyester**] [**Type 2, polyester or Type 4, epoxy**] [**Type 4, epoxy**] resin.

1. Liner: [**Reinforced thermoset**] [**Non-reinforced thermoset**] [**Thermoplastic**] [**No liner**].
2. Grade: [**Reinforced, surface layer matching pipe resin**] [**Non-reinforced, surface layer matching pipe resin**] [**No surface layer**].
3. Stiffness: [**9 psig (62 kPa)**] [**18 psig (124 kPa)**] [**36 psig (248 kPa)**] [**72 psig (496 kPa)**].

B. Fiberglass Non-pressure Fittings: ASTM D 3840, RTRF, for gasketed joints.

1. Laminating Resin: [**Type 1, polyester**] [**Type 1, polyester or Type 2, epoxy**] [**Type 2, epoxy**] resin.
2. Reinforcement: Grade with finish compatible with resin.

C. Gaskets: ASTM F 477, elastomeric seals.

2.8 CONCRETE PIPE AND FITTINGS

A. Non-reinforced-Concrete Sewer Pipe and Fittings: ASTM C 14 (ASTM C 14M), [**Class 1**] [**Class 2**] [**Class 3**], with [**bell-and-spigot**] [**or**] [**tongue-and-groove**] ends for gasketed joints with ASTM C 443 (ASTM C 443M), rubber gaskets.

B. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76 (ASTM C 76M).

1. [**Bell-and-spigot**] [**or**] [**tongue-and-groove**] ends for gasketed joints, with ASTM C 443 (ASTM C 443M), rubber gaskets.
2. Class II, [**Wall A**] [**Wall B**] [**Wall C**].
3. Class III, [**Wall A**] [**Wall B**] [**Wall C**].
4. Class IV, [**Wall A**] [**Wall B**] [**Wall C**].
5. Class V, [**Wall A**] [**Wall B**].

2.9 NONPRESSURE-TYPE TRANSITION COUPLINGS

A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground non-pressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Cast-Iron Soil Pipes: ASTM C 564, rubber.
2. For Concrete Pipes: ASTM C 443 (ASTM C 443M), rubber.
3. For Fiberglass Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
4. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
5. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

    a. Dallas Specialty & Mfg. Co.
    b. Fernco Inc.
    c. Logan Clay Pipe.
    d. Mission Rubber Company; a division of MCP Industries, Inc.
    e. NDS.
    f. Plastic Oddities; a division of Diverse Corporate Technologies, Inc.

3. Description: Elastomeric sleeve with[**stainless-steel shear ring and**] corrosion-resistant-metal tension band and tightening mechanism on each end.

D. Shielded, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

    a. Cascade Waterworks Mfg.
    b. Dallas Specialty & Mfg. Co.
    c. Mission Rubber Company; a division of MCP Industries, Inc.

3. Description: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

E. Ring-Type, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

    a. Fernco Inc.
    b. Logan Clay Pipe.
    c. Mission Rubber Company; a division of MCP Industries, Inc.

3. Description: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.

F. Non-pressure-Type, Rigid Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. ANACO-Husky.

3. Description: ASTM C 1461, sleeve-type, reducing- or transition-type mechanical coupling, molded from ASTM C 1440, TPE material; with corrosion-resistant-metal tension band and tightening mechanism on each end.

2.10 PRESSURE-TYPE PIPE COUPLINGS

A. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

B. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

1. Cascade Waterworks Mfg.
2. Dresser, Inc.
3. Ford Meter Box Company, Inc. (The); Pipe Products Div.
4. JCM Industries, Inc.
5. Romac Industries, Inc.
6. Smith-Blair, Inc.; a Sensus company.
7. Victaulic Depend-O-Lok, Inc.
8. Viking Johnson.
9. <**Insert manufacturer's name**>.

C. Tubular-Sleeve Couplings: AWWA C219, with center sleeve, gaskets, end rings, and bolt fasteners.

D. Metal, bolted, sleeve-type, reducing or transition coupling, for joining underground pressure piping. Include [**150-psig (1035-kPa)**] [**200-psig (1380-kPa)**] minimum pressure rating and ends of same sizes as piping to be joined.

E. Center-Sleeve Material: [**Manufacturer's standard**] [**Carbon steel**] [**Stainless steel**] [**Ductile iron**] [**Malleable iron**].

F. Gasket Material: Natural or synthetic rubber.

G. Metal Component Finish: Corrosion-resistant coating or material.

2.11 EXPANSION JOINTS AND DEFLECTION FITTINGS

A. Ductile-Iron, Flexible Expansion Joints:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. EBAA Iron, Inc.

b. Romac Industries, Inc.
c. Star Pipe Products.

3. Description: Compound fitting with combination of flanged and mechanical-joint ends complying with AWWA C110 or AWWA C153. Include two gasketed ball-joint sections and one or more gasketed sleeve sections, rated for 250-psig (1725-kPa) minimum working pressure and for offset and expansion indicated.

B. Ductile-Iron Expansion Joints:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. Dresser, Inc.
b. EBAA Iron, Inc.
c. JCM Industries, Inc.
d. Smith-Blair, Inc.; a Sensus company.

3. Description: Three-piece assembly of telescoping sleeve with gaskets and restrained-type, ductile-iron, bell-and-spigot end sections complying with AWWA C110 or AWWA C153. Include rating for 250-psig (1725-kPa) minimum working pressure and for expansion indicated.

C. Ductile-Iron Deflection Fittings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. EBAA Iron, Inc.

3. Description: Compound coupling fitting with ball joint, flexing section, gaskets, and restrained-joint ends complying with AWWA C110 or AWWA C153. Include rating for 250-psig (1725-kPa) minimum working pressure and for up to 15 degrees of deflection.

2.12 BACKWATER VALVES

A. Cast-Iron Backwater Valves:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. Josam Company.

b. Smith, Jay R. Mfg. Co.
c. Tyler Pipe.
d. Watts Water Technologies, Inc.
e. Zurn Specification Drainage Operation; Zurn Plumbing Products Group.

3. Description: ASME A112.14.1, gray-iron body and bolted cover, with bronze seat.
4. Horizontal type; with swing check valve and hub-and-spigot ends.
5. Combination horizontal and manual gate-valve type; with swing check valve, integral gate valve, and hub-and-spigot ends.
6. Terminal type; with bronze seat, swing check valve, and hub inlet.

B. PVC Backwater Valves:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. Canplas LLC.
b. IPS Corporation.
c. NDS.
d. Plastic Oddities; a division of Diverse Corporate Technologies, Inc.
e. Sioux Chief Manufacturing Company, Inc.
f. Zurn Light Commercial Products Operation; Zurn Plumbing Products Group.
g. <**Insert manufacturer's name**>.

3. Description: Horizontal type; with PVC body, PVC removable cover, and PVC swing check valve.

2.13 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. Josam Company.
b. MIFAB, Inc.
c. Smith, Jay R. Mfg. Co.
d. Tyler Pipe.
e. Watts Water Technologies, Inc.
f. Zurn Specification Drainage Operation; Zurn Plumbing Products Group.

3. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.

4. Top-Loading Classification(s): [**Light Duty**] [**Medium Duty**] [**Heavy Duty**] [**and**] [**Extra-Heavy Duty**].
5. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.

B. PVC Cleanouts:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

    a. Canplas LLC.
    b. IPS Corporation.
    c. NDS.
    d. Plastic Oddities; a division of Diverse Corporate Technologies, Inc.
    e. Sioux Chief Manufacturing Company, Inc.
    f. Zurn Light Commercial Products Operation; Zurn Plumbing Products Group.

3. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.14 ENCASEMENT FOR PIPING

A. Standard: ASTM A 674 or AWWA C105.

B. Material: [**Linear low-density polyethylene film of 0.008-inch (0.20-mm)**] [**or**] [**high-density, cross-laminated polyethylene film of 0.004-inch (0.10-mm)**] minimum thickness.

C. Form: [**Sheet**] [**or**] [**tube**].

D. Color: [**Black**] [**or**] [**natural**]

2.15 MANHOLES

A. Standard Precast Concrete Manholes:

1. Description: ASTM C 478 (ASTM C 478M), precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches (1200 mm) minimum unless otherwise indicated.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
4. Base Section: 6-inch (150-mm) minimum thickness for floor slab and 4-inch (100-mm) minimum thickness for walls and base riser section; with separate base slab or base section with integral floor.
5. Riser Sections: 4-inch (100-mm) minimum thickness, of length to provide depth indicated.
6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated; with top of cone of size that matches grade rings.

7. Joint Sealant: ASTM C 990 (ASTM C 990M), bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C 923 (ASTM C 923M), cast or fitted into manhole walls, for each pipe connection.
9. Steps: [**Individual FRP steps or FRP ladder**] [**Individual FRP steps, FRP ladder, or ASTM A 615/A 615M, deformed, 1/2-inch (13-mm) steel reinforcing rods encased in ASTM D 4101, PP**] [**ASTM A 615/A 615M, deformed, 1/2-inch (13-mm) steel reinforcing rods encased in ASTM D 4101, PP**]; wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch (300- to 400-mm) intervals. Omit steps if total depth from floor of manhole to finished grade is less than [**60 inches (1500 mm)**]
10. Adjusting Rings: Interlocking HDPE rings, with level or sloped edge in thickness and diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.
11. Grade Rings: Reinforced-concrete rings, 6- to 9-inch (150- to 225-mm) total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

B. Designed Precast Concrete Manholes:

1. Description: ASTM C 913; designed according to ASTM C 890 for A-16 (ASSHTO HS20-44), heavy-traffic, structural loading; of depth, shape, and dimensions indicated, with provision for sealant joints.
2. Ballast: Increase thickness of one or more precast concrete sections or add concrete to manhole as required to prevent flotation.
3. Joint Sealant: ASTM C 990 (ASTM 990M), bitumen or butyl rubber.
4. Resilient Pipe Connectors: ASTM C 923 (ASTM C 923M), cast or fitted into manhole walls, for each pipe connection.
5. Steps: [**Individual FRP steps or FRP ladder**] [**Individual FRP steps, FRP ladder, or ASTM A 615/A 615M, deformed, 1/2-inch (13-mm) steel reinforcing rods encased in ASTM D 4101, PP**] [**ASTM A 615/A 615M, deformed, 1/2-inch (13-mm) steel reinforcing rods encased in ASTM D 4101, PP**]; wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch (300- to 400-mm) intervals. Omit steps if total depth from floor of manhole to finished grade is less than [**60 inches (1500 mm)**]
6. Adjusting Rings: Interlocking HDPE rings, with level or sloped edge in thickness and diameter matching manhole frame and cover, and with height as required adjusting manhole frame and covering to indicated elevation and slope. Include sealant recommended by ring manufacturer.
7. Grade Rings: Reinforced-concrete rings, 6- to 9-inch (150- to 225-mm) total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

C. Fiberglass Manholes:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

    a. Associated Fiberglass Enterprises.

b. Containment Solutions, Inc.
c. L. F. Manufacturing, Inc.

3. Description: ASTM D 3753.
4. Diameter: 48 inches (1200 mm) minimum unless otherwise indicated.
5. Ballast: Increase thickness of concrete base as required to prevent flotation.
6. Base Section: Concrete, 6-inch (150-mm) minimum thickness.
7. Resilient Pipe Connectors: ASTM C 923 (ASTM C 923M), cast or fitted into manhole walls, for each pipe connection.
8. Steps: Individual FRP steps or FRP ladder, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch (300- to 400-mm) intervals. Omit steps if total depth from floor of manhole to finished grade is less than [**60 inches (1500 mm)**].
9. Adjusting Rings: Interlocking HDPE rings, with level or sloped edge in thickness and diameter matching manhole frame and cover, and with height as required adjusting manhole frame and covering to indicated elevation and slope. Include sealant recommended by ring manufacturer.
10. Grade Rings: Reinforced-concrete rings, 6- to 9-inch (150- to 225-mm) total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.

D. Manhole Frames and Covers:

1. Description: Ferrous; 24-inch (610-mm) ID by 7- to 9-inch (175- to 225-mm) riser, with 4-inch- (100-mm-) minimum-width flange and 26-inch- (660-mm-) diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "SANITARY SEWER."
2. Material: [**ASTM A 536, Grade 60-40-18 ductile**] [**ASTM A 48/A 48M, Class 35 gray**] iron unless otherwise indicated.

E. Manhole-Cover Inserts:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:
2. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] or comparable product by one of the following:

a. FRW Industries; a Syneco Systems, Inc. company.
b. Knutson Enterprises.
c. L. F. Manufacturing, Inc.
d. Parson Environmental Products, Inc.

3. Description; Manufactured, plastic form, of size to fit between manhole frame and cover and designed to prevent stormwater inflow. Include handle for removal and gasket for gastight sealing.
4. Type: [**Solid**] [**Drainage with vent holes**] [**Valve**].

2.16 CONCRETE

A. General: Cast-in-place concrete complying with ACI 318, ACI 350/350R (ACI 350M/350RM), and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi (27.6 MPa) minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi (27.6 MPa) minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.

   a. Invert Slope: [**1**] [**2**] percent through manhole.

2. Benches: Concrete, sloped to drain into channel.

   a. Slope: [**4**] [**8**] percent.

D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi (20.7 MPa) minimum, with 0.58 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Division 31 Section "Earth Moving."

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewer piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of micro-tunneling.

F. Install gravity-flow, non-pressure, drainage piping according to the following:

1. Install piping pitched down in direction of flow, at minimum slope of [**1**] [**2**] percent unless otherwise indicated.
2. Install piping [**NPS 6 (DN 150)**] and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
3. Install piping with [**36-inch (915-mm)**] [**48-inch (1220-mm)**] [**60-inch (1520-mm)**] [**72-inch (1830-mm)**] minimum cover.
4. Install hub-and-spigot, cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook."
5. Install hubless cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook."
6. Install ductile-iron, gravity sewer piping according to ASTM A 746.
7. Install ABS sewer piping according to ASTM D 2321 and ASTM F 1668.
8. Install PVC cellular-core sewer piping according to ASTM D 2321 and ASTM F 1668.
9. Install PVC corrugated sewer piping according to ASTM D 2321 and ASTM F 1668.
10. Install PVC profile sewer piping according to ASTM D 2321 and ASTM F 1668.
11. Install PVC Type PSM sewer piping according to ASTM D 2321 and ASTM F 1668.
12. Install PVC gravity sewer piping according to ASTM D 2321 and ASTM F 1668.
13. Install fiberglass sewer piping according to ASTM D 3839 and ASTM F 1668.
14. Install nonreinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."
15. Install reinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."

G. Install force-main, pressure piping according to the following:

1. Install piping with restrained joints at tee fittings and at horizontal and vertical changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
2. Install piping with [**36-inch (915-mm)**] [**48-inch (1220-mm)**] [**60-inch (1520-mm)**] [**72-inch (1830-mm)**] minimum cover.
3. Install ductile-iron pressure piping according to AWWA C600 or AWWA M41.
4. Install ductile-iron special fittings according to AWWA C600.
5. Install PVC pressure piping according to AWWA M23 or to ASTM D 2774 and ASTM F 1668.
6. Install PVC water-service piping according to ASTM D 2774 and ASTM F 1668.

H. Install corrosion-protection piping encasement over the following underground metal piping according to ASTM A 674 or AWWA C105:

1. Hub-and-spigot, cast-iron soil pipe.
2. Hubless cast-iron soil pipe and fittings.
3. Ductile-iron pipe and fittings.
4. Expansion joints and deflection fittings.

I. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, nonpressure, drainage piping according to the following:

1. Join hub-and-spigot, cast-iron soil piping with gasket joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.
2. Join hub-and-spigot, cast-iron soil piping with calked joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for lead and oakum calked joints.
3. Join hubless cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-coupling joints.
4. Join ductile-iron, gravity sewer piping according to AWWA C600 for push-on joints.
5. Join ABS sewer piping according to ASTM D 2321 and ASTM D 2751 for elastomeric-seal joints.
6. Join PVC cellular-core sewer piping according to ASTM D 2321 and ASTM F 891 for solvent-cemented joints.
7. Join PVC corrugated sewer piping according to ASTM D 2321.
8. Join PVC profile sewer piping according to ASTM D 2321 for elastomeric-seal joints or ASTM F 794 for gasketed joints.
9. Join PVC Type PSM sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.
10. Join PVC gravity sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.
11. Join fiberglass sewer piping according to ASTM D 4161 for elastomeric-seal joints.
12. Join nonreinforced-concrete sewer piping according to ASTM C 14 (ASTM C 14M) and ACPA's "Concrete Pipe Installation Manual" for rubber-gasket joints.
13. Join reinforced-concrete sewer piping according to ACPA's "Concrete Pipe Installation Manual" for rubber-gasket joints.
14. Join dissimilar pipe materials with nonpressure-type, flexible[**or rigid**] couplings.

B. Join force-main, pressure piping according to the following:

1. Join ductile-iron pressure piping according to AWWA C600 or AWWA M41 for push-on joints.
2. Join ductile-iron special fittings according to AWWA C600 or AWWA M41 for push-on joints.
3. Join PVC pressure piping according to AWWA M23 for gasketed joints.
4. Join PVC water-service piping according to ASTM D 2855.
5. Join dissimilar pipe materials with pressure-type couplings.

C. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

1. Use nonpressure flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.

a. [**Unshielded**] [**Shielded**] flexible[**or rigid**]couplings for pipes of same or slightly different OD.
b. Unshielded, increaser/reducer-pattern, flexible[**or rigid**]couplings for pipes with different OD.
c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

2. Use pressure pipe couplings for force-main joints.

3.4 MANHOLE INSTALLATION

A. General: Install manholes complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants according to ASTM C 891.

C. Install FRP manholes according to manufacturer's written instructions.

D. Form continuous concrete channels and benches between inlets and outlet.

E. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops [**3 inches (76 mm)**] above finished surface elsewhere unless otherwise indicated.

F. Install manhole-cover inserts in frame and immediately below cover.

3.5 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318.

3.6 BACKWATER VALVE INSTALLATION

A. Install horizontal-type backwater valves in piping manholes or pits.

B. Install combination horizontal and manual gate valves in piping and in manholes.

C. Install terminal-type backwater valves on end of piping and in manholes. Secure units to sidewalls.

3.7 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts, and use cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.

1. Use Light-Duty, top-loading classification cleanouts in [**earth or unpaved foot-traffic**] areas.
2. Use Medium-Duty, top-loading classification cleanouts in [**paved foot-traffic**] areas.
3. Use Heavy-Duty, top-loading classification cleanouts in [**vehicle-traffic service**] areas.
4. Use Extra-Heavy-Duty, top-loading classification cleanouts in [**roads**].

B. Set cleanout frames and covers in earth in cast-in-place-concrete block, [**18 by 18 by 12 inches (450 by 450 by 300 mm)**] deep. Set with tops [**1 inch (25 mm)**] above surrounding grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.8 CONNECTIONS

A. Connect non-pressure, gravity-flow drainage piping to building's sanitary building drains specified in Division 22 Section "Sanitary Waste and Vent Piping."

B. Connect force-main piping to building's sanitary force mains specified in Division 22 Section "Sanitary Waste and Vent Piping." Terminate piping where indicated.

C. Make connections to existing piping and underground manholes.

1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye fitting plus 6-inch (150-mm) overlap with not less than 6 inches (150 mm) of concrete with 28-day compressive strength of 3000 psi (20.7 MPa).
2. Make branch connections from side into existing piping, NPS 4 to NPS 20 (DN 100 to DN 500). Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches (150 mm) of concrete with 28-day compressive strength of 3000 psi (20.7 MPa).
3. Make branch connections from side into existing piping, NPS 21 (DN 525) or larger, or to underground manholes by cutting opening into existing unit large enough to allow 3 inches (76 mm) of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe or manhole wall, encase entering connection in 6 inches (150 mm) of concrete for minimum length of 12 inches (300 mm) to provide additional support of collar from connection to undisturbed ground.

    a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi (20.7 MPa) unless otherwise indicated.
    b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

4. Protect existing piping and manholes to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

D. Connect to [**grease**] [**oil**] [**and**] [**sand**] interceptors specified in Division 22 Section "Sanitary Waste Interceptors."

3.9 CLOSING ABANDONED SANITARY SEWER SYSTEMS

A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:

1. Close open ends of piping with at least [**8-inch- (203-mm-)**] thick, brick masonry bulkheads.
2. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.

B. Abandoned Manholes: Excavate around manhole as required and use either procedure below:

1. Remove manhole and close open ends of remaining piping.
2. Remove top of manhole down to at least [**36 inches (915 mm)**] <**Insert dimension**> below final grade. Fill to within [**12 inches (300 mm)**] <**Insert dimension**> of top with stone, rubble, gravel, or compacted dirt. Fill to top with concrete.

C. Backfill to grade according to Division 31 Section "Earth Moving."

3.10 IDENTIFICATION

A. Materials and their installation are specified in Division 31 Section "Earth Moving." Arrange for installation of green warning tapes directly over piping and at outside edges of underground manholes.

1. Use[**warning tape or**] detectable warning tape over ferrous piping.
2. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

3.11 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches (600 mm) of backfill is in place, and again at completion of Project.

1. Submit separate report for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Hydrostatic Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction and the following:

    a. Fill sewer piping with water. Test with pressure of at least 10-foot (3-m) head of water, and maintain such pressure without leakage for at least 15 minutes.
    b. Close openings in system and fill with water.
    c. Purge air and refill with water.
    d. Disconnect water supply.
    e. Test and inspect joints for leaks.

6. Air Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction, UNI-B-6, and the following:

    a. Option: Test plastic gravity sewer piping according to ASTM F 1417.
    b. Option: Test concrete gravity sewer piping according to ASTM C 924 (ASTM C 924M).

7. Force Main: Perform hydrostatic test after thrust blocks, supports, and anchors have hardened. Test at pressure not less than 1-1/2 times the maximum system operating pressure, but not less than [**150 psig (1035 kPa)**].

    a. Ductile-Iron Piping: Test according to AWWA C600, "Hydraulic Testing" Section.
    b. PVC Piping: Test according to AWWA M23, "Testing and Maintenance" Chapter.

8. Manholes: Perform hydraulic test according to ASTM C 969 (ASTM C 969M).

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.12 CLEANING

A. Clean dirt and superfluous material from interior of piping.[**Flush with potable water.**]

END OF SECTION 221313

SECTION 221316
SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe, tube, and fittings.
2. Specialty pipe fittings.
3. Encasement for underground metal piping.

B. Related Sections:

1. Division 22 Section "Facility Sanitary Sewers" for sanitary sewerage piping and structures outside the building.
2. Division 22 Section "Sanitary Sewerage Pumps" for effluent and sewage pumps.
3. Division 22 Section "Chemical-Waste Systems for Laboratory and Healthcare Facilities" for chemical-waste and vent piping systems.

1.3 PERFORMANCE REQUIREMENTS

A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:

1. Soil, Waste, and Vent Piping: [**10-foot head of water (30 kPa)**].
2. Waste, Force-Main Piping: [**50 psig (345 kPa)**] [**100 psig (690 kPa)**] [**150 psig (1035 kPa)**].

B. Seismic Performance: Soil, waste, and vent piping and support and installation shall withstand the effects of earthquake motions determined according to [**ASCE/SEI 7**].

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. LEED Submittals:

1. Product Data for Credit IEQ 4.1: For solvent cements and adhesive primers, documentation including printed statement of VOC content.
2. Laboratory Test Reports for Credit IEQ 4: For solvent cements and adhesive primers, documentation indicating that products comply with the testing and product

requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Shop Drawings: For solvent drainage system. Include plans, elevations, sections, and details.

1.5 INFORMATIONAL SUBMITTALS

A. Seismic Qualification Certificates: For waste and vent piping, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Detailed description of piping anchorage devices on which the certification is based and their installation requirements.

B. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

B. Comply with NSF/ANSI 14, "Plastics Piping Systems Components and Related Materials," for plastic piping components. Include marking with "NSF-DWV" for plastic drain, waste, and vent piping and "NSF-sewer" for plastic sewer piping.

1.7 PROJECT CONDITIONS

A. Interruption of Existing Sanitary Waste Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify [**Project Manager**] no fewer than [**two**] days in advance of proposed interruption of sanitary waste service.
2. Do not proceed with interruption of sanitary waste service without [**Project Manager's**] written permission.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

2.2 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

A. Pipe and Fittings: ASTM A 74, [**Service**] [**and**] [**Extra Heavy**] class(es).

B. Gaskets: ASTM C 564, rubber.

C. Calking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

2.3 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

A. Pipe and Fittings: ASTM A 888 or CISPI 301.

B. Sovent Stack Fittings: ASME B16.45 or ASSE 1043, hubless, cast-iron aerator and deaerator drainage fittings.

C. CISPI, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

    a. ANACO-Husky.
    b. Dallas Specialty & Mfg. Co.
    c. Fernco Inc.
    d. Matco-Norca, Inc.
    e. MIFAB, Inc.
    f. Mission Rubber Company; a division of MCP Industries, Inc.
    g. Stant.
    h. Tyler Pipe.

2. Standards: ASTM C 1277 and CISPI 310.
3. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

D. Heavy-Duty, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

    a. ANACO-Husky.
    b. Clamp-All Corp.
    c. Dallas Specialty & Mfg. Co.
    d. MIFAB, Inc.
    e. Mission Rubber Company; a division of MCP Industries, Inc.
    f. Stant.
    g. Tyler Pipe.

2. Standards: ASTM C 1277 and ASTM C 1540.
3. Description: Stainless-steel shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

E. Cast-Iron, Hubless-Piping Couplings:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

   a. MG Piping Products Company.

2. Standard: ASTM C 1277.
3. Description: Two-piece ASTM A 48/A 48M, cast-iron housing; stainless-steel bolts and nuts; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.4 GALVANIZED-STEEL PIPE AND FITTINGS

A. Galvanized-Steel Pipe: ASTM A 53/A 53M, Type E, Standard Weight class. Include square-cut-grooved or threaded ends matching joining method.

B. [**Galvanized-**]Cast-Iron Drainage Fittings: ASME B16.12, threaded.

C. Steel Pipe Pressure Fittings:

1. [**Galvanized-**]Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M or ASTM A 106/A 106M, Schedule 40, seamless steel pipe. Include ends matching joining method.
2. Malleable-Iron Unions: ASME B16.39; Class 150; hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface; and female threaded ends.
3. [**Galvanized-**]Gray-Iron, Threaded Fittings: ASME B16.4, Class 125, standard pattern.

D. Cast-Iron Flanges: ASME B16.1, Class 125.

1. Flange Gasket Materials: ASME B16.21, full-face, flat, nonmetallic, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated.
2. Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

E. Grooved-Joint, Galvanized-Steel-Pipe Appurtenances:

1. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

   a. Anvil International; a subsidiary of Mueller Water Products, Inc.
   b. Grinnell Mechanical Products.
   c. Shurjoint Piping Products.
   d. Victaulic Company.

2. Galvanized, Grooved-End Fittings for Galvanized-Steel Piping: ASTM A 536 ductile-iron castings, ASTM A 47/A 47M malleable-iron castings, ASTM A 234/A 234M forged steel fittings, or ASTM A 106/A 106M steel pipes with dimensions matching ASTM A 53/A 53M steel pipe, and complying with AWWA C606 for grooved ends.

3. Grooved Mechanical Couplings for Galvanized-Steel Piping: ASTM F 1476, Type I. Include ferrous housing sections with continuous curved keys; EPDM-rubber gasket suitable for hot and cold water; and bolts and nuts.

2.5 STAINLESS-STEEL PIPE AND FITTINGS

A. Pipe and Fittings: ASME A112.3.1, drainage pattern with socket and spigot ends.

B. Internal Sealing Rings: Elastomeric gaskets shaped to fit socket groove.

2.6 DUCTILE-IRON PIPE AND FITTINGS

A. Ductile-Iron, Mechanical-Joint Piping:

1. Ductile-Iron Pipe: AWWA C151/A21.51, with mechanical-joint bell and plain spigot end unless grooved or flanged ends are indicated.
2. Ductile-Iron Fittings: AWWA C110/A21.10, mechanical-joint, ductile- or gray-iron standard pattern or AWWA C153/A21.53, ductile-iron compact pattern.
3. Glands, Gaskets, and Bolts: AWWA C111/A21.11, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

B. Ductile-Iron, Push-on-Joint Piping:

1. Ductile-Iron Pipe: AWWA C151/A21.51, with push-on-joint bell and plain spigot end unless grooved or flanged ends are indicated.
2. Ductile-Iron Fittings: AWWA C110/A21.10, push-on-joint ductile- or gray-iron standard pattern or AWWA C153/A21.53, ductile-iron compact pattern.
3. Gaskets: AWWA C111/A21.11, rubber.

C. Ductile-Iron, Grooved-Joint Piping:

1. Ductile-Iron Pipe: AWWA C151/A21.51 with round-cut-grooved ends according to AWWA C606.
2. Ductile-Iron-Pipe Appurtenances:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Anvil International.
2) Shurjoint Piping Products.
3) Star Pipe Products.
4) Victaulic Company.

b. Grooved-End, Ductile-Iron Fittings: ASTM A 536 ductile-iron castings with dimensions matching AWWA C110/A 21.10 ductile-iron pipe or AWWA C153/A 21.53 ductile-iron fittings and complying with AWWA C606 for grooved ends.

c. Grooved Mechanical Couplings for Ductile-Iron Pipe: ASTM F 1476, Type I. Include ferrous housing sections with continuous curved keys; EPDM-rubber center-leg gasket suitable for hot and cold water; and bolts and nuts.

2.7 COPPER TUBE AND FITTINGS

A. Copper DWV Tube: ASTM B 306, drainage tube, drawn temper.

B. Copper Drainage Fittings: ASME B16.23, cast copper or ASME B16.29, wrought copper, solder-joint fittings.

C. Hard Copper Tube: ASTM B 88, Type L and Type M (ASTM B 88M, Type B and Type C), water tube, drawn temper.

D. Soft Copper Tube: ASTM B 88, Type L (ASTM B 88M, Type B), water tube, annealed temper.

E. Copper Pressure Fittings:

1. Copper Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.
2. Copper Unions: MSS SP-123, copper-alloy, hexagonal-stock body with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.

F. Copper Flanges: ASME B16.24, Class 150, cast copper with solder-joint end.

1. Flange Gasket Materials: ASME B16.21, full-face, flat, nonmetallic, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated.
2. Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

G. Solder: ASTM B 32, lead free with ASTM B 813, water-flushable flux.

2.8 ABS PIPE AND FITTINGS

A. Solid-Wall ABS Pipe: ASTM D 2661, Schedule 40.

B. Cellular-Core ABS Pipe: ASTM F 628, Schedule 40.

C. ABS Socket Fittings: ASTM D 2661, made to ASTM D 3311, drain, waste, and vent patterns.

D. Solvent Cement: ASTM D 2235.

1. ABS solvent cement shall have a VOC content of 325 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Solvent cement shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.9 PVC PIPE AND FITTINGS

A. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.

B. Cellular-Core PVC Pipe: ASTM F 891, Schedule 40.

C. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.

D. Adhesive Primer: ASTM F 656.

1. Adhesive primer shall have a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Adhesive primer shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

E. Solvent Cement: ASTM D 2564.

1. PVC solvent cement shall have a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Solvent cement shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.10 SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. General Requirements: Fitting or device for joining piping with small differences in OD's or of different materials. Include end connections same size as and compatible with pipes to be joined.
2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting.
3. Unshielded, Nonpressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Dallas Specialty & Mfg. Co.
2) Fernco Inc.
3) Mission Rubber Company; a division of MCP Industries, Inc.
4) Plastic Oddities; a division of Diverse Corporate Technologies, Inc.

b. Standard: ASTM C 1173.
c. Description: Elastomeric, sleeve-type, reducing or transition pattern. Include shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.
d. Sleeve Materials:

1) For Cast-Iron Soil Pipes: ASTM C 564, rubber.
2) For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
3) For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

4. Shielded, Non-pressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Cascade Waterworks Mfg. Co.
2) Mission Rubber Company; a division of MCP Industries, Inc.

b. Standard: ASTM C 1460.
c. Description: Elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

5. Pressure Transition Couplings:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Cascade Waterworks Mfg. Co.
2) Dresser, Inc.
3) EBAA Iron, Inc.
4) JCM Industries, Inc.
5) Romac Industries, Inc.
6) Smith-Blair, Inc.; a Sensus company.
7) The Ford Meter Box Company, Inc.
8) Viking Johnson.

b. Standard: AWWA C219.
c. Description: Metal, sleeve-type same size as, with pressure rating at least equal to, and ends compatible with, pipes to be joined.
d. Center-Sleeve Material: [**Manufacturer's standard**] [**Carbon steel**] [**Stainless steel**] [**Ductile iron**] [**Malleable iron**].
e. Gasket Material: Natural or synthetic rubber.
f. Metal Component Finish: Corrosion-resistant coating or material.

B. Dielectric Fittings:

1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
2. Dielectric Unions:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Capitol Manufacturing Company.
2) Central Plastics Company.
3) Hart Industries International, Inc.
4) Jomar International Ltd.
5) Matco-Norca, Inc.
6) McDonald, A. Y. Mfg. Co.
7) Watts Regulator Co.; a division of Watts Water Technologies, Inc.
8) Wilkins; a Zurn company.

b. Description:

1) Standard: ASSE 1079.
2) Pressure Rating: [**125 psig (860 kPa) minimum at 180 deg F (82 deg C)**] [**150 psig (1035 kPa)**] [**250 psig (1725 kPa)**].
3) End Connections: Solder-joint copper alloy and threaded ferrous.

3. Dielectric Flanges:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Capitol Manufacturing Company.
2) Central Plastics Company.
3) Matco-Norca, Inc.
4) Watts Regulator Co.; a division of Watts Water Technologies, Inc.
5) Wilkins; a Zurn company.

b. Description:

1) Standard: ASSE 1079.
2) Factory-fabricated, bolted, companion-flange assembly.
3) Pressure Rating: [**125 psig (860 kPa) minimum at 180 deg F (82 deg C)**] [**150 psig (1035 kPa)**] [**175 psig (1200 kPa)**] [**300 psig (2070 kPa)**].
4) End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

4. Dielectric-Flange Insulating Kits:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Advance Products & Systems, Inc.
2) Calpico, Inc.
3) Central Plastics Company.
4) Pipeline Seal and Insulator, Inc.

b. Description:

1) Nonconducting materials for field assembly of companion flanges.
2) Pressure Rating: [**150 psig (1035 kPa)**] <**Insert pressure**>.

3) Gasket: Neoprene or phenolic.
4) Bolt Sleeves: Phenolic or polyethylene.
5) Washers: Phenolic with steel backing washers.

5. Dielectric Nipples:

a. Manufacturers: Subject to compliance with requirements, [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1) Elster Perfection.
2) Grinnell Mechanical Products.
3) Matco-Norca, Inc.
4) Precision Plumbing Products, Inc.
5) Victaulic Company.

b. Description:

1) Standard: IAPMO PS 66
2) Electroplated steel nipple.
3) Pressure Rating: [**300 psig (2070 kPa) at 225 deg F (107 deg C)**] <**Insert pressure and temperature**>.
4) End Connections: Male threaded or grooved.
5) Lining: Inert and noncorrosive, propylene.

2.11 ENCASEMENT FOR UNDERGROUND METAL PIPING

A. Standard: ASTM A 674 or AWWA C105/A 21.5.

B. Material: [**Linear low-density polyethylene film of 0.008-inch (0.20-mm)**] [**or**] [**high-density, cross-laminated polyethylene film of 0.004-inch (0.10-mm)**] minimum thickness.

C. Form: [**Sheet**] [**or**] [**tube**].

D. Color: [**Black**] [**or**] [**natural**]

PART 3 - EXECUTION

3.1 EARTH MOVING

A. Comply with requirements for excavating, trenching, and backfilling specified in Division 31 Section "Earth Moving."

3.2 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate

friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping to permit valve servicing.

F. Install piping at indicated slopes.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Install piping to allow application of insulation.

J. Install seismic restraints on piping. Comply with requirements for seismic-restraint devices specified in Division 22 Section "Vibration and Seismic Controls for Plumbing Piping and Equipment."

K. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if two fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

L. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.

M. Install soil and waste drainage and vent piping at the following minimum slopes unless otherwise indicated:

1. Building Sanitary Drain: 2 percent downward in direction of flow for piping NPS 3 (DN 80) and smaller; [**1 percent**] [**2 percent**] downward in direction of flow for piping NPS 4 (DN 100) and larger.
2. Horizontal Sanitary Drainage Piping: [**2 percent**] downward in direction of flow.
3. Vent Piping: [**1 percent**] down toward vertical fixture vent or toward vent stack.

N. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

1. Install encasement on underground piping according to ASTM A 674 or AWWA C105/A 21.5.

O. Install steel piping according to applicable plumbing code.

P. Install stainless-steel piping according to ASME A112.3.1 and applicable plumbing code.

Q. Install aboveground copper tubing according to CDA's "Copper Tube Handbook."

R. Install aboveground ABS piping according to ASTM D 2661.

S. Install aboveground PVC piping according to ASTM D 2665.

T. Install underground [**ABS**] [**and**] [**PVC**] piping according to ASTM D 2321.

U. Install engineered soil and waste drainage and vent piping systems as follows:

1. Combination Waste and Vent: Comply with standards of authorities having jurisdiction.
2. Sovent Drainage System: Comply with ASSE 1043 and sovent fitting manufacturer's written installation instructions.
3. Reduced-Size Venting: Comply with standards of authorities having jurisdiction.

V. Install underground, ductile-iron, force-main piping according to AWWA C600. Install buried piping inside building between wall and floor penetrations and connection to sanitary sewer piping outside building with restrained joints. Anchor pipe to wall or floor. Install thrust-block supports at vertical and horizontal offsets.

1. Install encasement on piping according to ASTM A 674 or AWWA C105/A 21.5.

W. Install underground, copper, force-main tubing according to CDA's "Copper Tube Handbook."

1. Install encasement on piping according to ASTM A 674 or AWWA C105/A 21.5.

X. Install force mains at elevations indicated.

Y. Plumbing Specialties:

1. Install backwater valves in sanitary waster gravity-flow piping. Comply with requirements for backwater valves specified in Division 22 Section "Sanitary Waste Piping Specialties."
2. Install cleanouts at grade and extend to where building sanitary drains connect to building sanitary sewers in sanitary drainage gravity-flow piping. Install cleanout fitting with closure plug inside the building in sanitary drainage force-main piping. Comply with requirements for cleanouts specified in Division 22 Section "Sanitary Waste Piping Specialties."
3. Install drains in sanitary drainage gravity-flow piping. Comply with requirements for drains specified in Division 22 Section "Sanitary Waste Piping Specialties."

Z. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

AA. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Division 22 Section "Sleeves and Sleeve Seals for Plumbing Piping."

BB. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Division 22 Section "Sleeves and Sleeve Seals for Plumbing Piping."

CC. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Division 22 Section "Escutcheons for Plumbing Piping."

3.3 JOINT CONSTRUCTION

A. Join hub-and-spigot, cast-iron soil piping with gasket joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.

B. Join hub-and-spigot, cast-iron soil piping with calked joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for lead-and-oakum calked joints.

C. Join hubless, cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

D. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

E. Join stainless-steel pipe and fittings with gaskets according to ASME A112.3.1.

F. Join copper tube and fittings with soldered joints according to ASTM B 828. Use ASTM B 813, water-flushable, lead-free flux and ASTM B 32, lead-free-alloy solder.

G. Grooved Joints: Cut groove ends of pipe according to AWWA C606. Lubricate and install gasket over ends of pipes or pipe and fitting. Install coupling housing sections, over gasket, with keys seated in piping grooves. Install and tighten housing bolts.

H. Flanged Joints: Align bolt holes. Select appropriate gasket material, size, type, and thickness. Install gasket concentrically positioned. Use suitable lubricants on bolt threads. Torque bolts in cross pattern.

I. Plastic, Nonpressure-Piping, Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
2. ABS Piping: Join according to ASTM D 2235 and ASTM D 2661 Appendixes.

3. PVC Piping: Join according to ASTM D 2855 and ASTM D 2665 Appendixes.

3.4 SPECIALTY PIPE FITTING INSTALLATION

A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in OD's.
2. In Drainage Piping: [**Unshielded**] [**Shielded**], non-pressure transition couplings.
3. In Aboveground Force Main Piping: Fitting-type transition couplings.
4. In Underground Force Main Piping:

   a. NPS 1-1/2 (DN 40) and Smaller: Fitting-type transition couplings.
   b. NPS 2 (DN 50) and Larger: Pressure transition couplings.

B. Dielectric Fittings:

1. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
2. Dielectric Fittings for [**NPS 2 (DN 50)**] and Smaller: Use dielectric [**nipples**] [**unions**].
3. Dielectric Fittings for [**NPS 2-1/2 to NPS 4 (DN 65 to DN 100)**]: Use dielectric [**flanges**] [**flange kits**] [**nipples**].
4. Dielectric Fittings for [**NPS 5 (DN 125)**] and Larger: Use dielectric flange kits.

3.5 VALVE INSTALLATION

A. General valve installation requirements are specified in Division 22 Section "General-Duty Valves for Plumbing Piping."

B. Shutoff Valves:

1. Install shutoff valve on each sewage pump discharge.
2. Install gate or full-port ball valve for piping NPS 2 (DN 50) and smaller.
3. Install gate valve for piping NPS 2-1/2 (DN 65) and larger.

C. Check Valves: Install swing check valve, between pump and shutoff valve, on each sewage pump discharge.

D. Backwater Valves: Install backwater valves in piping subject to backflow.

1. Horizontal Piping: Horizontal backwater valves. [**Use normally closed type unless otherwise indicated.**]
2. Floor Drains: Drain outlet backwater valves unless drain has integral backwater valve.
3. Install backwater valves in accessible locations.
4. Comply with requirements for backwater valve specified in Division 22 Section "Sanitary Waste Piping Specialties."

3.6 HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for seismic-restraint devices specified in Division 22 Section "Vibration and Seismic Controls for Plumbing Piping and Equipment."

B. Comply with requirements for pipe hanger and support devices and installation specified in Division 22 Section "Hangers and Supports for Plumbing Piping and Equipment."

1. Install [**carbon-steel**] pipe hangers for horizontal piping in noncorrosive environments.
2. Install [**stainless-steel**] [**fiberglass**] pipe hangers for horizontal piping in corrosive environments.
3. Install [**carbon-steel**] pipe support clamps for vertical piping in noncorrosive environments.
4. Install stainless-steel pipe support clamps for vertical piping in corrosive environments.
5. Vertical Piping: MSS Type 8 or Type 42 clamps.
6. Install individual, straight, horizontal piping runs:

    a. 100 Feet (30 m) and Less: MSS Type 1, adjustable, steel clevis hangers.
    b. Longer than 100 Feet (30 m): MSS Type 43, adjustable roller hangers.
    c. Longer than 100 Feet (30 m) if Indicated: MSS Type 49, spring cushion rolls.

7. Multiple, Straight, Horizontal Piping Runs 100 Feet (30 m) or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
8. Base of Vertical Piping: MSS Type 52, spring hangers.

C. Support horizontal piping and tubing within 12 inches (300 mm) of each fitting [**valve**] and coupling.

D. Support vertical piping and tubing at base and at each floor.

E. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch (10-mm) minimum rods.

F. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/2 and NPS 2 (DN 40 and DN 50): 60 inches (1500 mm) with 3/8-inch (10-mm) rod.
2. NPS 3 (DN 80): 60 inches (1500 mm) with 1/2-inch (13-mm) rod.
3. NPS 4 and NPS 5 (DN 100 and DN 125): 60 inches (1500 mm) with 5/8-inch (16-mm) rod.
4. NPS 6 and NPS 8 (DN 150 and DN 200): 60 inches (1500 mm) with 3/4-inch (19-mm) rod.
5. NPS 10 and NPS 12 (DN 250 and DN 300): 60 inches (1500 mm) with 7/8-inch (22-mm) rod.
6. Spacing for 10-foot (3-m) lengths may be increased to 10 feet (3 m). Spacing for fittings is limited to 60 inches (1500 mm).

G. Install supports for vertical cast-iron soil piping every 15 feet (4.5 m).

H. Install hangers for steel piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/4 (DN 32): 84 inches (2100 mm) with 3/8-inch (10-mm) rod.
2. NPS 1-1/2 (DN 40): 108 inches (2700 mm) with 3/8-inch (10-mm) rod.
3. NPS 2 (DN 50): 10 feet (3 m) with 3/8-inch (10-mm) rod.
4. NPS 2-1/2 (DN 65): 11 feet (3.4 m) with 1/2-inch (13-mm) rod.

5. NPS 3 (DN 80): 12 feet (3.7 m) with 1/2-inch (13-mm) rod.
6. NPS 4 and NPS 5 (DN 100 and DN 125): 12 feet (3.7 m) with 5/8-inch (16-mm) rod.
7. NPS 6 and NPS 8 (DN 150 and DN 200): 12 feet (3.7 m) with 3/4-inch (19-mm) rod.
8. NPS 10 and NPS 12 (DN 250 and DN 300): 12 feet (3.7 m) with 7/8-inch (22-mm) rod.

I. Install supports for vertical steel piping every 15 feet (4.5 m).

J. Install hangers for stainless-steel piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 2 (DN 50): 84 inches (2100 mm) with 3/8-inch (10-mm) rod.
2. NPS 3 (DN 80): 96 inches (2400 mm) with 1/2-inch (13-mm) rod.
3. NPS 4 (DN 100): 108 inches (2700 mm) with 1/2-inch (13-mm) rod.
4. NPS 6 (DN 150): 10 feet (3 m) with 5/8-inch (16-mm) rod.

K. Install supports for vertical stainless-steel piping every 10 feet (3 m).

L. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/4 (DN 32): 72 inches (1800 mm) with 3/8-inch (10-mm) rod.
2. NPS 1-1/2 and NPS 2 (DN 40 and DN 50): 96 inches (2400 mm) with 3/8-inch (10-mm) rod.
3. NPS 2-1/2 (DN 65): 108 inches (2700 mm) with 1/2-inch (13-mm) rod.
4. NPS 3 and NPS 5 (DN 80 and DN 125): 10 feet (3 m) with 1/2-inch (13-mm) rod.
5. NPS 6 (DN 150): 10 feet (3 m) with 5/8-inch (16-mm) rod.
6. NPS 8 (DN 200): 10 feet (3 m) with 3/4-inch (19-mm) rod.

M. Install supports for vertical copper tubing every 10 feet (3 m).

N. Install hangers for [**ABS**] [**and**] [**PVC**] piping with the following maximum horizontal spacing and minimum rod diameters:

1. NPS 1-1/2 and NPS 2 (DN 40 and DN 50): 48 inches (1200 mm) with 3/8-inch (10-mm) rod.
2. NPS 3 (DN 80): 48 inches (1200 mm) with 1/2-inch (13-mm) rod.
3. NPS 4 and NPS 5 (DN 100 and DN 125): 48 inches (1200 mm) with 5/8-inch (16-mm) rod.
4. NPS 6 and NPS 8 (DN 150 and DN 200): 48 inches (1200 mm) with 3/4-inch (19-mm) rod.
5. NPS 10 and NPS 12 (DN 250 and DN 300): 48 inches (1200 mm) with 7/8-inch (22-mm) rod.

O. Install supports for vertical [**ABS**] [**and**] [**PVC**] piping every 48 inches (1200 mm).

P. Support piping and tubing not listed above according to MSS SP-69 and manufacturer's written instructions.

3.7 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.

C. Connect drainage and vent piping to the following:

1. Plumbing Fixtures: Connect drainage piping in sizes indicated, but not smaller than required by plumbing code.
2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
3. Plumbing Specialties: Connect drainage and vent piping in sizes indicated, but not smaller than required by plumbing code.
4. Install test tees (wall cleanouts) in conductors near floor and floor cleanouts with cover flush with floor.
5. Install horizontal backwater valves [**with cleanout cover flush with floor**] [**in pit with pit cover flush with floor**].
6. Comply with requirements for [**backwater valves**] [**cleanouts**] [**and**] [**drains**] specified in Division 22 Section "Sanitary Waste Piping Specialties."
7. Equipment: Connect drainage piping as indicated. Provide shutoff valve if indicated and union for each connection. Use flanges instead of unions for connections NPS 2-1/2 (DN 65) and larger.

D. Connect force-main piping to the following:

1. Sanitary Sewer: To exterior force main.
2. Sewage Pump: To sewage pump discharge.

E. Where installing piping adjacent to equipment, allow space for service and maintenance of equipment.

F. Make connections according to the following unless otherwise indicated:

1. Install unions, in piping NPS 2 (DN 50) and smaller, adjacent to each valve and at final connection to each piece of equipment.
2. Install flanges, in piping NPS 2-1/2 (DN 65) and larger, adjacent to flanged valves and at final connection to each piece of equipment.

3.8 IDENTIFICATION

A. Identify exposed sanitary waste and vent piping. Comply with requirements for identification specified in Division 22 Section "Identification for Plumbing Piping and Equipment."

3.9 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.

1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Re-inspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for re-inspection.

C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

D. Test sanitary drainage and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage and vent piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
3. Roughing-in Plumbing Test Procedure: Test drainage and vent piping except outside leaders on completion of roughing-in. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water (30 kPa). From 15 minutes before inspection starts to completion of inspection, water level must not drop. Inspect joints for leaks.
4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg (250 Pa). Use U-tube or manometer inserted in trap of water closet to measure this pressure. Air pressure must remain constant without introducing additional air throughout period of inspection. Inspect plumbing fixture connections for gas and water leaks.
5. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
6. Prepare reports for tests and required corrective action.

E. Test force-main piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Leave uncovered and unconcealed new, altered, extended, or replaced force-main piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
2. Cap and subject piping to static-water pressure of 50 psig (345 kPa) above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
3. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
4. Prepare reports for tests and required corrective action.

3.10 CLEANING AND PROTECTION

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

D. Exposed [**ABS**] [**and**] [**PVC**] Piping: Protect plumbing vents exposed to sunlight with two coats of water-based latex paint.

3.11 PIPING SCHEDULE

A. Flanges and unions may be used on aboveground pressure piping unless otherwise indicated.

B. Aboveground, soil and waste piping [**NPS 4 (DN 100) and smaller**] shall be [**any of**] the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings [**and sovent stack fittings**]; [**CISPI**] [**heavy-duty**] hubless-piping couplings; and coupled joints.
3. Galvanized-steel pipe, drainage fittings, and threaded joints.
4. Stainless-steel pipe and fittings, sealing rings, and gasketed joints.
5. Copper DWV tube, copper drainage fittings, and soldered joints.
6. [**Solid-wall**] [**Cellular-core**] ABS pipe, ABS sockets fittings, and solvent-cemented joints.
7. [**Solid-wall**] [**Cellular-core**] PVC pipe, PVC sockets fittings, and solvent-cemented joints.
8. Dissimilar Pipe-Material Couplings: [**Unshielded**] [**Shielded**], non-pressure transition couplings.

C. Aboveground, soil and waste piping [**NPS 5 (DN 125) and larger**] <**Insert pipe size range**> shall be[**any of**] the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings [**and solvent stack fittings**]; [**CISPI**] [**heavy-duty**] hubless-piping couplings; and coupled joints.
3. Galvanized-steel pipe, drainage fittings, and threaded joints.
4. Stainless-steel pipe and fittings, sealing rings, and gasketed joints.
5. [**Solid-wall**] [**Cellular-core**] PVC pipe, PVC sockets fittings, and solvent-cemented joints.
6. Dissimilar Pipe-Material Couplings: [**Unshielded**] [**Shielded**], non-pressure transition couplings.

D. Aboveground, vent piping [**NPS 4 (DN 100) and smaller**] shall be [**any of**] the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings; [**CISPI**] [**heavy-duty**] hubless-piping couplings; and coupled joints.
3. Galvanized-steel pipe, drainage fittings, and threaded joints.
4. Stainless-steel pipe and fittings gaskets and gasketed joints.
5. Copper DWV tube, copper drainage fittings, and soldered joints.

    a. Option for Vent Piping, NPS 2-1/2 and NPS 3-1/2 (DN 65 and DN 90): Hard copper tube, Type M (Type C); copper pressure fittings; and soldered joints.

6. [**Solid-wall**] [**Cellular-core**] ABS pipe, ABS sockets fittings, and solvent-cemented joints.
7. [**Solid-wall**] [**Cellular-core**] PVC pipe, PVC sockets fittings, and solvent-cemented joints.
8. Dissimilar Pipe-Material Couplings: [**Unshielded**] [**Shielded**], non-pressure transition couplings.

E. Aboveground, vent piping [**NPS 5 (DN 125) and larger**] <**Insert pipe size range**> shall be[**any of**] the following:

1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
2. Hubless, cast-iron soil pipe and fittings; [**CISPI**] [**heavy-duty**] hubless-piping couplings; and coupled joints.
3. Galvanized-steel pipe, drainage fittings, and threaded joints.
4. [**Solid-wall**] [**Cellular-core**] PVC pipe, PVC sockets fittings, and solvent-cemented joints.
5. Dissimilar Pipe-Material Couplings: [**Unshielded**] [**Shielded**], non-pressure transition couplings.

F. Underground, soil, waste, and vent piping [**NPS 4 (DN 100) and smaller**] <**Insert pipe size range**> shall be[**any of**] the following:

1. [**Extra Heavy**] [**Service**] class, cast-iron soil piping; [**gaskets; and gasketed**] [**calking materials; and calked**] joints.
2. Hubless, cast-iron soil pipe and fittings; [**CISPI**] [**heavy-duty**] [**cast-iron**] hubless-piping couplings; and coupled joints.
3. Stainless-steel pipe and fittings, gaskets, and gasketed joints.
4. [**Solid wall**] [**Cellular-core**] ABS pipe, ABS sockets fittings, and solvent-cemented joints.
5. [**Solid wall**] [**Cellular-core**] PVC pipe, PVC sockets fittings, and solvent-cemented joints.
6. Dissimilar Pipe-Material Couplings: [**Unshielded**] [**Shielded**], non-pressure transition couplings.

G. Underground, soil and waste piping [**NPS 5 (DN 125) and larger**] <**Insert pipe size range**> shall be[**any of**] the following:

1. [**Extra Heavy**] [**Service**] class, cast-iron soil piping; [**gaskets; and gasketed**] [**calking materials; and calked**] joints.
2. Hubless, cast-iron soil pipe and fittings; [**CISPI**] [**heavy-duty**] [**cast-iron**] hubless-piping couplings; coupled joints.
3. [**Solid-wall**] [**Cellular-core**] PVC pipe; PVC socket fittings; and solvent-cemented joints.
4. Dissimilar Pipe-Material Couplings: [**Unshielded**] [**Shielded**], non-pressure transition couplings.

H. Aboveground sanitary-sewage force mains [**NPS 1-1/2 and NPS 2 (DN 40 and DN 50)**] <**Insert pipe size range**> shall be[**any of**] the following:

1. Hard copper tube, Type L (Type B); copper pressure fittings; and soldered joints.
2. Galvanized-steel pipe, pressure fittings, and threaded joints.

I. Aboveground sanitary-sewage force mains [**NPS 2-1/2 to NPS 6 (DN 65 to DN 150)**] <**Insert pipe size range**> shall be[**any of**] the following:

1. Hard copper tube, Type L (Type B); copper pressure fittings; and soldered joints.
2. Galvanized-steel pipe, pressure fittings, and threaded joints.
3. Grooved-end, galvanized-steel pipe; grooved-joint, galvanized-steel-pipe appurtenances; and grooved joints.

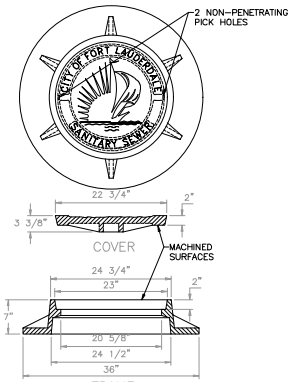
J. Underground sanitary-sewage force mains [**NPS 4 (DN 100) and smaller**] <**Insert pipe size range**> shall be[**any of**] the following:

1. [**Hard**] [**Soft**] copper tube, Type L (Type B); [**wrought-**] copper pressure fittings; and soldered joints.
2. Ductile-iron, mechanical-joint piping and mechanical joints.
3. Ductile-iron, push-on-joint piping and push-on joints.
4. Ductile-iron, grooved-joint piping and grooved joints.
5. Fitting-type transition coupling for piping smaller than NPS 1-1/2 (DN 40) and pressure transition coupling for NPS 1-1/2 (DN 40) and larger if dissimilar pipe materials.

K. Underground sanitary-sewage force mains [**NPS 5 (DN 125) and larger**] <**Insert pipe size range**> shall be[**any of**] the following:

1. Hard copper tube, Type L (Type B); [**wrought-**]copper pressure fittings; and soldered joints.
2. Ductile-iron, mechanical-joint piping and mechanical joints.
3. Ductile-iron, push-on-joint piping and push-on joints.
4. Ductile-iron, grooved-joint piping and grooved joints.
5. Pressure transition couplings if dissimilar pipe materials.

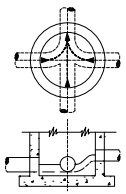
END OF SECTION 221316



NOTES:

1. MATERIAL: FRAME AND COVER AS SPECIFIED.
2. ADDITIONAL GRADE RINGS MAY BE USED TO ELEVATE EXISTING MANHOLE FRAMES TO RESURFACED GRADE (MAX. 4" HEIGHT).
3. ALL DIMENSIONS ARE NOMINAL.
4. OPTIONAL: HINGED FRAME AND COVER AS SPECIFIED.

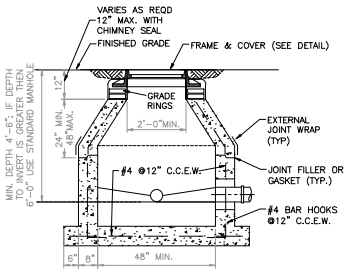
200 MANHOLE FRAME & COVER PAVED AREAS N.T.S



NOTE:

1. ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION.
2. PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
3. SERVICE LATERALS SHALL NOT ENTER MANHOLES UNLESS SPECIFIED ON PLANS AND THEN MUST BE TREATED AS MAINS. (ELEVATIONS SHOWN, PRECAST HOLE, FLOW CHANNEL)
4. BRICK RUBBLE PERMITTED AS FLOW CHANNEL BUILDUP.
5. SIDEWALLS OF FLOW CHANNEL SHALL BE AT LEAST HALF OF PIPE HEIGHT AT ALL POINTS.
6. NO INSIDE DROP LARGER THAN 6" SHALL BE ALLOWED WITH 3 OR 4 INVERTS AND MANHOLES WITH A CHANGE OF DIRECTION OF FLOW OF MORE THAN 45 DEGREES.

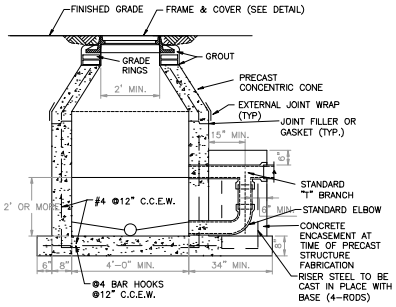
202 INVERT FLOW CHANNELS N.T.S.



NOTE:

ALL STANDARD MANHOLE NOTES AND DETAILS ARE APPLICABLE

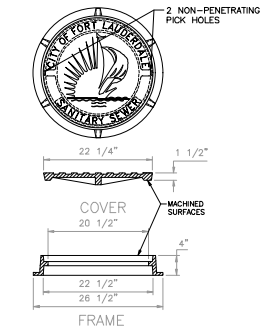
204 SHALLOW MANHOLE N.T.S.



NOTES:

1. ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL. DROP CONNECTIONS SHOULD NOT BE DESIGNED FOR LESS THAN A 2.0 FOOT DROP.
3. SOLVENT TYPE JOINT PVC FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY.
4. THE PRECAST BASE SHALL EXTEND FULLY UNDER THE DROP ASSEMBLY AND BE CONSTRUCTED MONOLITHICALLY WITH THE BASE SECTION.
5. BRICK AND CONCRETE RUBBLE ARE PERMITTED AS FILLER IN DROP ENCASEMENT.

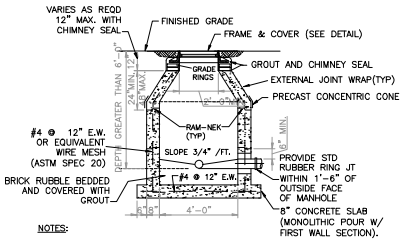
206 OUTSIDE DROP CONNECTION PRECAST MANHOLE - TYPE B N.T.S.



NOTES:

1. MATERIAL: FRAME AND COVER AS SPECIFIED.
2. ADDITIONAL GRADE RINGS MAY BE USED TO ELEVATE EXISTING MANHOLE FRAMES TO RESURFACED GRADE (MAX. 4" HEIGHT).
3. ALL DIMENSIONS ARE NOMINAL.
4. OPTIONAL: HINGED FRAME AND COVER AS SPECIFIED.

201 MANHOLE FRAME & COVER UNPAVED AREAS N.T.S.



NOTES:

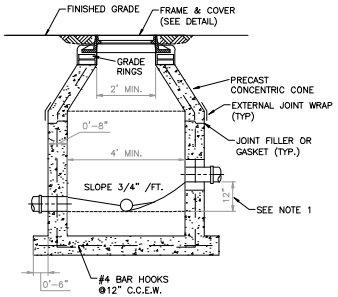
1. PRECAST CONCRETE TYPE II 4000 P.S.I.
2. "RAM-NEK" OR EQUAL AT ALL RISER JOINTS (1/2" THICK WITH THE WIDTH AT LEAST 1/2 THE WALL THICKNESS).
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
4. FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM. (SEE DETAIL)
5. LIFT HOLES ARE PERMITTED.
6. ALL PIPE HOLES SHALL BE PRECAST OR CORE DRILLED.

A. FOR PVC PIPE ENTERING MANHOLE WITH PRECAST HOLES USE THE APPROVED NON-ASBESTOS PVC-MANHOLE ADAPTER OR PRECAST FLEXIBLE MANHOLE SLEEVE FOR THE APPROPRIATE PIPE DIAMETER AND DIMENSION RATIO. THE ADAPTER SHALL NOT EXTEND MORE THAN 1" INTO THE MANHOLE. DOUBLE BANDING IS REQUIRED FOR FLEXIBLE MANHOLE SLEEVE.

B. CONNECTION TO A MANHOLE WITH A CORE DRILLED HOLE SHALL BE MADE USING A 5" MIN. DUCTILE IRON PIPE SECTION (EPOXY LINED) OR THE APPROVED PVC-MANHOLE ADAPTER.

7. INSIDE DROPS SHALL NOT BE DESIGNED TO EXCEED 1.80 FEET AND NOT CONSTRUCTED TO EXCEED 2.0 FEET, MAX. 6" INSIDE DROP IS PERMITTED FOR MANHOLES WITH 3 OR MORE INVERTS AND MANHOLES WITH A CHANGE IN FLOW DIRECTION OF MORE THAN 45 DEGREES.
8. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
9. MINIMUM 5 FEET IS REQUIRED BETWEEN OUTSIDE OF MANHOLE AND SERVICE WYE.
10. MANHOLES TO BE PAINTED INSIDE AND OUTSIDE WITH 2 COATS OF AN APPROVED PROTECTIVE COATING. (ONE COAT RED, ONE COAT BLACK) MIN. 8-10 MILS D.F.T. PER COAT.
11. MANHOLE SHALL BE SET PLUMB TO LINE AND GRADE.

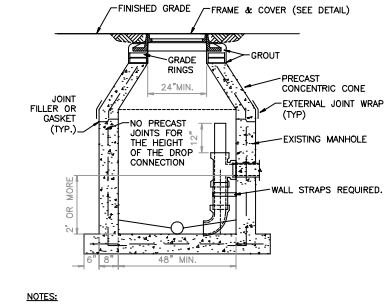
203 STANDARD MANHOLE N.T.S.



NOTES:

1. INSIDE DROP TO BE USED WHEN DROP IS GREATER THAN 6 INCHES AND LESS THAN 24 INCHES AND/OR FOR LATERAL CONNECTIONS.
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. MINIMUM PIPE SIZE FOR DROP IS 8".
5. SEE "STANDARD MANHOLE" DETAIL FOR ADDITIONAL REQUIREMENTS.

205 DROP CONNECTION PRECAST MANHOLE - TYPE A N.T.S.



NOTES:

1. ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
2. INSIDE DROP CONNECTION TO BE USED ONLY FOR A SINGLE DROP CONNECTION TO AN EXISTING MANHOLE.
3. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL. DROP CONNECTIONS SHOULD NOT BE DESIGNED FOR LESS THAN A 2.4 FOOT DROP.
4. SOLVENT TYPE JOINT PVC FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY.

207 INSIDE DROP CONNECTION EXISTING MANHOLE - TYPE C N.T.S.

NOT FOR CONSTRUCTION OR BID

ENGINEER: #Name REG. No. #NO. DATE: date

DRAWN BY: CMB | DATE: 09/17/2018
DESIGNED BY: | SCALE:
CHECKED BY: | FIELD BOOK:

CAM #24-0023
Exhibit 1
Page 42 of 66

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY (DEPT)	DESCRIPTION

PROJECT # P0000
PROJECT NAME
DESCRIPTION
SHEET
PLACE PROJECT ADDRESS

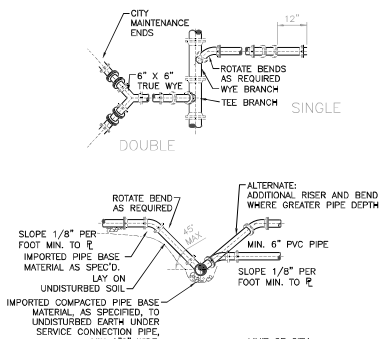
SHEET NO.
SSWR01

TOTAL: 0

CAD FILE: FTLAUD-SSWR01

DRAWING FILE NO. 4-XXX-XX

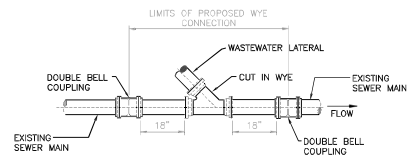
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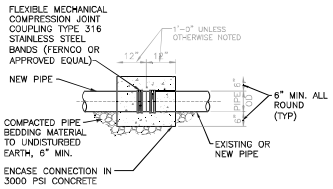
NOTES:

1. WASTEWATER MAIN WYE BRANCH TO MATCH MAIN PIPE MATERIAL.
2. NO 90° BENDS SHALL BE USED FOR WASTEWATER SERVICE AND CLEANOUT INSTALLATIONS.
3. SERVICE LATERALS SHALL TERMINATE AT 12" INSIDE THE PROPERTY LINE AT A DEPTH OF 3 FEET EXCEPT WHERE A DEEPER INVERT IS REQUIRED BY EXISTING BUILDING CONDITIONS.

208 TYPICAL WASTEWATER SERVICE CONNECTION
N.T.S.



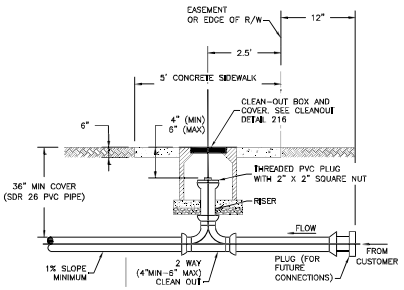
210 NEW LATERAL ON EXISTING GRAVITY WASTEWATER MAIN
N.T.S.



NOTE:

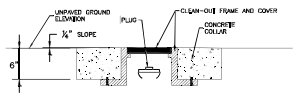
1. IN PLACE OF CONCRETE ENCASEMENT, WITH CITY'S ADVANCE APPROVAL, THE CONTRACTOR MAY USE SHEAR-RING COUPLINGS (FERNCO OR APPROVED EQUAL) PROVIDED THAT ALL METAL PARTS ARE SHOWN TO BE 316 STAINLESS STEEL.

211 JOINT FOR DISSIMILAR GRAVITY SEWER PIPE
N.T.S.

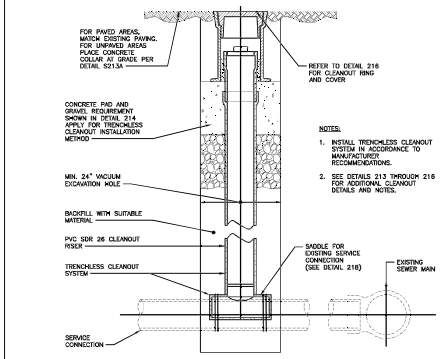


1. THE CLEAN OUT SHALL BE INSTALLED IN THE MIDDLE OF THE SIDEWALK. THIS DIMENSION WILL VARY DEPENDING UPON THE WIDTH OF THE SIDEWALK. 2.5' APPLIES TO 5' SIDEWALK WIDTH. IF SIDEWALKS DO NOT EXIST, THE CLEAN OUT SHALL BE INSTALLED 2.5' FROM THE RIGHT OF WAY LINE.
2. A NEW SECTION OF SIDEWALK SHALL BE POURED AROUND THE CLEAN-OUT BOX WHEN WORKING IN AN AREA WITH EXISTING SIDEWALKS. IF TRENCHLESS METHOD IS USED FOR CLEANOUT INSTALLATION, WHERE A PORTION OF THE CONCRETE SIDEWALK IS REMOVED BY CORE CUTTING, THE CIRCULAR CONCRETE CORE SURROUNDING THE CLEANOUT MAY BE RESTORED WITHOUT REPLACING THE ENTIRE SIDEWALK SLAB, AS LONG AS NO OTHER CRACKS AND/OR DEFECTS EXIST ON THE SLAB. IF CRACKS AND/OR DEFECTS EXIST ON THE SLAB, THE ENTIRE SLAB MUST BE REPLACED.
3. IN UNPAVED AREAS INSTALL 24-INCH-SQUARE OR 24-INCH-DIAMETER CONCRETE COLLAR (3,000 PSI AT 28 DAYS), FORMED UP TO AND AROUND THE CLEAN-OUT BOX AND HAVING A DEPTH OF 6-INCHES. THE COMPLETED CONCRETE COLLAR SHALL BE BROOM-FINISHED AND LEVEL WITH THE CLEAN-OUT BOX COVER AND FINISHED GRADE ELEVATION OF SURROUNDING GRASS, MULCH, GRAVEL, OR OTHER. SLOPE COLLAR FROM CENTER TO EDGE 1/4-INCH PER DETAIL 213A.
4. SEE DETAILS 213 THROUGH 216 FOR ADDITIONAL CLEANOUT DETAILS AND NOTES.

213 SANITARY SERVICE CONNECTION AT PROPERTY LINE OR EASEMENT LINE (PROFILE)
N.T.S.



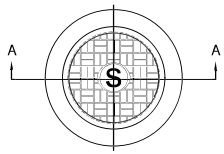
213A CONCRETE COLLAR FOR CLEANOUTS IN UNPAVED AREAS
N.T.S.



215 TRENCHLESS CLEANOUT SYSTEM FOR INSTALLATION ON 4-INCH AND 6-INCH SANITARY SERVICE CONNECTIONS
N.T.S.

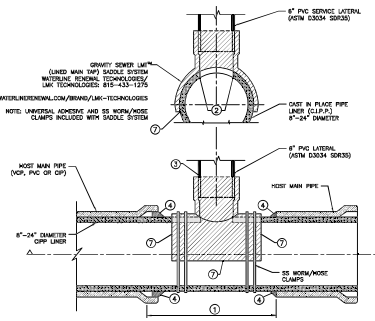
NOTES:

1. USF 7610 MANHOLE RING AND FC COVER OR EQUAL TO BE USED.
2. CLEANOUT COVER TO BE MARKED WITH A "S".
3. FOR UNPAVED AREAS, CENTER CLEANOUT COVER IN CONCRETE COLLAR (SEE DETAIL 213A).



PLAN

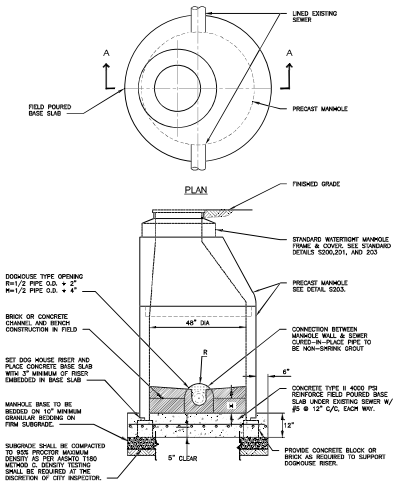
216 CLEANOUT RING AND COVER
N.T.S.



LEGEND

1. CUT & REMOVE SECTION OF HOST PIPE WHERE SERVICE CONNECTION IS TO BE MADE WITHOUT DAMAGING CIPP LINER.
2. CUT HOLE FOR LATERAL WITH DIAMETER EQUAL TO INSIDE DIAMETER OF THE PVC LATERAL IN MAIN SEWER LINER WITH POWER TOOL.
3. CONNECT 6" PVC SEWER LATERAL BY LMT™(LINED MAIN TAP) SADDLE SYSTEM.
4. SEAL THE PIPE CUTS WITH HYDRAULIC CEMENT.
5. IF NEW LATERAL SERVICE CONNECTION IS BEING CONSTRUCTED SEE TYPICAL WASTEWATER SERVICE CONNECTION DETAIL 208.
6. IF A NEW CLEAN-OUT COVER ASSEMBLY MUST BE INSTALLED SEE STANDARD DETAILS 213, 213A, 214, 215 AND 216 FOR REFERENCE
7. UNIVERSAL ADHESIVE TO BE ON THE INSIDE OF SADDLE TO FORM WATER TIGHT SEAL BETWEEN LINER AND HOST PIPE. SEE MANUFACTURER'S SPECIFICATIONS FOR MORE APPLICATION INSTRUCTIONS.

218 SADDLE TEE FASTENED TO LINED GRAVITY MAIN
N.T.S.



A-A ELEVATION

NOTES: ABANDONMENT OF EXISTING WASTEWATER SERVICE CONNECTIONS.

1. EXISTING SEWER LATERAL CONNECTIONS TO BE ABANDONED AS PART OF NEW CONSTRUCTION AND TO BE REPLACED WITH NEW CONNECTIONS MUST BE SEALED OFF USING SECTIONAL CURED-IN PLACE (CIP) LINERS.
2. CIP LINER CONTRACTOR MUST BE DULY LICENSED BY BROWARD COUNTY, FLORIDA AND CERTIFIED BY THE EQUIPMENT MANUFACTURER AND/OR ITS AUTHORIZED REPRESENTATIVE TO PERFORM SUCH INSTALLATIONS.

NOTES: INSTALLATION OF NEW WASTEWATER SERVICE CONNECTIONS

3. NEW WASTEWATER SERVICE CONNECTIONS SHALL BE CONSTRUCTED BY INSTALLING A LMT(TM) (LINED MAN TAP) SADDLE INSTALLATION SYSTEM ENGINEERED TO CONNECT A LATERAL SERVICE PIPE TO A LINER INSIDE A REHABILITATED MAINLINE (LMK TECHNOLOGIES OR APPROVED EQUAL), TO BE INSTALLED PER MANUFACTURER INSTRUCTIONS.
4. CLEANOUT MUST BE PROVIDED PER STANDARD DETAIL 5213.
5. CONTRACTOR SHALL PERFORM POST CCTV INSPECTION FOR NEW WASTEWATER SERVICE CONNECTION. SUBMIT COPY OF CCTV FILE TO CITY'S DSD AND PW ENGINEERING STAFF FOR INSPECTION OF DEFECTS OR DISTORTION TO MAINLINES.

NOTES: INSTALLATION OF NEW PRECAST CONCRETE MANHOLE(S) BUILT OVER EXISTING CIP LINER.

6. ALL NEW MANHOLES MUST BE CONSTRUCTED PER STANDARD DETAIL 5212 BY EXCAVATING TO HOST PIPE ELEVATION.
7. REMOVE HOST PIPE MATERIAL (E.G. VCP) FROM AREA OF NEW DOG HOUSE MANHOLE INSTALLATION.
8. CONTRACTOR SHALL NOT COMPROMISE STRUCTURAL INTEGRITY OF THE CIP LINER
9. CONTRACTOR SHALL PROPERLY SEAL CONNECTIONS BETWEEN DOG MOUSE MANHOLE AND CIP LINER WITH NON-SHRINK GROUT TO AVOID INFILTRATION AND INFLOW CONTRIBUTION TO THE CITY'S COLLECTION SYSTEM PER STANDARD DETAIL 5212.
10. MANHOLE BENCH SHALL BE CONSTRUCTED TO INCORPORATE THE BOTTOM HALF OF THE CIP LINER AS PART OF THE MANHOLE TROUGH.
11. UPON FINAL CONSTRUCTION AND CURING OF THE MANHOLE BENCH THE INSIDE OF THE MANHOLE SHALL BE LINED UTILIZING SPRAY APPLIED POLYMERIC (EPOXY AND URETHANE) RESINS. RAVEN LINING SYSTEMS, IET COATING (PAINTS AND COATINGS, INC.) OR APPROVED EQUAL MUST BE UTILIZED.
12. ALL NEW DOGHOUSE MANHOLE INSTALLATIONS MUST BE INSPECTED BY CITY INSPECTORS WHO SHALL WITNESS ALL PHASES OF CONSTRUCTION.
13. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE POST CCTV INSPECTION OF MAINLINE/ MANHOLE INTERCONNECTIONS.
14. QUALITY OF CCTV INSPECTION FILES MUST CLEARLY SHOW SUCH INTERCONNECTION IN ORDER TO EVALUATE AND APPROVE. CONTRACTOR SHALL SUBMIT A COPY OF CCTV FILE TO DSD AND PW ENGINEERING STAFF FOR REVIEW AND APPROVAL.

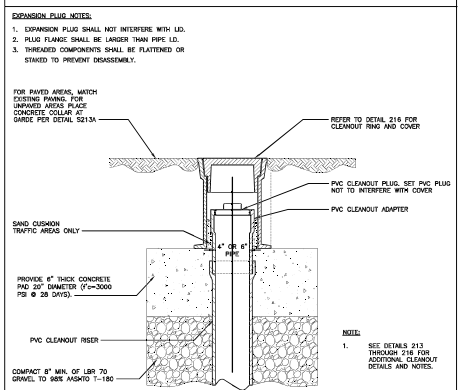
DSD = DEPARTMENT OF SUSTAINABLE DEVELOPMENT

PW = PUBLIC WORKS

212 PRECAST CONCRETE MANHOLE BUILT OVER EXISTING CURED IN PLACE LINED SEWER PIPE
N.T.S.

EXPANSION PLUG NOTES:

1. EXPANSION PLUG SHALL NOT INTERFERE WITH I.D.
2. PLUG FLANGE SHALL BE LARGER THAN PIPE I.D.
3. THREADED COMPONENTS SHALL BE FLATTENED OR STAKED TO PREVENT DISASSEMBLY.



214 CLEAN-OUT COVER ASSEMBLY FOR 4-INCH OR 6-INCH CLEANOUTS
N.T.S.

C:\USERS\ALSONIC\DESKTOP\MISC. REQUESTS\SSWR-02.DWG

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

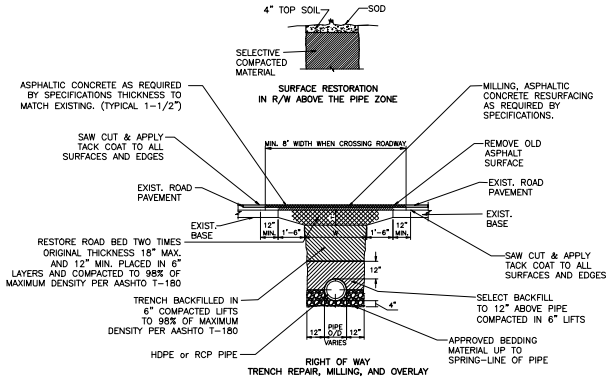
ENGINEER: @Name @NO. @REG. No. @DATE
DRAWN BY: DATE: MM/DD/YY
DESIGNED BY: DRAWN:
CHECKED BY: CAM #24-0023 Exhibit 1
FIELD BOOK: Page 425 of 686

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION
1	03/04/21	MAS	AT	UPDATE FOR I&I PROGRAM
2	07/20/21			2 Way Cleanout Revision

PROJECT # P0000
PROJECT NAME
DESCRIPTION
SHEET PLACE PROJECT ADDRESS

SHEET NO.
SSWR02
TOTAL: 0
CAD FILE: SSWR-02
DRAWING FILE NO.
4-XXX-XX



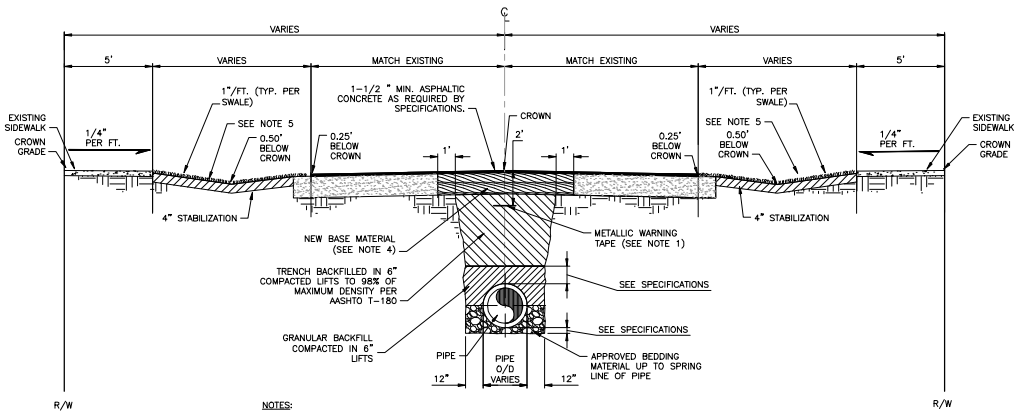
NOTES:

1. UNLESS OTHERWISE SPECIFIED SELECTED MATERIAL SHALL BE FREE OF STONES LARGER THAN 3/8" DIA.
2. REPLACE ALL EXISTING LANE MARKINGS AND REFLECTIVE MARKERS DAMAGED BY CONSTRUCTION ACTIVITIES.

T=6" PARKING
T=12" MIN. 18" MAX

TYPICAL TRENCH AND PAVEMENT RESTORATION FOR TRANSVERSE CROSSING

D100

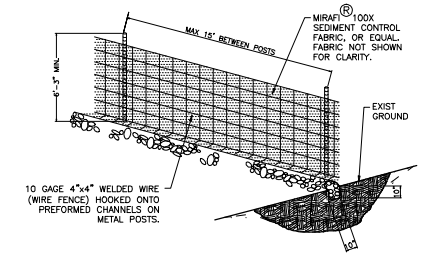


NOTES:

1. 2" WIDE METALLIC WARNING TAPES SHALL BE INSTALLED 24" BELOW FINISH GRADE. DOES NOT APPLY TO STORM DRAINAGE PIPE INSTALLATION.
2. UNLESS OTHERWISE SPECIFIED SELECTED MATERIAL SHALL BE FREE OF STONES LARGER THAN 3/8" DIA.
3. REPLACE ALL LANE MARKINGS AND REFLECTIVE MARKERS.
4. 12" MIN. LIMEROCK BASE PLACED IN 6" LAYERS AND COMPACTED TO 98% OF MAXIMUM DENSITY PER AASHTO T-180
5. BAHIA SOD -OR- ST. AUGUSTINE "FLORITAM" SOD IN PREVIOUSLY SODDED AREAS -OR- REPLACE EXISTING IMPROVED SURFACE (e.g., ROCK OR ASPHALT PAVING TO MATCH EXISTING -IF ASPHALT, MINIMUM 1" ASPHALT OVER MINIMUM 6" COMPACTED LIMEROCK)

TYPICAL ROAD SECTION, TYPICAL TRENCH, PAVEMENT AND SWALE RESTORATION FOR PARALLEL PIPE TRENCH

100B

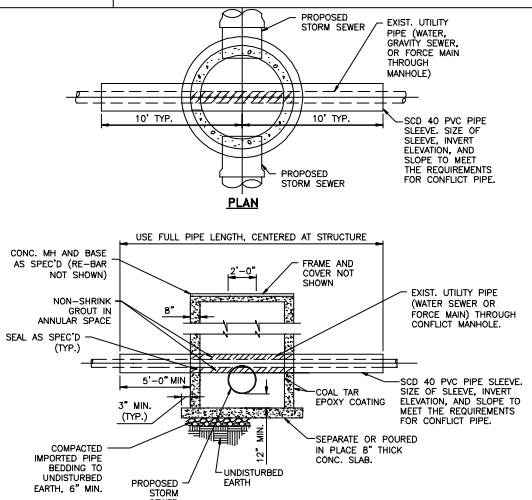


NOTES:

1. DRIVE WOOD POSTS (1.3 LBS/FT MIN) 18" MIN INTO GROUND AND EXCAVATE A 4"x4" TRENCH UPHILL 5' LONG (MIN) ALONG LINE OF POSTS. WOOD.
2. POSTS 4" IN DIAMETER OR 2"x4" MAY BE USED. ATTACH WIRE FENCE TO POSTS AND EXTEND THE BOTTOM OF THE FENCE 8" INTO THE EXCAVATED TRENCH. ALTERNATE : USE SEDIMENT CONTROL FABRIC WITH PRE-SEWN POCKETS FOR POSTS SO THAT WIRE FENCE IS NOT REQ'D.
3. ATTACH THE SEDIMENT CONTROL FABRIC (36" WIDE) TO THE WIRE FENCE W/METAL CLIPS OR WIRE AND EXTEND THE BOTTOM OF THE FABRIC 6" INTO THE TRENCH.
4. BOTTOM OF SEDIMENT CONTROL FABRIC MUST BE PLACED IN TRENCH AND SECURED WITH GRANULAR FILL TO A HEIGHT OF 6" ABOVE GROUND LEVEL, SO THAT RUNOFF IS FORCED TO GO THROUGH THE FENCE AND CANNOT GO UNDER IT.
5. SILT FENCE SHALL BE MAINTAINED AND TRAPPED SEDIMENTS SHALL BE REMOVED BY THE CONTRACTOR PERIODICALLY AS DETERMINED BY THE ENGINEER OR AS NECESSARY (MAX. 6 MONTHS).
6. THE CONTRACTOR IS REQUIRED TO REMOVE ALL SILT FENCES AND AREA TO BE RESTORED TO THE ORIGINAL CONDITION UPON COMPLETION OF CONSTRUCTION.

SILT FENCE DETAIL

D105

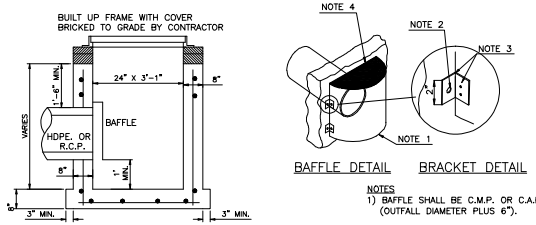


NOTES:

1. CONTRACTOR SHALL DETERMINE PIPE SIZES, PIPE INVERT ELEVATIONS AND ANGLES OF PIPE ENTRY AND EXIT.
2. ALL CONFLICT MANHOLES SHALL CONFORM TO THE REQUIREMENTS SHOWN ON THE CITY OF FORT LAUDERDALE ENGINEERING PLAN AND SPECS.

CONFLICT MANHOLE FOR NEW STORM SEWERS

D603



BAFFLE DETAIL BRACKET DETAIL

NOTES

1) BAFFLE SHALL BE C.M.P. OR C.A.P. SECTION (OUTFALL DIAMETER PLUS 6").
2) 1/2" GALV. WEDGE ANCHORS (ULT. PULLOU 6000, ULT. SHEAR 5900.)
3) WELD OR 2-3/8" THRU BOLTS
4) BOLTED TO WALL WITH TOP CAPPED. (WATER TIGHT)

TYPE "C" CATCH BASIN (USP 3-3.0)

NOTES

1) MINIMAL CONC. STRENGTH FOR ALL CATCH BASINS AND MANHOLE STRUCTURES SHALL BE 4000 PSI.
2) CONTRACTOR IS RESPONSIBLE FOR FINAL ELEVATION AND LOCATION ADJUSTMENTS OF CATCH BASINS, GRATES, MANHOLES DUE TO FIELD CONSTRAINTS.
3) THE 12" WEEP HOLE SHALL NOT BE USED IF THE BOTTOM OF THE INLET OR MANHOLE IS BELLOW THE NORMAL WATER TABLE, UNLESS OTHERWISE SHOWN ON PLANS.

POLLUTION RETARDANT BASIN & BAFFLE DETAIL FOR NEW STORM SEWERS

D621

STANDARD DETAIL SHEET

PROJECT #0000
Name of job
Description
Street Address
STORM DRAINAGE DETAILS

NO. OF SHEETS: 00
SHEET NO.: 0
CAD FILE NO. XXXXX-001-010WATR
FILE NO. 04-000-00

REVISIONS			
NO.	DATE	BY	CHK'D	DESCRIPTION

FINAL APPROVAL
FLA. P.E. NO. 00000
PETER PARTINGTON

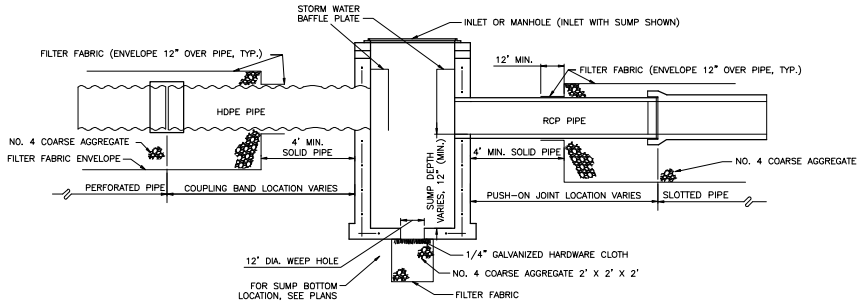
SCALE: N.T.S.
DATE: FEB., 2006
FILE: 24-0023
CHECKED BY: E.D.
DESIGNED BY: E.D.
DRAWN BY: A.C.

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
FORT LAUDERDALE, FLORIDA

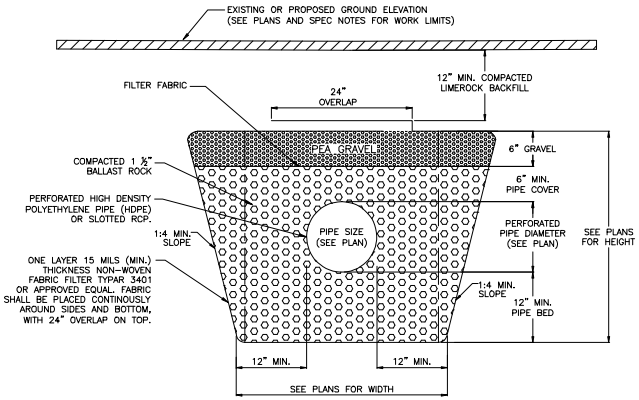
CAM #24-0023 Exhibit 1

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STRM02



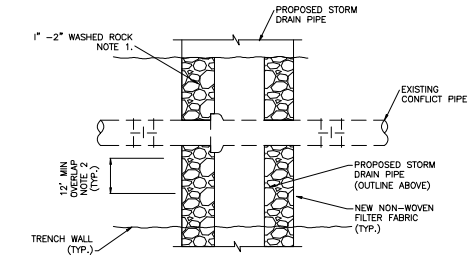
LONGITUDINAL CROSS SECTION



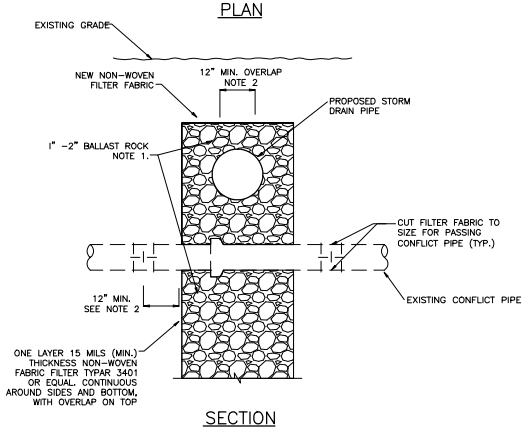
TRANSVERSE CROSS SECTION

NOTES:
1. CONTRACTOR MUST READ AND ABIDE THE CITY'S GENERAL CONSTRUCTION NOTES AND DRAINAGE DESIGN NOTES PRIOR TO STARTING CONSTRUCTION.
2. THE STANDARD CROSS SECTION SHALL BE CONSTRUCTED UNLESS OTHER SECTIONS ARE DESCRIBED OR DETAILED ON PLANS.
3. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PREVENT CONTAMINATION OF THE TRENCH WITH SAND, SILT AND FOREIGN MATERIALS.
4. THE 12" WEEP HOLE SHALL NOT BE USED IF THE BOTTOM OF THE INLET OR MANHOLE IS BELLOW THE NORMAL WATER TABLE, UNLESS OTHERWISE SHOWN ON PLANS.
5. FRENCH DRAINS MUST BE INSPECTED BY THE ENGINEERING INSPECTOR PRIOR TO CONTRACTOR BACKFILLING.

EXFILTRATION TRENCH SYSTEM D620



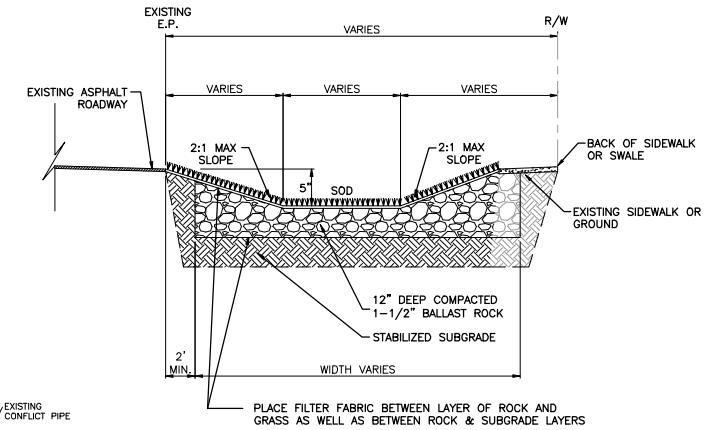
PLAN



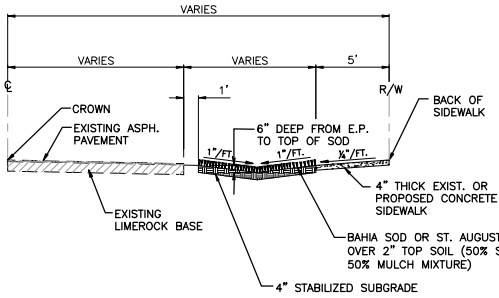
SECTION

NOTES:
1. EQUIVALENT STONE TO REPLACE DISTURBED ROCK (1" TO 2" BALLAST ROCK).
2. THE RESTORATION OF THE EXISTING TRENCH SHALL OVERLAP THE CUT WITH NEW NON-WOVEN FILTER FABRIC AND EXTENDED BEYOND THE CUT BY 1-FT. BOTTOM OF CUT SHALL ALSO BE REPAIRED WITH OVERLAPPING FABRIC.
3. AVOID INTRODUCING SAND AND SOIL INTO THE EXPOSED FRENCH DRAIN ROCK.
4. COMPACT SOIL SURROUNDING THE TRENCH IN 6" LIFTS OR PER TRENCH RESTORATION DETAIL.

EXFILTRATION TRENCH AND CONFLICT PIPE DETAIL D602



BALLAST ROCK SWALE PROFILE D610



6" SWALE PROFILE D611

FINAL APPROVAL
P.E. NO. 00000
PETER PARTINGTON
SCALE: N.T.S.
DATE: FEB., 2006
FILE: CAM #24-0023 Exhibit 1
DRAWN BY: A.C.
DESIGNED BY: E.D.
CHECKED BY: E.D.
0000/00-00

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
FORT LAUDERDALE, FLORIDA

REVISIONS

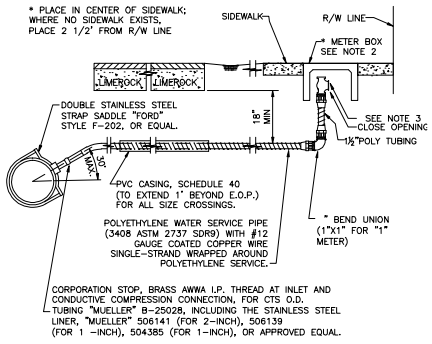
NO.	DATE	BY	CHK'D	DESCRIPTION

STANDARD DETAIL SHEET

PROJECT #0000
Name of job
Description
Street Address
STORM DRAINAGE DETAILS

NO. OF SHEETS: 00
SHEET NO.: 0
CAD FILE NO. XXXXX-001-010WATR
FILE NO. 04-000-00

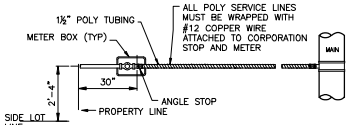
STRM01



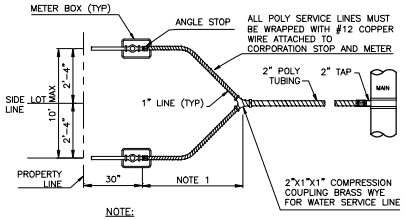
NOTE:

1. GROUND KEY ANGLE METER STOP,CONDUCTIVE COMPRESSION FOR CTS O.D. TUBING, X METER FLANGE 180° TURN CHECK-LOCK WING "MUELLER" H-14277, FOR 2-INCH INCLUDING THE STAINLESS STEEL LINER, "MUELLER" 506141 (FOR 2-INCH) OR APPROVED EQUAL, AND MUELLER 110 COMPRESSION CONNECTION.
2. METER BOXES FOR 5/8, 3/4, AND 1 INCH METERS SHALL BE THE OKIE DOKIE #890-40-260282 MEDIUM BOX AND 890-40-260257 MEDIUM LID OR EQUAL.
3. CONNECT ANGLE VALVE TO EXISTING METER WHERE APPLICABLE.

TYPICAL WATER SERVICE INSTALLATION (300)



SINGLE NEW SERVICE PLAN

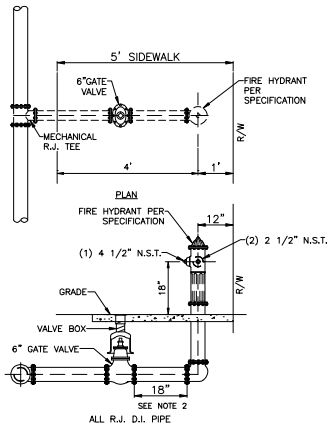


NOTE:

1. KEEP 1½" WYE AS CLOSE AS POSSIBLE TO METER BOX.

DOUBLE NEW SERVICE PLAN

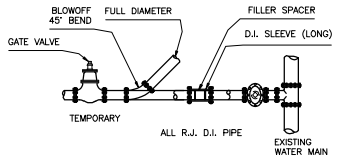
TYPICAL WATER SERVICE (301)



NOTES:

1. ACTUAL LOCATION OF FIRE HYDRANT TO BE DECIDED IN THE FIELD WITH ENGINEER'S APPROVAL.
2. KEEP VALVE AS CLOSE AS POSSIBLE TO THE HYDRANT.

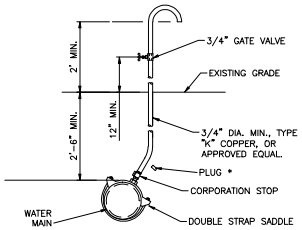
TYPICAL NEW FIRE HYDRANT ASSEMBLY INSTALLATION (302)



NOTES:

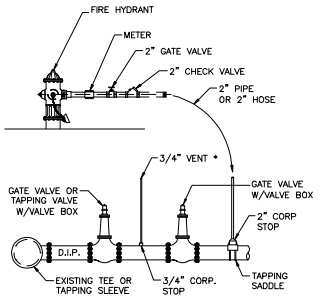
1. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAINS SHALL BE SWABBED AND FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER BY ACHIEVING A MINIMUM VELOCITY OF 2.5 FEET PER SECOND IN THE PIPE. TEMPORARY FITTINGS, PIPE, ETC. MAY BE NEEDED TO FACILITATE FLUSHING.
2. INSTALL A 45° BEND AND ASSOCIATED PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFLICT PROPERTY DAMAGE.
3. BENDS AND PIPING SHALL BE THE SAME SIZE AS THE LINE TO BE FLUSHED.
4. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION, THE CONTRACTOR SHALL PROPERLY NOTIFY THE CITY INSPECTOR OF SUCH INTENDED WATER USE.
5. NO EXISTING VALVES SHALL BE TURNED ON OR OFF, EXCEPT BY AUTHORIZED CITY PERSONNEL.
6. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE CITY INSPECTOR.
7. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.
8. THERE MAY BE SPECIAL REQUIREMENTS FOR FLUSHING PIPE LARGER THAN 12" DIAMETER.

FLUSHING CONNECTION AND BLOW OFF DETAIL (303)



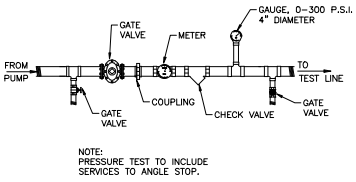
* NOTE: AFTER TESTS REMOVE 3/4" TUBING AND INSTALL PLUG ON CORPORATION STOP.

TYPICAL BACTERIOLOGICAL SAMPLING POINT AT INTERMEDIATE POINTS (304)



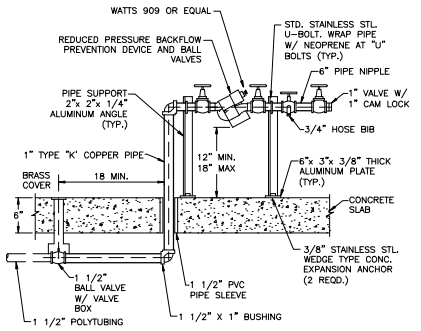
* NOTE: AFTER TESTS REMOVE 3/4" TUBING AND 2" GALVANIZED PIPE AND INSTALL PLUGS ON CORPORATION STOPS.

FILLING CONNECTION (305)

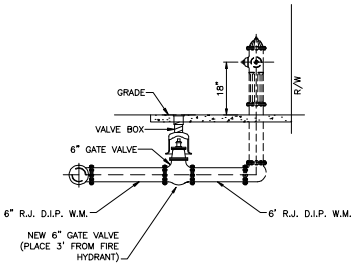


NOTE:
PRESSURE TEST TO INCLUDE SERVICES TO ANGLE STOP.

PRESSURE TEST DETAIL (306)



REDUCED PRESSURE BACKFLOW PREVENTER WITH HOSE CONNECTION FOR LIFT STATION (307)



NOTES:

1. RECONNECT EXISTING FIRE HYDRANT TO NEW WATER MAIN.
2. KEEP VALVE AS CLOSE AS POSSIBLE TO THE HYDRANT.
3. WHEN FIRE HYDRANT "TEE" IS ON P.V.C. PIPE RUN, CONSTRUCT 1 LENGTH OF D.I.P. (R.J.) PIPE ON EACH SIDE OF FIRE HYDRANT "TEE".

RELOCATE OR CONNECT EXISTING FIRE HYDRANT (308)

STANDARD DETAIL SHEET

PROJECT #0000
Name of job
Description
Street Address
WATER DETAILS

REVISIONS			
NO.	DATE	BY	CHK'D	DESCRIPTION
1	6/06	RC	W.S.	REVISE DETAILS 300, 301

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
FORT LAUDERDALE, FLORIDA

DRAWN BY: ENG.	SCALE: N.T.S.	FINAL APPROVAL	
DESIGNED BY: WW2011	DATE: FEB., 2006	P.E. NO. 00000	PETER PARTINGTON
CHECKED BY: WW2011	FILE: 0000/00-00		

CAM #24-0023 Exhibit 1

NO. OF SHEETS: 00
SHEET NO.: 0
CAD FILE NO. XXXXX-001-010WATR
FILE NO. 04-000-00

WATER2

LEGEND:

SYMBOL	DESCRIPTION
M	WATER METER BOX
V	EXISTING VALVE
	PROPOSED VALVE
	FIRE HYDRANT
	BENCH MARK
	TREE
NBC	NAIL IN BOTTLE CAP
NIA	NAIL IN ASPHALT
—G—	GAS LINE
—W—	WATER MAIN
—BT—	BURIED TELEPHONE
—T—	TELEPHONE
—UE—	UNDERGROUND ELECTRIC
—FM—	FORCE MAIN
—OH—	OVERHEAD WIRES
—CATV—	CABLE TELEVISION
—X—X—	CHAIN LINK FENCE
	WOOD FENCE
#.##	EXISTING ELEVATION
SOIL BORE	SOIL BORING LOCATION MARK
	SOIL TYPE SEPERATION MARK

WATER SYSTEM NOTES:

PIPE D.I.P.

1. Ductile Iron water main pipe shall conform to the requirements of A.N.S.I./ A.W.W.A. C-151/A 21.51-02 and lined and coated per A.N.S.I./A.W.W.A. C-104/A-214-03. 20" and smaller pipe shall be pressure class 350; 24" and larger, pipe shall be pressure class 250.
2. All DIP shall have adequate protective measures against corrosion and it shall be used only if as determined by the design engineer, based on field conditions.
3. All DIP shall be installed in accordance with A.N.S.I./A.W.W.A. C-600-99, or latest revision.

PIPE P.V.C.

4. All P.V.C. mains shall be series 1120, class 150 (DR 18) pressure pipe, conforming to A.N.S.I./A.W.W.A. C-900-07", or latest revision, and shall have push on joints, and iron pipe O.D.
5. All P.V.C. pipe shall be installed in accordance with the Uni-Bell plastic pipe Association's "Guide for installation of P.V.C. pressure pipe for Municipal water distribution system". Water distribution pipe shall be of "BLUE" color. All water main installations shall comply with the color coding requirements of Chapter 62-555.320 F.A.C. (Florida Administrative Code).
6. Detector tape on all P.V.C. mains shall be installed 18" above the water main.
7. All P.V.C. mains must have #6 copper wire, single strand, placed on top of pipe, shall be electrically continuous over the entire length of the pipe, and fastened every 10' with a #12 wire.

FITTINGS

8. Fittings shall be ductile iron meeting A.N.S.I./A.W.W.A. C153/21.00 and shall be coated with 6 to 8 mil. Thickness coal tar epoxy conforming to the requirements of A.N.S.I./A.W.W.A. C550-05 and C116/A21.03.
9. Restrained joint pipe shall be used for all bends, tees, crosses, plugs, and fire hydrants. Thrust blocks shall not be allowed.
10. Retainer glands/mechanical joint restraint shall be used only if authorized by the Engineer and shall conform to A.N.S.I./A.W.W.A. standards C 111/A-21.11-03, or latest revision.
11. All glands shall be manufactured from ductile iron as listed by underwriter's laboratory for 250 P.S.I. minimum water pressure rating.
12. Glands shall be CLOW Corporation model F-1058, standard fire protection equipment company, or approved equal.

VALVES

13. Tapping valves shall be Mueller H667 or approved equal.
14. Tapping sleeves shall be Mueller H615 or approved equal.
15. Gate valves 3" or less shall be NIBCO T-133 OR T-136 with malleable hand wheels. No substitutions allowed.
16. Gate valves 4" or larger shall meet A.W.W.A. C-500-02 specification (latest revision). Valves shall be Mueller Co. or approved equal.
17. All valves shall be furnished with extension type cast iron valve boxes of proper length for pipe depth. All boxes shall conform with A.W.W.A. specifications with a shaft of no less than 5 inches and have the word "WATER" cast in the cover. Base of valve box shall have a flared section to fit over stuffing box of valve.

HYDRANTS

18. Fire hydrants shall be breakaway Mueller Co. Centurion model #A-423, or Metropolitan 250 Eddy Compression type F.H. or approved equal.
19. Fire hydrants shall be installed with the center of the nozzle 18" above finished grade.
20. Dead-end water mains 6" or larger shall terminate with a fire hydrant.

PLACEMENT

21. The minimum depth of cover over water mains is 30" except where shown differently on plans.
22. A continuous and uniform bedding shall be provided. Backfill material shall be tamped in layers around the pipe as shown on the plans and/or City of Fort Lauderdale Construction Standards and Specifications, January 1982. Rocks or stones larger than 3/4" diameter found in the trench shall be removed for a depth of at least 6" below the bottom of the pipe.
23. Pipe deflection shall not exceed 75% of the maximum deflection recommended by the manufacturer.

SEPARATION

24. Sanitary sewers and force mains should cross under water mains whenever possible. Sanitary sewers and force mains crossing water mains shall be laid to provide a minimum vertical distance of 18" between the invert of the upper pipe and the crown of the lower pipe whenever possible.
25. Where sanitary sewer force mains must cross a water main with less than 18" vertical separation, both the sewer and water main shall be constructed of ductile iron pipe (DIP) at the crossing. Sufficient lengths of DIP must be used to provide a minimum separation of 10 feet between any two joints. All joints on the water main within 20 feet of the crossing must be mechanically restrained. A minimum vertical clearance of 6" must be maintained at all crossings.
26. A minimum 10 foot horizontal separation shall be maintained between any type of sewer and water main in parallel installations whenever possible.
27. The preferred separation between water mains and sewer mains shall be 10 feet. In cases where it is not possible to maintain a 6 foot horizontal separation between the water mains and sewer mains, one of the following conditions must be met. The minimum separation between water and sewer mains shall be 3 feet:

SEPARATION (CONT'D)

27.a The water main must be laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer or force main at such elevation that the bottom of the water main is at least 18 inches above the top of the sewer.

27.b The sewer or force main is encased in concrete or a watertight carrier pipe.

27.c Both the sewer and the water main are constructed of pressure pipe tested to 150 p.s.i.

28. Where it is not possible to maintain a vertical distance of 18" in parallel installations, the water main shall be constructed of DIP and the sanitary sewer or force main shall be constructed of DIP, with a minimum vertical clearance of 6". The water main should be above the sewer. Joints on the water main shall be located as far apart as possible from the joints on the sewer or force main (staggered joints).
29. All crossings shall be arranged so that the sewer pipe joints and the water main pipe joints are equidistant from the point of crossing (pipes centered on the crossing).
30. Where a new pipe conflicts with an existing pipe with less than 18" vertical clearance, the new pipe shall be arranged to meet the crossing requirements above.

TESTING, DISINFECTION

31. Pipe shall be tested under constant pressure of 150 P.S.I. for a minimum test period of 2 hours and shall not exceed the leakage requirements as per A.N.S.I./A.W.W.A. specifications of C-600-05 leakage formula: $Q = (SD\sqrt{P})/\ 133{,}200$
    Q = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
    D = DIAMETER OF THE PIPE TESTED, IN INCHES.
    S = TOTAL LENGTH OF PIPE TESTED, IN FEET.
    P = AVERAGE TEST PRESSURE, IN POUNDS PER SQUARE INCH.
32. The City of Fort Lauderdale Public Services Department will take all bacteriological tests, to be scheduled via inspector. If otherwise specified in contract detailed specification and/or authorized by the engineer of record, bacteriological tests may be performed by a certified environmental testing laboratory.
33. Disinfection of mains shall comply with A.N.S.I./A.W.W.A. C-651-05 standard. Bacteriological sampling points shall be designated on the engineering plans. Minimum one sampling point at each end. Maximum space between sampling points is 1200 feet.

CONNECTION

34. All connections to existing mains shall be made under the direction of the City of Fort Lauderdale.
35. There shall be no connection to an existing water main until pressure and bacteriological tests have been conducted and the results are approved and accepted by the City of Fort Lauderdale.

SERVICE CONNECTIONS

36. All meter service connections shall be bronze from plug valve. No gate valves are to be used (2" or less).
37. Service saddles shall be ductile iron with stainless steel straps. Saddles shall be double strap type. All service saddles shall conform to A.N.S.I./A.W.W.A. C 111/A-21.11-00 and A.S.T.M. A588.
38. All service lines shall be copper tubing, type "K", or plasticized polyethylene 3408, A.S.T.M. D-2737, S.D.R. 9, 200 P.S.I.

GENERAL NOTE:

ALL EXISTING 2" WATER MAINS ARE TO BE CAPPED AND ABANDONED IN PLACE.
NEW WATER SERVICE LINES SHALL BE INSTALLED TO SERVICE THE EXISTING PROPERTIES.

STANDARD DETAIL SHEET

PROJECT #0000
Name of job
Description
Street Address
STANDARD WATER DETAILS

NO. OF SHEETS: 00

SHEET NO.: 0

CAD FILE NO. XXXXX-001-010WATR

FILE NO. 04-000-00

REVISIONS			
NO.	DATE	BY	CHK'D	DESCRIPTION
1	04/08	R.C.	T.A.	REVISE NOTE 33
2	08/08	R.C.	W.S.	REVISE NOTES 4 & 10

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
FORT LAUDERDALE, FLORIDA

DRAWN BY: ENG.	SCALE: N.T.S.	FINAL APPROVAL	
DESIGNED BY: WW2011	DATE: FEB., 2006	FLA. P.E. NO. 00000	PETER PARTINGTON
CHECKED BY: WW2011	FIELD BOOK:		

#24-0023 Exhibit 1

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xx/xx/0x

WATR01

Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Well Point System	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of a complete well point system, including but not limited to well points, common header, wellpoint pumps, discharge hose and sedimentation tank, up to 40LF around excavation, all depths.	1	Location	See ITB Specifications
BASE BID TOTAL	Well Point System - Additional	Additional cost for complete well point system in excess of 40LF under item 1. (10 linear foot increase).	1	Location	See ITB Specifications
BASE BID TOTAL	Bypass	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of bypass piping and pumping system between manholes where work is being done on gravity sewer. Work shall include placing plugs in each affected manhole and any other items required to provide a complete functioning bypass system.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 5 to 10 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 10 to 15 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 15 feet below existing grade.	1	Location	See ITB Specifications

LINE ITEM DESCRIPTION - FOR INFORMATIONAL PURPOSES ONLY

Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 15 to 20 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 15 to 20 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), PVC C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 5 to 10 feet below existing grade.	1	linear foot	See ITB Specifications
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BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 12-inch - 15-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

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BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 15-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications
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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 15-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 18-inch - 24-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
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BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
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Event 154 - Annual Point Repair and Replacement

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BASE BID TOTAL	Sewer Pipe 42-inch - 48-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 42-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

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BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications
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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 4-inch - 6-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 4-inch- 6-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 4-inch- 6-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 4-inch- 6-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 4-inch- 6-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 4-inch- 6-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (4-in - 6-in),(DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (4-in - 6-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe Additional Footage (4-in - 6-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 8-inch- 10-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 8-inch - 10-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 8-inch - 10-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in),(DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe 12-inch - 16-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 12-inch - 16-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 12-inch - 16-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 12-inch - 16-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 12-inch - 16-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 12-inch - 16-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 16-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (12-in- 16-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (12-in- 16-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe 20-inch - 24-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 20-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 20-inch - 24-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 20-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 20-inch - 24-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 20-inch - 24-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (20-in - 24-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (20-in - 24-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (20-in - 24-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 30-inch - 36-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 30-inch - 36-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 30-inch - 36-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Sewer Pipe 42-inch - 48-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 42-inch - 48-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 42-inch- 48-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 42-inch - 48-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe 42-inch- 48-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 42-inch - 48-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), C-900 , 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe (Restrained PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe(Restrained PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch - 36-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch - 36-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe (Restrained DIP Cemented Lined) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe (Restrained DIP Cemented Lined) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

LINE ITEM DESCRIPTION - FOR INFORMATIONAL PURPOSES ONLY

Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch - 36-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch -36-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Pipe 42-inch - 48-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 42-inch - 48-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe 42-inch - 48-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 42-inch - 48-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (42-in - 48-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Pipe Additional Footage (42-in - 48-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Water Service Line single (5/8 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (5/8 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (3/4 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (3/4 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), long	1	Location	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Service Line single (1 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (1 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (1.5 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (1.5 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (2 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line single (2 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (5/8 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (5/8 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (3/4 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (3/4 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (1 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), short	1	Location	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Water Service Line double (1 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (1.5 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (1.5 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (2 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), short	1	Location	See ITB Specifications
BASE BID TOTAL	Water Service Line double (2 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), long	1	Location	See ITB Specifications
BASE BID TOTAL	Directional Borings (4 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (4 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (6 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (6 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (8 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (8 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (10 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (10 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (12 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (12 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (16 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (16 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (18 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (18 - inch)	1	linear foot	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Directional Borings (20 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (20 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (24 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (24 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (30 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (30 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (36 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (36 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (42 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (42 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Directional Borings (48 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (48 - inch)	1	linear foot	See ITB Specifications
BASE BID TOTAL	Pipe Liner (6 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (6 - inch).	1	linear foot	See ITB Specifications
BASE BID TOTAL	Pipe Liner (8 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (8 - inch).	1	linear foot	See ITB Specifications
BASE BID TOTAL	Pipe Liner (10 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (10 - inch).	1	linear foot	See ITB Specifications
BASE BID TOTAL	Pipe Liner (12 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (12 - inch).	1	linear foot	See ITB Specifications
BASE BID TOTAL	Pipe Liner (14 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (14 - inch).	1	linear foot	See ITB Specifications
BASE BID TOTAL	Pipe Liner (16 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (16 - inch).	1	linear foot	See ITB Specifications
BASE BID TOTAL	Pipe Liner (18 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (18 - inch).	1	linear foot	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Lateral	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new, repair, or replace existing 6-inch diameter lateral line or lateral stack including but not limited to all fittings, wyes, tees, and bends, excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20 LF.	1	Location	See ITB Specifications
BASE BID TOTAL	Lateral Additional Footage	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new, repair, or replace existing 6-inch diameter lateral line or lateral stack, in excess of 20 LF beyond centerline of main.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Lateral Additional	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new, repair, or replace existing lateral line or existing single or double lateral stack, including new wyes, tees, and bends at locations already excavated for other repairs under Items 4-6.	1	Location	See ITB Specifications
BASE BID TOTAL	F&I 6-inch clean-out on existing lateral (Conventional)	Furnish all labor, materials, accessories, equipment and tools necessary to install 6-inch clean-out on existing lateral (Conventional)	1	each	See ITB Specifications
BASE BID TOTAL	F&I 6-inch clean-out on existing lateral (Vac -A-Tee).	Furnish all labor, materials, accessories, equipment and tools necessary to install 6-inch clean-out on existing lateral (Vac -A-Tee)	1	each	See ITB Specifications
BASE BID TOTAL	New Manhole - from 0 feet to 5 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 0 feet to 5 feet.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	New Manhole - from 5 feet to 8 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 5 feet to 8 feet.	1	each	See ITB Specifications
BASE BID TOTAL	New Manhole - from 8 feet to 12 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 8 feet to 12 feet.	1	each	See ITB Specifications
BASE BID TOTAL	New Manhole - from 12 feet to 15 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 12 feet to 15 feet.	1	each	See ITB Specifications
BASE BID TOTAL	New Manhole - from 15 feet to 20 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 15 feet to 20 feet.	1	each	See ITB Specifications
BASE BID TOTAL	Removal of Manhole - from 0 feet to 5 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 0 feet to 5 feet.	1	each	See ITB Specifications
BASE BID TOTAL	Removal of Manhole - from 5 feet to 8 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 5 feet to 8 feet.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Removal of Manhole - from 8 feet to 12 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 8 feet to 12 feet.	1	each	See ITB Specifications
BASE BID TOTAL	Removal of Manhole - from 12 feet to 15 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 12 feet to 15 feet.	1	each	See ITB Specifications
BASE BID TOTAL	Removal of Manhole - from 15 feet to 20 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 15 feet to 20 feet.	1	each	See ITB Specifications
BASE BID TOTAL	Sewer Manhole Rehabilitation	Furnish all labor, materials, accessories, equipment and tools necessary for the repair and rehabilitation of existing sanitary sewer manholes	1	each	See ITB Specifications
BASE BID TOTAL	Replace 24-inch Manhole Ring and Cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-inch manhole ring and cover	1	each	See ITB Specifications
BASE BID TOTAL	Coring	Furnish all labor, materials, accessories, equipment and tools necessary for the coring of existing structure for pipe tie-in, including but not limited to saw-cutting, bricks and mortar, for a complete tie-in.	1	each	See ITB Specifications
BASE BID TOTAL	24-in x 24-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-in x 24-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	24-in x 30-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-in x 30-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	24-in x 36-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-in x 36-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	30-in x 30-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 30-in x 30-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	30-in x 36-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 30-in x 36-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	30-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 30-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	36-in x 36-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 36-in x 36-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	36-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 36-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	42-in x 42-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 42-in x 42-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	42-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 42-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	48-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 48-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
BASE BID TOTAL	Ductile Iron Pipe Fittings	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of ductile iron pipe fittings, 350 rating, sizes 4-inch to 36-inch diameter	1	pounds	See ITB Specifications
BASE BID TOTAL	Replace Water Gate Valves, 4-inch - 8-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 4-inch - 8-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Replace Water Gate Valves, 10-inch - 12-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 10-inch - 12-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Gate Valves, 16-inch - 18-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 16-inch - 18-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Gate Valves, 20-inch - 24-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 20-inch - 24-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Gate Valves, 30-inch - 36-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 30-inch - 36-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Gate Valves, 42-inch - 48-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 42-inch - 48-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Butterfly Valves, 10-inch - 12-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 10-inch - 12-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications

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Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Replace Water Butterfly Valves, 16-inch - 18-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 16-inch - 18-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Butterfly Valves, 20-inch - 24-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 20-inch - 24-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Butterfly Valves, 30-inch - 36-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 30-inch - 36-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Water Butterfly Valves, 42-inch - 48-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 42-inch - 48-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Air Release Valves - Water (Installed in manhole)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve in manhole.	1	each	See ITB Specifications
BASE BID TOTAL	Air Release Valves - Water (Installed on aerial crossing)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve on aerial crossing.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Sewer Plug Valves, 4-inch - 8-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 4-inch - 8-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Replace Sewer Plug Valves, 10-inch - 12-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 10-inch - 12-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Sewer Plug Valves, 16-inch - 18-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 16-inch -18-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Sewer Plug Valves, 20-inch - 24-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 20-inch -24-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Sewer Plug Valves, 30-inch - 36-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 30-inch -36-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Replace Sewer Plug Valves, 42-inch - 48-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 42-inch -48-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
BASE BID TOTAL	Air Release Valves - Wastewater (Installed in manhole)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve in manhole.	1	each	See ITB Specifications
BASE BID TOTAL	Air Release Valves - Wastewater (Installed on aerial crossing)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve in manhole.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	6-inch: 6 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 6-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	6-inch: 6 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 6-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	8-inch: 8 x 8 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 8-inch X 8-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	8-inch: 8 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 8-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	8-inch: 8 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 8-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	10-inch: 10 x 10 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 10-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	10-inch: 10 x 8 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 8-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	10-inch: 10 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	10-inch: 10 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	12-inch: 12 x 12 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 12-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	12-inch: 12 x 10 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 10-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	12-inch: 12 x 8 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 8-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	12-inch: 12 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	12-inch: 12 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Installation of New Hydrant	Furnish all materials, labor and equipment to install the fire hydrant assembly. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications
BASE BID TOTAL	Replacement of Existing Hydrant	Furnish all materials, labor and equipment to replace existing fire hydrant assembly and to remove and properly salvage or dispose of the existing fire hydrants. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications
BASE BID TOTAL	Relocation of Existing Hydrant	Furnish all materials, labor and equipment to relocate existing fire hydrant assembly. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications
BASE BID TOTAL	Relocation of Existing Hydrant and Replacement with new hydrant	Furnish all materials, labor and equipment to install a new fire hydrant assembly in a different location and to remove and properly salvage or dispose of the existing fire hydrants. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications
BASE BID TOTAL	Installation of bacteriological sampling points	Furnish all materials, labor and equipment to install bacteriological sampling points.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 4-inch	Furnish all materials, labor and equipment to install 4-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Line Stop 6-inch	Furnish all materials, labor and equipment to install 6-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 8-inch	Furnish all materials, labor and equipment to install 8-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 10-inch	Furnish all materials, labor and equipment to install 10-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 12-inch	Furnish all materials, labor and equipment to install 12-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 14-inch	Furnish all materials, labor and equipment to install 14-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 16-inch	Furnish all materials, labor and equipment to install 16-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Line Stop 18-inch	Furnish all materials, labor and equipment to install 18-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 20-inch	Furnish all materials, labor and equipment to install 20-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 24-inch	Furnish all materials, labor and equipment to install 24-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 30-inch	Furnish all materials, labor and equipment to install 30-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 36-inch	Furnish all materials, labor and equipment to install 36-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	Line Stop 42-inch	Furnish all materials, labor and equipment to install 42-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Line Stop 48-inch	Furnish all materials, labor and equipment to install 48-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	DITCH BOTTOM TYPE C (INDEX 232) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install DITCH BOTTOM TYPE C including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	DITCH BOTTOM TYPE D (INDEX 232) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install DITCH BOTTOM TYPE D including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	STORM MANHOLE TYPE M-4 (48 INCHES ROUND) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install STORM MANHOLE TYPE M-4 (48 INCHES ROUND) including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	STORM MANHOLE TYPE M-5 (60 INCHES ROUND) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install STORM MANHOLE TYPE M-5 (60 INCHES ROUND) including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
BASE BID TOTAL	18 INCHES ADS DRAIN BASIN OR APPROVED EQUAL	Furnish all materials, labor and equipment to install 18 INCHES ADS DRAIN BASIN OR APPROVED EQUAL including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	24 INCHES ADS DRAIN BASIN OR APPROVED EQUAL	Furnish all materials, labor and equipment to install 24 INCHES ADS DRAIN BASIN OR APPROVED EQUAL including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND LESS THAN 12 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND LESS THAN 12 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND LESS THAN 12 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND LESS THAN 12 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND 12 INCHES - 15 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND 12 INCHES - 15 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND 12 INCHES - 15 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND 12 INCHES - 15 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND 18 INCHES - 24 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND 18 INCHES - 24 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND 18 INCHES - 24 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND 18 INCHES - 24 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND 30 INCHES - 36 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND 30 INCHES - 36 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND 30 INCHES - 36 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND 30 INCHES - 36 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Demucking	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and disposal of muck, debris, organic, deleterious, or other unsuitable material encountered during excavation. At proposed pipe elevation backfill with suiFurnish all labor, materials, accessories, equipment and tools necessary for the removal and disposal of muck, debris, organic, deleterious, or other unsuitable material encountered during excavation. At proposed pipe elevation backfill with suitable gravel/rock (#57 rock) to provide a stable base for the pipe bed. At proposed bottom of structure elevation backfill with clean fill.	1	cubic yard	See ITB Specifications
BASE BID TOTAL	Limerock Base	Furnish all labor, materials, accessories, equipment and tools necessary to install 12-inch thick limerock base course, including but not limited to density tests (6-inch lifts).	1	square yard	See ITB Specifications
BASE BID TOTAL	Asphaltic Concrete	Furnish all labor, materials, accessories, equipment and tools necessary to install up to 2-inch thick asphaltic concrete between saw-cut or milled repair area and striping, or as required by the jurisdiction (see details for City and County Requirements).	1	square yard	See ITB Specifications
BASE BID TOTAL	Milling and Paving	Furnish all labor, materials, accessories, equipment and tools necessary to mill and pave existing asphalt pavement to a depth of up to 2-inch including striping, or as required by the jurisdiction (see details for City and County Requirements).	1	square yard	See ITB Specifications
BASE BID TOTAL	MOT Residential Roads	Provide traffic control and detour barricades, flagger, flashing arrow, temporary signage on local residential roads; including obtaining MOT Permit with the City of Fort Lauderdale, plans to be certified by ATSSA certified technician and in accordance with Chapter 6 of the MUTCD.	1	Location	See ITB Specifications
BASE BID TOTAL	MOT State or County Roads	Provide traffic control and detour barricades, flagger, flashing arrow, temporary signage on state/county roads; including obtaining MOT Permit with the City of Fort Lauderdale, plans to be certified by ATSSA certified technician and in accordance with Chapter 6 of the MUTCD.	1	Location	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Temporary Asphalt	Furnish all labor, materials, accessories, equipment and tools necessary to install temporary asphalt pavement, including striping, or as required by the jurisdiction.	1	square yard	See ITB Specifications
BASE BID TOTAL	SOD - St. Augustine	Furnish all labor, materials, accessories, equipment and tools necessary to install St. Augustine sod, including 2-inch topsoil.	1	square foot	See ITB Specifications
BASE BID TOTAL	SOD - Argentine Bahia	Furnish all labor, materials, accessories, equipment and tools necessary to install Argentine Bahia sod, including 2-inch topsoil.	1	square foot	See ITB Specifications
BASE BID TOTAL	Sheet Piling	Furnish all labor, materials, accessories, equipment and tools necessary to properly install, and extract, steel sheet piling (Z piles), shoring and bracing, and all work necessary for a complete installation and removal of sheet piling system.	1	square foot	See ITB Specifications
BASE BID TOTAL	Flowable Fill	Furnish all labor, materials, accessories, equipment and tools necessary to install flowable fill, excavatable type, 100 PSI max, 28 days compressive strength.	1	cubic yard	See ITB Specifications
BASE BID TOTAL	Steel Plates	Furnish and install temporary traffic bearing steel plates, 1in. x 10ft. X 20ft. When required, include asphalt transitions to secure plates in place, remove and haul away upon completion.	1	Location	See ITB Specifications
BASE BID TOTAL	Concrete Sidewalk Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of concrete sidewalk, as per City/County Standard Detail.	1	square yard	See ITB Specifications
BASE BID TOTAL	Concrete Curb and Gutter Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of concrete curb and gutter, as per City/County Standard Details.	1	linear foot	See ITB Specifications
BASE BID TOTAL	Asphalt Driveway Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of asphalted driveway.	1	square yard	See ITB Specifications
BASE BID TOTAL	Concrete Driveway Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of concrete driveway.	1	square yard	See ITB Specifications
BASE BID TOTAL	Pavers Driveway Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of pavers driveway.	1	square yard	See ITB Specifications

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Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Brick Roadways or Crosswalk Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of brick roadways and crosswalks.	1	square yard	See ITB Specifications
BASE BID TOTAL	Replace Concrete Slabs and/or Aprons	Furnish all labor, materials, accessories, equipment and tools necessary to replace concrete slabs or aprons.	1	square yard	See ITB Specifications
BASE BID TOTAL	Testing Laboratory - Densities	Provide testing laboratory for soil densities, as required by the State/County/City.	1	each	See ITB Specifications
BASE BID TOTAL	Testing Laboratory - Concrete Testing	Provide testing laboratory for concrete compressive strength and slump tests, as required by the State/County/City.	1	each	See ITB Specifications
BASE BID TOTAL	Labor - Foreman	Foreman. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Labor - Pipe Layer (Lead)	Pipe Layer (Lead). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Labor - Pipe Layer (Tail)	Pipe Layer (Tail). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Labor - Laborer	Laborer. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Excavator (Heavy Duty)	Excavator (Heavy Duty, CAT 330 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Excavator (Medium Duty)	Excavator (Medium Duty, CAT 335 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Excavator (Small)	Excavator (Small, CAT mini-excavator or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Loader (Heavy Duty)	Loader (Heavy Duty, CAT 950 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Loader (Medium Duty)	Loader (Medium Duty, CAT 928 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Loader (Small)	Loader (Small, CAT 259 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications

LINE ITEM DESCRIPTION - FOR INFORMATIONAL PURPOSES ONLY

Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Equipment - Combination Backhoe/Front End Loader	Combination Backhoe/Front End Loader. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Vibratory Compactor	Vibratory Compactor, 5 ton. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Asphalt Roller	Asphalt Roller, 5-8 Ton. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Vibratory Plate Compactor	Vibratory Plate Compactor. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Road Grader	Road Grader. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Low Boy 50-T	Low Boy 50-T. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Flatbed Truck	Flatbed Truck, under 25,000 lbs. GVW. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Watering Truck	Watering Truck. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Pump Truck	Pump Truck. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Vacuum Tank Truck	Vac Truck. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - CCTV Truck	CCTV. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Paver	Paver, Road Class 8ft. - 12ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Trench Box, 6ft.x16ft.	Trench Box, 6ft. X 16ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Trench Box, 8ft.x20ft.	Trench Box, 8ft.x 20ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Trench Box, 8ft.x24ft.	Trench Box, 8ft.x 24ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Sediment Box, 7,000 gal	Sediment Box, 7,000 Gal. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications

LINE ITEM DESCRIPTION - FOR INFORMATIONAL PURPOSES ONLY

Event 154 - Annual Point Repair and Replacement

Lot name	Title	Description	Quantity	Unit	Shipping Location
BASE BID TOTAL	Equipment - Sediment Box, 9,000 gal	Sediment Box, 9,000 Gal. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Pump, 8-inch.	Pump, 8-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Pump, 6-inch.	Pump, 6-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Pump, 4-inch.	Pump, 4-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Pump, 3-inch.	Pump, 3-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Pump, 2-inch.	Pump, 2-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Dump Truck, Single Axle	Dump Truck Single Axle. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Dump Truck, Double Axle	Dump Truck Double Axle. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Cut off Saw	Cut off saw. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Hydraulic Concrete Chain Saw	Hydraulic concrete chain saw. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Small Tools	Small Tools. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
BASE BID TOTAL	Equipment - Turbidity Screen/Barrier	Turbidity Screen/Barrier. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications

LINE ITEM DESCRIPTION - FOR INFORMATIONAL PURPOSES ONLY

CITY OF FORT LAUDERDALE BID/PROPOSAL CERTIFICATION

Please Note: It is the sole responsibility of the bidder/proposer to ensure that their response is submitted electronically through the City's on-line strategic sourcing platform prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration) _____ EIN (Optional): _____

Address: _____

City: _____State: _____ Zip: _____

Telephone No.: _____ FAX No.: _____ Email: _____

Delivery: Calendar days after receipt of Purchase Order **(section 1.02 of General Conditions)**: _____

Total Bid Discount **(section 1.05 of General Conditions)**: _____

Check box if your firm qualifies for DBE **(section 1.09 of General Conditions)**: ❑

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

VARIANCES: If you take exception or have variances to any term, condition, specification, scope of service, or requirement in this competitive solicitation you must specify such exception or variance in the space provided below or reference in the space provided below all variances contained on other pages within your response. Additional pages may be attached if necessary. No exceptions or variances will be deemed to be part of the response submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A.

_____

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal. I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, that in no event shall the City's liability for respondent's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

_____ _____

Name (printed) Signature

_____ _____

Date Title

BID NO. _154 SPECIFIC REFERENCES FORM

Bidder shall submit proof of repairing/replacing water, stormwater, wastewater or reclaimed water pressure/gravity pipelines of the same size diameter or larger, including the same minimum linear footage as the project, or greater linear footage using open cut methodology, including mainlines, lateral connections, stack singles or double wye lateral installations in the State of Florida in the last five (5) years. Bidder shall submit proof of construction experience for a minimum of three (3) projects in accordance with the requirements of the solicitation specifications / scope of work. Include the owner's name, address, phone number, and current e-mail address.

Note: Do not include proposed team members or parent/subsidiary companies as references in your submittals.

A. PRIME BIDDER'S NAME: _____

CLIENT NO.1 - Name of firm to be contacted: _____

Address: _____

Contact Person: _____

Phone No: (___) _____

Contact E-Mail Address: _____

Project Performance Period: _____ to _____
Dates should be in mm/yy format

Project Name : _____

Location of Project: _____

Description of the overall scope: _____

_____

_____

_____

Description of work that was self-performed by Bidder:

_____

_____

_____

_____

CLIENT NO.2 - Name of firm to be contacted: _____

Address: _____

Contact Person: _____

Phone No: (___) _____

Contact E-Mail Address: _____

Project Performance Period: _____ to _____
Dates should be in mm/yy format

Project Name : _____

Location of Project: _____

Description of the overall scope: _____

_____

_____

_____

Description of work that was self-performed by Bidder:

_____

_____

_____

_____

CLIENT NO.3 - Name of firm to be contacted: _____

Address: _____

Contact Person: _____

Phone No: (___) _____

Contact E-Mail Address: _____

Project Performance Period: _____ to _____
Dates should be in mm/yy format

Project Name : _____

Location of Project: _____

Description of the overall scope: _____

_____

_____

_____

Description of work that was self-performed by Bidder:

_____

_____

_____

_____

NON-COLLUSION STATEMENT

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

> 3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g., ownership of five (5) percent or more).
>
> 3.4. Immediate family members (spouse, parents, and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS
_____	_____
_____	_____
	_____
	_____

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

_____ _____

Authorized Signature Title

_____ _____

Name (Printed) Date

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-17(a)(i)(ii), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

A. Contractors doing business with the City shall not discriminate against their employees based on the employee's race, color, religion, gender (including identity or expression), marital status, sexual orientation, national origin, age, disability, or any other protected classification as defined by applicable law.

   Contracts. Every Contract exceeding $100,000, or otherwise exempt from this section shall contain language that obligates the Contractor to comply with the applicable provisions of this section.

   The Contract shall include provisions for the following:

   (i) The Contractor certifies and represents that it will comply with this section during the entire term of the contract.

   (ii) The failure of the Contractor to comply with this section shall be deemed to be a material breach of the contract, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

_____ _____

Authorized Signature Print Name and Title

_____

Date

TRENCH SAFETY

Bidder acknowledges that included in the appropriate bid items of his bid and in the Total Bid for complying with the Florida Trench Safety Act, Florida Statutes 553.60 – 553.64. The identifies the costs of such compliance to be summarized below:

Trench Safety Measure (Description)	Units of Measure (LF/SF)	Unit (Quantity)	Unit Cost	E
A.			$	$
B.			$	$
C.			$	$
D.			$	$
			Total: $	

The bidder certifies that all trench excavation done within his control in excess of five feet (5') i in accordance with the Occupational Safety and Health Administration's excavation safety star 1926.650 Subpart P., and the Florida Trench Safety Act, Florida Statutes 553.60-553.64.

Failure to complete the above may result in the bid being declared non-responsive.

DATE: (SIGNATURE)

STATE OF: COUNTY OF:

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

(Name of Individual Signing)

who, after first being duly sworn by me, affixed his/her signature in the space provided day of , 20 .

N

My Commission Expires:

Solicitation/Bid /Contract No: _____

Project Description:

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

A. all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,

B. all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: _____

Authorized Company Person's Signature: _____

Authorized Company Person's Title: _____

Date: _____

QUESTIONNAIRE SHEET

PLEASE PRINT OR TYPE:

Firm Name:

President

Business Address:

Telephone:

Fax:

E-Mail Address:

What was the last project of this nature which you completed? Include the year, description, and contract value.

The following are named as three corporations and representatives of those corporations for which you have performed work similar to that required by this contract, and which the City may contact as your references (include addresses, telephone numbers and e-mail addresses). Include the project name, year, description, and contract value.

How many years has your organization been in business?

Have you ever failed to complete work awarded to you; if so, where and why?

The name of the qualifying agent for the firm and his position is:

Certificate of Competency Number of Qualifying Agent:

Effective Date: Expiration Date:

Licensed in:

Engineering Contractor's License # (County/State)

Expiration Date:

NOTE: To be considered for award of this contract, the bidder must submit a financial statement upon request.

NOTE: Contractor must have proper licensing and shall provide copy of same with his proposal.

QUESTIONNAIRE SHEET

1. Have you personally inspected the proposed work and have you a complete plan for its performance?

2. Will you sublet any part of this work? If so, list the portions or specialties of the work that you will.

a)

b)

c)

d)

e)

f)

g)

3. What equipment do you own that is available for the work?

4. What equipment will you purchase for the proposed work?

5. What equipment will you rent for the proposed work?

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
2	BASE BID TOTAL	Well Point System	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of a complete well point system, including but not limited to well points, common header, wellpoint pumps, discharge hose and sedimentation tank, up to 40LF around excavation, all depths.	1	Location	See ITB Specifications
3	BASE BID TOTAL	Well Point System - Additional	Additional cost for complete well point system in excess of 40LF under item 1. (10 linear foot increase).	1	Location	See ITB Specifications
4	BASE BID TOTAL	Bypass	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of bypass piping and pumping system between manholes where work is being done on gravity sewer. Work shall include placing plugs in each affected manhole and any other items required to provide a complete functioning bypass system.	1	Location	See ITB Specifications
5	BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
6	BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 5 to 10 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
7	BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 10 to 15 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 15 feet below existing grade.	1	Location	See ITB Specifications

For Information Only

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
8	BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch (PVC C-900), 15 to 20 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 15 to 20 feet below existing grade.	1	Location	See ITB Specifications
9	BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications
10	BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), PVC C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 5 to 10 feet below existing grade.	1	linear foot	See ITB Specifications
11	BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), PVC C-900, 10 to 15 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 10 to 15 feet below existing grade.	1	linear foot	See ITB Specifications
12	BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
13	BASE BID TOTAL	Sewer Pipe 12-inch - 15-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

For Information Only

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
14	BASE BID TOTAL	Sewer Pipe 12-inch - 15-inch (PVC C-900), 5 to 10 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
15	BASE BID TOTAL	Sewer Pipe 12-inch - 15-inch (PVC C-900), 10 to 15 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 15 feet below existing grade.	1	Location	See ITB Specifications
16	BASE BID TOTAL	Sewer Pipe 12-inch - 15-inch (PVC C-900), 15 to 20 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 15 to 20 feet below existing grade.	1	Location	See ITB Specifications
17	BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 15-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications
18	BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 15-in), PVC C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 5 to 10 feet below existing grade.	1	linear foot	See ITB Specifications
19	BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 15-in), PVC C-900, 10 to 15 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 10 to 15 feet below existing grade.	1	linear foot	See ITB Specifications

For Information

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
20	BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 15-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 12-inch - 15-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
21	BASE BID TOTAL	Sewer Pipe 18-inch - 24-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
22	BASE BID TOTAL	Sewer Pipe 18-inch - 24-inch (PVC C-900), 5 to 10 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
23	BASE BID TOTAL	Sewer Pipe 18-inch - 24-inch (PVC C-900), 10 to 15 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 15 feet below existing grade.	1	Location	See ITB Specifications
24	BASE BID TOTAL	Sewer Pipe 18-inch - 24-inch (PVC C-900), 15 to 20 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 15 to 20 feet below existing grade.	1	Location	See ITB Specifications
25	BASE BID TOTAL	Sewer Pipe Additional Footage (18-in - 24-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications

For Information

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
26	BASE BID TOTAL	Sewer Pipe Additional Footage (18-in - 24-in), PVC C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 5 to 10 feet below existing grade.	1	linear foot	See ITB Specifications
27	BASE BID TOTAL	Sewer Pipe Additional Footage (18-in - 24-in), PVC C-900, 10 to 15 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 10 to 15 feet below existing grade.	1	linear foot	See ITB Specifications
28	BASE BID TOTAL	Sewer Pipe Additional Footage (18-in - 24-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 18-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
29	BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
30	BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch (PVC C-900), 5 to 10 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
31	BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch (PVC C-900), 10 to 15 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 15 feet below existing grade.	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
32	BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch (PVC C-900), 15 to 20 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 15 to 20 feet below existing grade.	1	Location	See ITB Specifications
33	BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications
34	BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), PVC C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 5 to 10 feet below existing grade.	1	linear foot	See ITB Specifications
35	BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), PVC C-900, 10 to 15 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 10 to 15 feet below existing grade.	1	linear foot	See ITB Specifications
36	BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
37	BASE BID TOTAL	Sewer Pipe 42-inch - 48-inch (PVC C-900), 0 to 5 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 42-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
38	BASE BID TOTAL	Sewer Pipe 42-inch - 48-inch (PVC C-900), 5 to 10 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
39	BASE BID TOTAL	Sewer Pipe 42-inch - 48-inch (PVC C-900), 10 to 15 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 15 feet below existing grade.	1	Location	See ITB Specifications
40	BASE BID TOTAL	Sewer Pipe 42-inch - 48-inch (PVC C-900), 15 to 20 feet below existing grade	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 15 to 20 feet below existing grade.	1	Location	See ITB Specifications
41	BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), PVC C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 0 to 5 feet below existing grade.	1	linear foot	See ITB Specifications
42	BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), PVC C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 5 to 10 feet below existing grade.	1	linear foot	See ITB Specifications
43	BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), PVC C-900, 10 to 15 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 10 to 15 feet below existing grade.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
44	BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), PVC C-900, 15 to 20 feet below grade	Additional cost to repair or replace existing gravity sanitary sewer pipe (PVC C-900) 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF. 15 to 20 feet below existing grade.	1	linear foot	See ITB Specifications
45	BASE BID TOTAL	Sewer Pipe 4-inch - 6-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 4-inch-6-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
46	BASE BID TOTAL	Sewer Pipe 4-inch- 6-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 4-inch-6-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
47	BASE BID TOTAL	Sewer Pipe 4-inch- 6-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 4-inch-6-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
48	BASE BID TOTAL	Sewer Pipe Additional Footage (4-in - 6-in),(DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
49	BASE BID TOTAL	Sewer Pipe Additional Footage (4-in - 6-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
50	BASE BID TOTAL	Sewer Pipe Additional Footage (4-in - 6-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
51	BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 8-inch - 10-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
52	BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 8-inch - 10-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
53	BASE BID TOTAL	Sewer Pipe 8-inch - 10-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer pipe 8-inch - 10-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
54	BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in),(DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
55	BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
56	BASE BID TOTAL	Sewer Pipe Additional Footage (8-in - 10-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
57	BASE BID TOTAL	Sewer Pipe 12-inch - 16-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 12-inch - 16-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
58	BASE BID TOTAL	Sewer Pipe 12-inch - 16-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 12-inch - 16-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
59	BASE BID TOTAL	Sewer Pipe 12-inch - 16-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 12-inch - 16-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
60	BASE BID TOTAL	Sewer Pipe Additional Footage (12-in - 16-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
61	BASE BID TOTAL	Sewer Pipe Additional Footage (12-in- 16-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
62	BASE BID TOTAL	Sewer Pipe Additional Footage (12-in- 16-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
63	BASE BID TOTAL	Sewer Pipe 20-inch - 24-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 20-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
64	BASE BID TOTAL	Sewer Pipe 20-inch - 24-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 20-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
65	BASE BID TOTAL	Sewer Pipe 20-inch - 24-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 20-inch - 24-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
66	BASE BID TOTAL	Sewer Pipe Additional Footage (20-in - 24-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
67	BASE BID TOTAL	Sewer Pipe Additional Footage (20-in - 24-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
68	BASE BID TOTAL	Sewer Pipe Additional Footage (20-in - 24-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
69	BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 30-inch - 36-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
70	BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 30-inch - 36-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
71	BASE BID TOTAL	Sewer Pipe 30-inch - 36-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 30-inch - 36-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
72	BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
73	BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
74	BASE BID TOTAL	Sewer Pipe Additional Footage (30-in - 36-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
75	BASE BID TOTAL	Sewer Pipe 42-inch - 48-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 42-inch - 48-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
76	BASE BID TOTAL	Sewer Pipe 42-inch- 48-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 42-inch - 48-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
77	BASE BID TOTAL	Sewer Pipe 42-inch- 48-inch, 10 to 20 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing sewer main pipe 42-inch - 48-inch diameter (Restrained DIP Epoxy Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 10 to 20 feet below existing grade.	1	Location	See ITB Specifications
78	BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing sewer main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
79	BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing sewer main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
80	BASE BID TOTAL	Sewer Pipe Additional Footage (42-in - 48-in), (DIP) 10 to 20 feet below grade	Additional cost to repair or replace existing sewer main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
81	BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
82	BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
83	BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
84	BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), C-900 , 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
85	BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
86	BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
87	BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe (Restrained PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
88	BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe(Restrained PVC C-900) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
89	BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
90	BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
91	BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
92	BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
93	BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
94	BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
95	BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
96	BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
97	BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 0 to 5 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch - 36-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
98	BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 5 to 10 feet in depth, up to 20 feet in length,C-900	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch - 36-inch diameter (Restrained PVC C-900), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
99	BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), C-900, 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
100	BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), C-900, 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
101	BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 below existing grade.	1	Location	See ITB Specifications
102	BASE BID TOTAL	Water Pipe 4-inch - 6-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 4-inch - 6-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
103	BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
104	BASE BID TOTAL	Water Pipe Additional Footage (4-in - 6-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 4-inch - 6-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
105	BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
106	BASE BID TOTAL	Water Pipe 8-inch - 10-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 8-inch - 10-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
107	BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe (Restrained DIP Cemented Lined) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
108	BASE BID TOTAL	Water Pipe Additional Footage (8-in - 10-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe (Restrained DIP Cemented Lined) 8-inch - 10-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
109	BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
110	BASE BID TOTAL	Water Pipe 12-inch - 16-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 12-inch - 16-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
111	BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
112	BASE BID TOTAL	Water Pipe Additional Footage (12-in - 16-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 12-inch - 16-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
113	BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
114	BASE BID TOTAL	Water Pipe 20-inch - 24-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 20-inch - 24-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
115	BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
116	BASE BID TOTAL	Water Pipe Additional Footage (20-in - 24-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 20-inch - 24-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
117	BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch - 36-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
118	BASE BID TOTAL	Water Pipe 30-inch - 36-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 30-inch -36-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
119	BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
120	BASE BID TOTAL	Water Pipe Additional Footage (30-in - 36-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 30-inch - 36-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
121	BASE BID TOTAL	Water Pipe 42-inch - 48-inch, 0 to 5 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 42-inch - 48-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 0 to 5 feet below existing grade.	1	Location	See ITB Specifications
122	BASE BID TOTAL	Water Pipe 42-inch - 48-inch, 5 to 10 feet in depth, up to 20 feet in length (DIP)	Furnish all labor, materials, accessories, equipment and tools necessary for the repair/replacement of existing water main pipe 42-inch - 48-inch diameter (Restrained DIP Cemented Lined), including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20LF (maximum length of pipe). 5 to 10 feet below existing grade.	1	Location	See ITB Specifications
123	BASE BID TOTAL	Water Pipe Additional Footage (42-in - 48-in), (DIP) 0 to 5 feet below grade	Additional cost to repair or replace existing water main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
124	BASE BID TOTAL	Water Pipe Additional Footage (42-in - 48-in), (DIP) 5 to 10 feet below grade	Additional cost to repair or replace existing water main pipe 42-inch - 48-inch diameter, including but not limited to excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), in excess of 20LF.	1	linear foot	See ITB Specifications
125	BASE BID TOTAL	Water Service Line single (5/8 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), short	1	Location	See ITB Specifications
126	BASE BID TOTAL	Water Service Line single (5/8 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), long	1	Location	See ITB Specifications
127	BASE BID TOTAL	Water Service Line single (3/4 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), short	1	Location	See ITB Specifications
128	BASE BID TOTAL	Water Service Line single (3/4 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), long	1	Location	See ITB Specifications
129	BASE BID TOTAL	Water Service Line single (1 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), short	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
130	BASE BID TOTAL	Water Service Line single (1 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), long	1	Location	See ITB Specifications
131	BASE BID TOTAL	Water Service Line single (1.5 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), short	1	Location	See ITB Specifications
132	BASE BID TOTAL	Water Service Line single (1.5 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), long	1	Location	See ITB Specifications
133	BASE BID TOTAL	Water Service Line single (2 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), short	1	Location	See ITB Specifications
134	BASE BID TOTAL	Water Service Line single (2 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), long	1	Location	See ITB Specifications
135	BASE BID TOTAL	Water Service Line double (5/8 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), short	1	Location	See ITB Specifications
136	BASE BID TOTAL	Water Service Line double (5/8 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (5/8 - inch), long	1	Location	See ITB Specifications
137	BASE BID TOTAL	Water Service Line double (3/4 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), short	1	Location	See ITB Specifications
138	BASE BID TOTAL	Water Service Line double (3/4 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (3/4 - inch), long	1	Location	See ITB Specifications
139	BASE BID TOTAL	Water Service Line double (1 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), short	1	Location	See ITB Specifications
140	BASE BID TOTAL	Water Service Line double (1 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1 - inch), long	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
141	BASE BID TOTAL	Water Service Line double (1.5 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), short	1	Location	See ITB Specifications
142	BASE BID TOTAL	Water Service Line double (1.5 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (1.5 - inch), long	1	Location	See ITB Specifications
143	BASE BID TOTAL	Water Service Line double (2 - inch), short	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), short	1	Location	See ITB Specifications
144	BASE BID TOTAL	Water Service Line double (2 - inch), long	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of Water Service Line (2 - inch), long	1	Location	See ITB Specifications
145	BASE BID TOTAL	Directional Borings (4 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (4 - inch)	1	linear foot	See ITB Specifications
146	BASE BID TOTAL	Directional Borings (6 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (6 - inch)	1	linear foot	See ITB Specifications
147	BASE BID TOTAL	Directional Borings (8 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (8 - inch)	1	linear foot	See ITB Specifications
148	BASE BID TOTAL	Directional Borings (10 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (10 - inch)	1	linear foot	See ITB Specifications
149	BASE BID TOTAL	Directional Borings (12 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (12 - inch)	1	linear foot	See ITB Specifications
150	BASE BID TOTAL	Directional Borings (16 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (16 - inch)	1	linear foot	See ITB Specifications
151	BASE BID TOTAL	Directional Borings (18 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (18 - inch)	1	linear foot	See ITB Specifications
152	BASE BID TOTAL	Directional Borings (20 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (20 - inch)	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
153	BASE BID TOTAL	Directional Borings (24 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (24 - inch)	1	linear foot	See ITB Specifications
154	BASE BID TOTAL	Directional Borings (30 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (30 - inch)	1	linear foot	See ITB Specifications
155	BASE BID TOTAL	Directional Borings (36 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (36 - inch)	1	linear foot	See ITB Specifications
156	BASE BID TOTAL	Directional Borings (42 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (42 - inch)	1	linear foot	See ITB Specifications
157	BASE BID TOTAL	Directional Borings (48 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Directional Borings (48 - inch)	1	linear foot	See ITB Specifications
158	BASE BID TOTAL	Pipe Liner (6 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (6 - inch).	1	linear foot	See ITB Specifications
159	BASE BID TOTAL	Pipe Liner (8 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (8 - inch).	1	linear foot	See ITB Specifications
160	BASE BID TOTAL	Pipe Liner (10 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (10 - inch).	1	linear foot	See ITB Specifications
161	BASE BID TOTAL	Pipe Liner (12 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (12 - inch).	1	linear foot	See ITB Specifications
162	BASE BID TOTAL	Pipe Liner (14 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (14 - inch).	1	linear foot	See ITB Specifications
163	BASE BID TOTAL	Pipe Liner (16 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (16 - inch).	1	linear foot	See ITB Specifications
164	BASE BID TOTAL	Pipe Liner (18 - inch)	Furnish all labor, materials, accessories, equipment and tools necessary for the of installation of Pipe Liner (18 - inch).	1	linear foot	See ITB Specifications
165	BASE BID TOTAL	Lateral	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new, repair, or replace existing 6-inch diameter lateral line or lateral stack including but not limited to all fittings, wyes, tees, and bends, excavation, shoring, steel plates, bedding, fill material, density tests (12" lifts), up to 20 LF.	1	Location	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
166	BASE BID TOTAL	Lateral Additional Footage	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new, repair, or replace existing 6-inch diameter lateral line or lateral stack, in excess of 20 LF beyond centerline of main.	1	linear foot	See ITB Specifications
167	BASE BID TOTAL	Lateral Additional	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new, repair, or replace existing lateral line or existing single or double lateral stack, including new wyes, tees, and bends at locations already excavated for other repairs under Items 4-6.	1	Location	See ITB Specifications
168	BASE BID TOTAL	F&I 6-inch clean-out on existing lateral (Conventional)	Furnish all labor, materials, accessories, equipment and tools necessary to install 6-inch clean-out on existing lateral (Conventional)	1	each	See ITB Specifications
169	BASE BID TOTAL	F&I 6-inch clean-out on existing lateral (Vac -A-Tee)	Furnish all labor, materials, accessories, equipment and tools necessary to install 6-inch clean-out on existing lateral (Vac -A-Tee)	1	each	See ITB Specifications
170	BASE BID TOTAL	New Manhole - from 0 feet to 5 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 0 feet to 5 feet.	1	each	See ITB Specifications
171	BASE BID TOTAL	New Manhole - from 5 feet to 8 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 5 feet to 8 feet.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
172	BASE BID TOTAL	New Manhole - from 8 feet to 12 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 8 feet to 12 feet.	1	each	See ITB Specifications
173	BASE BID TOTAL	New Manhole - from 12 feet to 15 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 12 feet to 15 feet.	1	each	See ITB Specifications
174	BASE BID TOTAL	New Manhole - from 15 feet to 20 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new precast concrete 4-ft. diameter sanitary sewer manhole, including but not limited to structure, excavation, bedding material, cast-iron frame and cover and all necessary pipe tie-ins for a complete installation, including shop drawings. Heigh of structure from 15 feet to 20 feet.	1	each	See ITB Specifications
175	BASE BID TOTAL	Removal of Manhole - from 0 feet to 5 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 0 feet to 5 feet.	1	each	See ITB Specifications
176	BASE BID TOTAL	Removal of Manhole - from 5 feet to 8 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 5 feet to 8 feet.	1	each	See ITB Specifications
177	BASE BID TOTAL	Removal of Manhole - from 8 feet to 12 feet deep	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 8 feet to 12 feet.	1	each	See ITB Specifications
178	BASE BID TOTAL	Removal of Manhole - from 12 feet to 15 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 12 feet to 15 feet.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
179	BASE BID TOTAL	Removal of Manhole - from 15 feet to 20 feet	Furnish all labor, materials, accessories, equipment and tools necessary for the removal of existing manhole (precast or brick). Heigh of structure from 15 feet to 20 feet.	1	each	See ITB Specifications
180	BASE BID TOTAL	Sewer Manhole Rehabilitation	Furnish all labor, materials, accessories, equipment and tools necessary for the repair and rehabilitation of existing sanitary sewer manholes	1	each	See ITB Specifications
181	BASE BID TOTAL	Replace 24-inch Manhole Ring and Cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-inch manhole ring and cover	1	each	See ITB Specifications
182	BASE BID TOTAL	Coring	Furnish all labor, materials, accessories, equipment and tools necessary for the coring of existing structure for pipe tie-in, including but not limited to saw-cutting, bricks and mortar, for a complete tie-in.	1	each	See ITB Specifications
183	BASE BID TOTAL	24-in x 24-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-in x 24-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
184	BASE BID TOTAL	24-in x 30-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-in x 30-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
185	BASE BID TOTAL	24-in x 36-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 24-in x 36-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
186	BASE BID TOTAL	30-in x 30-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 30-in x 30-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
187	BASE BID TOTAL	30-in x 36-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 30-in x 36-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
188	BASE BID TOTAL	30-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 30-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
189	BASE BID TOTAL	36-in x 36-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 36-in x 36-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
190	BASE BID TOTAL	36-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 36-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
191	BASE BID TOTAL	42-in x 42-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 42-in x 42-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
192	BASE BID TOTAL	42-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 42-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
193	BASE BID TOTAL	48-in x 48-in - Heavy Duty (H-20 Rated) Hatch including frame and cover	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of new 48-in x 48-inch heavy duty (H-20 Rated) aluminum hatch and frame with stainless steel hardware, including but not limited to removal and disposal of existing cover and frame, concrete works, shop drawings submittal, among others.	1	each	See ITB Specifications
194	BASE BID TOTAL	Ductile Iron Pipe Fittings	Furnish all labor, materials, accessories, equipment and tools necessary for the installation of ductile iron pipe fittings, 350 rating, sizes 4-inch to 36-inch diameter	1	pounds	See ITB Specifications
195	BASE BID TOTAL	Replace Water Gate Valves, 4-inch - 8-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 4-inch - 8-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
196	BASE BID TOTAL	Replace Water Gate Valves, 10-inch - 12-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 10-inch - 12-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
197	BASE BID TOTAL	Replace Water Gate Valves, 16-inch - 18-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 16-inch - 18-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
198	BASE BID TOTAL	Replace Water Gate Valves, 20-inch - 24-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 20-inch - 24-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
199	BASE BID TOTAL	Replace Water Gate Valves, 30-inch - 36-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 30-inch - 36-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
200	BASE BID TOTAL	Replace Water Gate Valves, 42-inch - 48-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water gate valves 42-inch - 48-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
201	BASE BID TOTAL	Replace Water Butterfly Valves, 10-inch - 12-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 10-inch - 12-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
202	BASE BID TOTAL	Replace Water Butterfly Valves, 16-inch - 18-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 16-inch - 18-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
203	BASE BID TOTAL	Replace Water Butterfly Valves, 20-inch - 24-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 20-inch - 24-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
204	BASE BID TOTAL	Replace Water Butterfly Valves, 30-inch - 36-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 30-inch - 36-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
205	BASE BID TOTAL	Replace Water Butterfly Valves, 42-inch - 48-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing water butterfly valves 42-inch - 48-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
206	BASE BID TOTAL	Air Release Valves - Water (Installed in manhole)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve in manhole.	1	each	See ITB Specifications
207	BASE BID TOTAL	Air Release Valves - Water (Installed on aerial crossing)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve on aerial crossing.	1	each	See ITB Specifications
208	BASE BID TOTAL	Replace Sewer Plug Valves, 4-inch - 8-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 4-inch - 8-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
209	BASE BID TOTAL	Replace Sewer Plug Valves, 10-inch - 12-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 10-inch - 12-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
210	BASE BID TOTAL	Replace Sewer Plug Valves, 16-inch - 18-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 16-inch -18-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
211	BASE BID TOTAL	Replace Sewer Plug Valves, 20-inch - 24-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 20-inch -24-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
212	BASE BID TOTAL	Replace Sewer Plug Valves, 30-inch - 36-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 30-inch -36-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
213	BASE BID TOTAL	Replace Sewer Plug Valves, 42-inch - 48-inch	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing sewer plug valves 42-inch -48-inch diameter, including but not limited to riser, excavation, shoring, bedding, fill material, density tests (12" lifts), all depths.	1	each	See ITB Specifications
214	BASE BID TOTAL	Air Release Valves - Wastewater (Installed in manhole)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve in manhole.	1	each	See ITB Specifications
215	BASE BID TOTAL	Air Release Valves - Wastewater (Installed on aerial crossing)	Furnish all labor, materials, accessories, equipment and tools necessary for the replacement of existing air release valve in manhole.	1	each	See ITB Specifications
216	BASE BID TOTAL	6-inch: 6 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 6-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
217	BASE BID TOTAL	6-inch: 6 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 6-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
218	BASE BID TOTAL	8-inch: 8 x 8 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 8-inch X 8-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
219	BASE BID TOTAL	8-inch: 8 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 8-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
220	BASE BID TOTAL	8-inch: 8 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 8-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
221	BASE BID TOTAL	10-inch: 10 x 10 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 10-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
222	BASE BID TOTAL	10-inch: 10 x 8 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 8-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
223	BASE BID TOTAL	10-inch: 10 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
224	BASE BID TOTAL	10-inch: 10 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 10-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
225	BASE BID TOTAL	12-inch: 12 x 12 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 12-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
226	BASE BID TOTAL	12-inch: 12 x 10 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 10-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
227	BASE BID TOTAL	12-inch: 12 x 8 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 8-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
228	BASE BID TOTAL	12-inch: 12 x 6 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 6-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
229	BASE BID TOTAL	12-inch: 12 x 4 Tapping valves and sleeve	Furnish all materials, labor and equipment to install 12-inch X 4-inch tapping tee including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
230	BASE BID TOTAL	Installation of New Hydrant	Furnish all materials, labor and equipment to install the fire hydrant assembly. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications
231	BASE BID TOTAL	Replacement of Existing Hydrant	Furnish all materials, labor and equipment to replace existing fire hydrant assembly and to remove and properly salvage or dispose of the existing fire hydrants. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
232	BASE BID TOTAL	Relocation of Existing Hydrant	Furnish all materials, labor and equipment to relocate existing fire hydrant assembly. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications
233	BASE BID TOTAL	Relocation of Existing Hydrant and Replacement with new hydrant	Furnish all materials, labor and equipment to install a new fire hydrant assembly in a different location and to remove and properly salvage or dispose of the existing fire hydrants. Fittings, field engineering, testing, surveying and surface restoration shall also be included in the Unit Price.	1	each	See ITB Specifications
234	BASE BID TOTAL	Installation of bacteriological sampling points	Furnish all materials, labor and equipment to install bacteriological sampling points.	1	each	See ITB Specifications
235	BASE BID TOTAL	Line Stop 4-inch	Furnish all materials, labor and equipment to install 4-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
236	BASE BID TOTAL	Line Stop 6-inch	Furnish all materials, labor and equipment to install 6-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
237	BASE BID TOTAL	Line Stop 8-inch	Furnish all materials, labor and equipment to install 8-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
238	BASE BID TOTAL	Line Stop 10-inch	Furnish all materials, labor and equipment to install 10-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
239	BASE BID TOTAL	Line Stop 12-inch	Furnish all materials, labor and equipment to install 12-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
240	BASE BID TOTAL	Line Stop 14-inch	Furnish all materials, labor and equipment to install 14-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
241	BASE BID TOTAL	Line Stop 16-inch	Furnish all materials, labor and equipment to install 16-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
242	BASE BID TOTAL	Line Stop 18-inch	Furnish all materials, labor and equipment to install 18-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
243	BASE BID TOTAL	Line Stop 20-inch	Furnish all materials, labor and equipment to install 20-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
244	BASE BID TOTAL	Line Stop 24-inch	Furnish all materials, labor and equipment to install 24-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
245	BASE BID TOTAL	Line Stop 30-inch	Furnish all materials, labor and equipment to install 30-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
246	BASE BID TOTAL	Line Stop 36-inch	Furnish all materials, labor and equipment to install 36-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
247	BASE BID TOTAL	Line Stop 42-inch	Furnish all materials, labor and equipment to install 42-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
248	BASE BID TOTAL	Line Stop 48-inch	Furnish all materials, labor and equipment to install 48-inch line stop including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
249	BASE BID TOTAL	DITCH BOTTOM TYPE C (INDEX 232) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install DITCH BOTTOM TYPE C including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
250	BASE BID TOTAL	DITCH BOTTOM TYPE D (INDEX 232) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install DITCH BOTTOM TYPE D including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
251	BASE BID TOTAL	STORM MANHOLE TYPE M-4 (48 INCHES ROUND) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install STORM MANHOLE TYPE M-4 (48 INCHES ROUND) including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications
252	BASE BID TOTAL	STORM MANHOLE TYPE M-5 (60 INCHES ROUND) LESS THAN 10 FEET	Furnish all materials, labor and equipment to install STORM MANHOLE TYPE M-5 (60 INCHES ROUND) including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	each	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
253	BASE BID TOTAL	18 INCHES ADS DRAIN BASIN OR APPROVED EQUAL	Furnish all materials, labor and equipment to install 18 INCHES ADS DRAIN BASIN OR APPROVED EQUAL including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
254	BASE BID TOTAL	24 INCHES ADS DRAIN BASIN OR APPROVED EQUAL	Furnish all materials, labor and equipment to install 24 INCHES ADS DRAIN BASIN OR APPROVED EQUAL including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
255	BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND LESS THAN 12 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND LESS THAN 12 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
256	BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND LESS THAN 12 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND LESS THAN 12 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
257	BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND 12 INCHES - 15 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND 12 INCHES - 15 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
258	BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND 12 INCHES - 15 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND 12 INCHES - 15 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications

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No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
259	BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND 18 INCHES - 24 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND 18 INCHES - 24 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
260	BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND 18 INCHES - 24 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND 18 INCHES - 24 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
261	BASE BID TOTAL	PIPE CULVERT RCP MATERIAL ONLY ROUND 30 INCHES - 36 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT RCP MATERIAL ONLY ROUND 30 INCHES - 36 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
262	BASE BID TOTAL	PIPE CULVERT OPTIONAL MATERIAL ROUND 30 INCHES - 36 INCHES STORM DRAIN	Furnish all materials, labor and equipment to install PIPE CULVERT OPTIONAL MATERIAL ROUND 30 INCHES - 36 INCHES STORM DRAIN including but not limited to, temporary bracing of existing structures, protection of existing utilities, disposal of surplus materials, excavation, backfilling, compaction and proper restoration.	1	linear foot	See ITB Specifications
263	BASE BID TOTAL	Demucking	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and disposal of muck, debris, organic, deleterious, or other unsuitable material encountered during excavation. At proposed pipe elevation backfill with suiFurnish all labor, materials, accessories, equipment and tools necessary for the removal and disposal of muck, debris, organic, deleterious, or other unsuitable material encountered during excavation. At proposed pipe elevation backfill with suitable gravel/rock (#57 rock) to provide a stable base for the pipe bed. At proposed bottom of structure elevation backfill with clean fill.	1	cubic yard	See ITB Specifications

For Information Only

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
264	BASE BID TOTAL	Limerock Base	Furnish all labor, materials, accessories, equipment and tools necessary to install 12-inch thick limerock base course, including but not limited to density tests (6-inch lifts).	1	square yard	See ITB Specifications
265	BASE BID TOTAL	Asphaltic Concrete	Furnish all labor, materials, accessories, equipment and tools necessary to install up to 2-inch thick asphaltic concrete between saw-cut or milled repair area and striping, or as required by the jurisdiction (see details for City and County Requirements).	1	square yard	See ITB Specifications
266	BASE BID TOTAL	Milling and Paving	Furnish all labor, materials, accessories, equipment and tools necessary to mill and pave existing asphalt pavement to a depth of up to 2-inch including striping, or as required by the jurisdiction (see details for City and County Requirements).	1	square yard	See ITB Specifications
267	BASE BID TOTAL	MOT Residential Roads	Provide traffic control and detour barricades, flagger, flashing arrow, temporary signage on local residential roads; including obtaining MOT Permit with the City of Fort Lauderdale, plans to be certified by ATSSA certified technician and in accordance with Chapter 6 of the MUTCD.	1	Location	See ITB Specifications
268	BASE BID TOTAL	MOT State or County Roads	Provide traffic control and detour barricades, flagger, flashing arrow, temporary signage on state/county roads; including obtaining MOT Permit with the City of Fort Lauderdale, plans to be certified by ATSSA certified technician and in accordance with Chapter 6 of the MUTCD.	1	Location	See ITB Specifications
269	BASE BID TOTAL	Temporary Asphalt	Furnish all labor, materials, accessories, equipment and tools necessary to install temporary asphalt pavement, including striping, or as required by the jurisdiction.	1	square yard	See ITB Specifications
270	BASE BID TOTAL	SOD - St. Augustine	Furnish all labor, materials, accessories, equipment and tools necessary to install St. Augustine sod, including 2-inch topsoil.	1	square foot	See ITB Specifications
271	BASE BID TOTAL	SOD - Argentine Bahia	Furnish all labor, materials, accessories, equipment and tools necessary to install Argentine Bahia sod, including 2-inch topsoil.	1	square foot	See ITB Specifications
272	BASE BID TOTAL	Sheet Piling	Furnish all labor, materials, accessories, equipment and tools necessary to properly install, and extract, steel sheet piling (Z piles), shoring and bracing, and all work necessary for a complete installation and removal of sheet piling system.	1	square foot	See ITB Specifications

For Information Only

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
273	BASE BID TOTAL	Flowable Fill	Furnish all labor, materials, accessories, equipment and tools necessary to install flowable fill, excavatable type, 100 PSI max, 28 days compressive strength.	1	cubic yard	See ITB Specifications
274	BASE BID TOTAL	Steel Plates	Furnish and install temporary traffic bearing steel plates, 1in. x 10ft. X 20ft. When required, include asphalt transitions to secure plates in place, remove and haul away upon completion.	1	Location	See ITB Specifications
275	BASE BID TOTAL	Concrete Sidewalk Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of concrete sidewalk, as per City/County Standard Detail.	1	square yard	See ITB Specifications
276	BASE BID TOTAL	Concrete Curb and Gutter Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of concrete curb and gutter, as per City/County Standard Details.	1	linear foot	See ITB Specifications
277	BASE BID TOTAL	Asphalt Driveway Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of asphalted driveway.	1	square yard	See ITB Specifications
278	BASE BID TOTAL	Concrete Driveway Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of concrete driveway.	1	square yard	See ITB Specifications
279	BASE BID TOTAL	Pavers Driveway Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of pavers driveway.	1	square yard	See ITB Specifications
280	BASE BID TOTAL	Brick Roadways or Crosswalk Replacement	Furnish all labor, materials, accessories, equipment and tools necessary for the removal and reinstallation of brick roadways and crosswalks.	1	square yard	See ITB Specifications
281	BASE BID TOTAL	Replace Concrete Slabs and/or Aprons	Furnish all labor, materials, accessories, equipment and tools necessary to replace concrete slabs or aprons.	1	square yard	See ITB Specifications
282	BASE BID TOTAL	Testing Laboratory - Densities	Provide testing laboratory for soil densities, as required by the State/County/City.	1	each	See ITB Specifications
283	BASE BID TOTAL	Testing Laboratory - Concrete Testing	Provide testing laboratory for concrete compressive strength and slump tests, as required by the State/County/City.	1	each	See ITB Specifications
284	BASE BID TOTAL	Labor - Foreman	Foreman. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
285	BASE BID TOTAL	Labor - Pipe Layer (Lead)	Pipe Layer (Lead). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications

For Information Only

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
286	BASE BID TOTAL	Labor - Pipe Layer (Tail)	Pipe Layer (Tail). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
287	BASE BID TOTAL	Labor - Laborer	Laborer. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
288	BASE BID TOTAL	Equipment - Excavator (Heavy Duty)	Excavator (Heavy Duty, CAT 330 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
289	BASE BID TOTAL	Equipment - Excavator (Medium Duty)	Excavator (Medium Duty, CAT 335 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
290	BASE BID TOTAL	Equipment - Excavator (Small)	Excavator (Small, CAT mini-excavator or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
291	BASE BID TOTAL	Equipment - Loader (Heavy Duty)	Loader (Heavy Duty, CAT 950 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
292	BASE BID TOTAL	Equipment - Loader (Medium Duty)	Loader (Medium Duty, CAT 928 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
293	BASE BID TOTAL	Equipment - Loader (Small)	Loader (Small, CAT 259 or equal). Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
294	BASE BID TOTAL	Equipment - Combination Backhoe/Front End Loader	Combination Backhoe/Front End Loader. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
295	BASE BID TOTAL	Equipment - Vibratory Compactor	Vibratory Compactor, 5 ton. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
296	BASE BID TOTAL	Equipment - Asphalt Roller	Asphalt Roller, 5-8 Ton. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
297	BASE BID TOTAL	Equipment - Vibratory Plate Compactor	Vibratory Plate Compactor. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
298	BASE BID TOTAL	Equipment - Road Grader	Road Grader. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
299	BASE BID TOTAL	Equipment - Low Boy 50-T	Low Boy 50-T. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications

For Information Purposes Only

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
300	BASE BID TOTAL	Equipment - Flatbed Truck	Flatbed Truck, under 25,000 lbs. GVW. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
301	BASE BID TOTAL	Equipment - Watering Truck	Watering Truck. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
302	BASE BID TOTAL	Equipment - Pump Truck	Pump Truck. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
303	BASE BID TOTAL	Equipment - Vacuum Tank Truck	Vac Truck. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
304	BASE BID TOTAL	Equipment - CCTV Truck	CCTV. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
305	BASE BID TOTAL	Equipment - Paver	Paver, Road Class 8ft. - 12ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
306	BASE BID TOTAL	Equipment - Trench Box, 6ft.x16ft.	Trench Box, 6ft. X 16ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
307	BASE BID TOTAL	Equipment - Trench Box, 8ft.x20ft.	Trench Box, 8ft.x 20ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
308	BASE BID TOTAL	Equipment - Trench Box, 8ft.x24ft.	Trench Box, 8ft.x 24ft. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
309	BASE BID TOTAL	Equipment - Sediment Box, 7,000 gal	Sediment Box, 7,000 Gal. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
310	BASE BID TOTAL	Equipment - Sediment Box, 9,000 gal	Sediment Box, 9,000 Gal. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
311	BASE BID TOTAL	Equipment - Pump, 8-inch.	Pump, 8-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
312	BASE BID TOTAL	Equipment - Pump, 6-inch.	Pump, 6-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
313	BASE BID TOTAL	Equipment - Pump, 4-inch.	Pump, 4-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
314	BASE BID TOTAL	Equipment - Pump, 3-inch.	Pump, 3-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications

For Information Only

Event 154 - Annual Point Repair and Replacement

No.	Lot name	Title	Description	Quantity	Unit	Shipping Location
315	BASE BID TOTAL	Equipment - Pump, 2-inch.	Pump, 2-inch Submersible 400 ft. discharge hose. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
316	BASE BID TOTAL	Equipment - Dump Truck, Single Axle	Dump Truck Single Axle. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
317	BASE BID TOTAL	Equipment - Dump Truck, Double Axle	Dump Truck Double Axle. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
318	BASE BID TOTAL	Equipment - Cut off Saw	Cut off saw. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
319	BASE BID TOTAL	Equipment - Hydraulic Concrete Chain Saw	Hydraulic concrete chain saw. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
320	BASE BID TOTAL	Equipment - Small Tools	Small Tools. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications
321	BASE BID TOTAL	Equipment - Turbidity Screen/Barrier	Turbidity Screen/Barrier. Time-and-Material Items shall only be used for Work Not covered by other pay items.	1	hour	See ITB Specifications

For Informational Only

ITB No. 154

TITLE: ANNUAL SEWER REPAIR AND REPLACEMENT

ADDENDUM NO.1

DATE: 07/15/2023

This addendum is being issued to add:

Line Stop Specifications

All other terms, conditions and specifications remain unchanged.

Paulette Hemmings Turner
Senior Purchasing Specialist

Company Name: _____
(Please print)

Bidder's Signature: _____

Date: _____

LINE STOPPING PIPE Specifications

Description of Procedure - The line stopping procedure is a means of temporarily plugging a pressurized pipe without disrupting pressure of service upstream of the line stop. A pressure tap is first made into the main, allowing insertion of the line stop-plugging device into the main under pressure. By using a special line stop fitting, the tapping valve can later be recovered after the plugging head has been removed from the main.

1. Exploratory evaluation:

Excavate, if necessary, dewater and expose at the location of the line stop in order to measure the outside diameter of the steel. If main is deteriorated; or if utilities will interfere with fittings, support/thrust blocking, or equipment; move location up or downstream to structurally sound pipe.

a. Caliper O.D. of all mains to determine ovality.

b. Measure outside diameter of line.

c. Verify wall thickness and interior condition by hot tapping techniques at drain nozzle location.

d. Restore as requested by Owner.

2. Re-excavate, if necessary; dewater. Weld line stop fitting(s) and wrapper plates around the main. Install permanent drain nozzle(s)/Equalization fittings to the main. Note; (2) fittings are usually required. One for each line stop.

3. Pressure test with 120% of the working pressure. Spray soapy solution around all welds and permanent materials to confirm pressure containment.

4. Pour concrete support and thrust blocking. Allow to cure per Engineer's instructions.

5. Mount temporary tapping valve(s) to line stop fitting(s).

6. Mount tapping machine; open valve; pressure tap; retract cutter with coupon; close temporary valve; remove tapping machine.

7. Mount I.F.T. folding head line stop machine; open temporary valve; insert line stop plugging head into main. "Flow must be stopped momentarily while heads are inserted"

a. If two or more line stops are used, insert downstream plugging head first.

8. Test for shutdown at drain / equalization fitting.

9. Cut downstream main. Install required fitting(s) and valve(s).

10. Equalize section of pipe through drain / equalization fitting .

11. Remove line stop equipment.

12. Install completion machine; remove temporary valve(s); install blind flange(s).

Permanent Drain Fittings - Because some amount of leakage may pass line stops, (2) drain taps of 2" or greater shall be added to the line to determine the quality of the shut down.

(2) 2" or larger line stop type drain fittings will be used so that the temporary valves can be removed after the operation. This will allow no valve to be left at this location for added security to the system. Drain Fitting: The outlet, completion plug and cap of each fitting shall be machined from a 150 lb. forged steel flange (ASTM A181 or A105) Collar wrapper plates: The plates shall consist of steel plate (ASTM A234) rolled to encircle the outside diameter of the fitting by a 1 ½" width.

Extent of Shutdown - The shutdown will be accomplished by using a line stop. Because of possible internal corrosion, missing mortar lining, or deposits in the main, "bottle-tight" shutdowns may not occur. A satisfactory shutdown is one which; allows the work to be accomplished (i.e. valve installation) using drainage pumps to dewater if needed.

Line Stop Fitting and Accessories for carbon steel pipe (14 gauge through Schedule 40) - Fitting shall be a weld type split tee. It shall consist of steel weldments; a upper line stop flange with a line stop nozzle and two full wrapper plates.

1. Line Stop Flange: The outlet of each fitting shall be machined from a 150 lb. forged steel flange (ASTM A181 or A105) or from pressure vessel quality steel plate (ASTM A285, Grade C); flat faced and drilled per ANSI B16.5. Suitable independently operated locking devices shall be provided in the flange to secure the completion plug.

2. Line Stop Nozzle: The nozzle, which lies between the saddle and the flange, shall be fabricated from steel pipe (ASTM A234). After welding and stress relief, the nozzle shall be accurately bored to accommodate the line stop plugging head.

3. Full wrapper plates: The plates shall consist of steel plate (ASTM A234) rolled to encircle the outside diameter of the pipeline in order for the plate to support the welded line stop fitting.

Cutting Operation - Drilling equipment shall be in good condition and equipped with power drive to ensure smooth cutting, and to minimize shock and vibration. Cutting equipment shall be tungsten tipped and have a coupon retention device in the pilot drill suitable for retaining the size of coupon to be cut.

Line Stop Machinery 4" - 12" - The equipment shall be a I.F.T. non folding type assembly. The head shall have a sealing element which fits the inside diameter of the pipe and uses the water pressure to seal the edge of the cup to the main while work is being preformed. The equipment must be rated @ twice the working pressure of the pipeline and the line stopping Contractor shall have at least five years experience in pressure stopping.

Line Stop Machinery 14" - 96" - The equipment shall be a I.F.T. folding type assembly to allow for a reduced entry hole instead of a full size cut, this will retain the pipe stability. The folding head shall have a sealing element which opens to fit the inside diameter of the pipe and uses the water pressure to seal the edge of the cup to the main while work is being preformed. The equipment must be rated @ twice the working pressure of the pipeline and the line stopping Contractor shall have at least five years experience in pressure stopping

ITB No. 154

TITLE: ANNUAL SEWER REPAIR AND REPLACEMENT

ADDENDUM NO.2

DATE: 08/30/2023

This addendum is being issued to acknowledge isolated technical issue and to extend bid close date to September 1, 2023:

- The City is aware of technical issues experienced by bidders/suppliers pertaining to this Sourcing Event. At this time, we believe the technical issue is isolated to this Sourcing Event only. As a result, the Sourcing Event deadline is being extended to allow for the City to troubleshoot the issue and time for bidders/suppliers to submit their bid responses. We apologize for any inconvenience this may have caused you.

All other terms, conditions and specifications remain unchanged.

Paulette Hemmings Turner
Senior Purchasing Specialist

Company Name: _____
(Please print)

Bidder's Signature: _____

Date: _____

ITB No. 154

TITLE: ANNUAL SEWER REPAIR AND REPLACEMENT

ADDENDUM NO.3

DATE: 09/06/2023

This addendum is being issued to Correct Line Items 251, 252, 261, 262 & 273:

Changed From:

*251	STORM MANHOLE TYPE M-4 (48 INCHE	See ITB Specifications		1.0000	1.0000	LF
*252	STORM MANHOLE TYPE M-5 (60 INCHE	See ITB Specifications		1.0000	1.0000	LF
*261	PIPE CULVERT RCP MATERIAL ONLY R	See ITB Specifications		1.0000	1.0000	SY
*262	PIPE CULVERT OPTIONAL MATERIAL R	See ITB Specifications		1.0000	1.0000	EA
*273	FLOWABLE FILL	See ITB Specifications		1.0000	1.0000	SY

Changed To:

				Maintenance and Repai				
251	See ITB Specifications	STORM MANHOLE TYPE M-4 (48 INCHE	910-63	Public Utilities: Water, Sewer and Gas Maintenance and Repai	1.0000	EA	Contract	Open
252	See ITB Specifications	STORM MANHOLE TYPE M-5 (60 INCHE	910-63	Public Utilities: Water, Sewer and Gas Maintenance and Repai Maintenance and Repai	1.0000	EA	Contract	Open
261	See ITB Specifications	PIPE CULVERT RCP MATERIAL ONLY R	910-63	Public Utilities: Water, Sewer and Gas Maintenance and Repai	1.0000	LF	Contract	Open
262	See ITB Specifications	PIPE CULVERT OPTIONAL MATERIAL R	910-63	Public Utilities: Water, Sewer and Gas Maintenance and Repai	1.0000	LF	Contract	Open
				Maintenance and Repai				
273	See ITB Specifications	FLOWABLE FILL	910-63	Public Utilities: Water, Sewer and Gas Maintenance and Repai	1.0000	CY	Contract	Open

All other terms, conditions and specifications remain unchanged.

Paulette Hemmings Turner
Senior Purchasing Specialist

Company Name: _____
(Please print)

Bidder's Signature: _____

Date: _____

Executive Summary Report

Of

Event: 154-9 - Annual Sewer Repair and Replacement

Buyer: Paulette Turner

Date Range: 07/13/2023 02:00:00 PM - 09/15/2023 02:00:00 PM

Suppliers Notified: 18

Notified Suppliers Responding: 5

All Suppliers Responding: 7

Suppliers Responding

Supplier	Contact	Phone Number	E Mail	City	State Or Province	Total Bid Amount	Total Awarded	Response Attachment Exists
David Mancini and Sons, Inc	Fabio Angarita	9549773556	bids@dmsi.co	Pompano Beach	FL	4,932,040.00	0.00	Yes
Hinterland Group Inc.	Daniel Duke, III	561-640-3503	info@hinterlandgroup.com	Riviera Beach	FL	7,394,813.00	0.00	Yes
Southern Underground Industries, INC	Belseri Comerford	954-547-9252	anthonym@southernundergroundindustries.com	Tamarac	FL	4,685,847.00	0.00	Yes
Lanzo Construction Company	James Tilli	9549790802	estimating@lanzo.org	Deerfield Beach	FL	21,016,812.00	0.00	Yes
ric-man international, inc	hamill andrade	9544261042	bid@ric-man.us	pompano beach	FL	6,568,453.00	0.00	Yes
Man-Con Inc.	Kate Hill	954-427-0230	man-coninc@mancon.ws	Deerfiled Beach	FL	5,736,696.23	0.00	Yes
EnviroWaste Services Group, Inc.	John Rinehart	877-637-9665	JohnRinehart@ewsg.com	Palmetto Bay	FL	3,191,066.25	0.00	Yes

Event Lines And Responses

Item	Description	Unit of Measure	Quantity
WELL POINT SYSTEM-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	18,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,100.00000000	0.00
ric-man international, inc	1.0000	EA	39,000.00000000	0.00
Man-Con Inc.	1.0000	EA	40,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	15,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
WELL POINT SYSTEM - ADDITIONAL-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	1,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	2,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	84,300.00000000	0.00
ric-man international, inc	1.0000	EA	5,700.00000000	0.00
Man-Con Inc.	1.0000	EA	3,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	7,800.00000000	0.00

Item	Description	Unit of Measure	Quantity
BYPASS-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	7,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	485,000.00000000	0.00
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	40,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	10,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 8-INCH - 10-INCH (PVC-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	32,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	133,800.00000000	0.00
ric-man international, inc	1.0000	EA	28,000.00000000	0.00
Man-Con Inc.	1.0000	EA	12,754.08000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	7,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 8-INCH - 10-INCH (PVC-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	42,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	19,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	133,800.00000000	0.00
ric-man international, inc	1.0000	EA	32,000.00000000	0.00
Man-Con Inc.	1.0000	EA	21,478.39000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	12,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 8-INCH - 10-INCH (PVC-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	85,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	23,612.00000000	0.00
Lanzo Construction Company	1.0000	EA	183,900.00000000	0.00
ric-man international, inc	1.0000	EA	40,000.00000000	0.00
Man-Con Inc.	1.0000	EA	27,829.18000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	17,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 8-INCH - 10-INCH (PVC-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	150,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	52,800.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	222,700.00000000	0.00
ric-man international, inc	1.0000	EA	58,000.00000000	0.00
Man-Con Inc.	1.0000	EA	45,457.30000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	29,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,100.00000000	0.00
Hinterland Group Inc.	1.0000	LF	1,200.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	225.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,400.00000000	0.00
ric-man international, inc	1.0000	LF	480.00000000	0.00
Man-Con Inc.	1.0000	LF	252.08000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,400.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	275.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,400.00000000	0.00

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	700.00000000	0.00
Man-Con Inc.	1.0000	LF	357.57000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,450.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,800.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	450.00000000	0.00
Lanzo Construction Company	1.0000	LF	3,200.00000000	0.00
ric-man international, inc	1.0000	LF	1,100.00000000	0.00
Man-Con Inc.	1.0000	LF	448.30000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	850.00000000	0.00
Lanzo Construction Company	1.0000	LF	3,200.00000000	0.00
ric-man international, inc	1.0000	LF	2,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	LF	621.04000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 12-INCH - 15-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	34,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	134,500.00000000	0.00
ric-man international, inc	1.0000	EA	32,000.00000000	0.00
Man-Con Inc.	1.0000	EA	14,673.13000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	10,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 12-INCH - 15-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	44,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	21,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	134,500.00000000	0.00
ric-man international, inc	1.0000	EA	34,000.00000000	0.00
Man-Con Inc.	1.0000	EA	23,397.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	15,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 12-INCH - 15-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	17,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	90,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	24,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	184,700.00000000	0.00
ric-man international, inc	1.0000	EA	40,000.00000000	0.00
Man-Con Inc.	1.0000	EA	29,748.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	20,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 12-INCH - 15-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	17,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	150,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	53,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	225,300.00000000	0.00
ric-man international, inc	1.0000	EA	62,000.00000000	0.00
Man-Con Inc.	1.0000	EA	47,376.35000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	33,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,600.00000000	0.00
Hinterland Group Inc.	1.0000	LF	1,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	275.00000000	0.00
Lanzo Construction Company	1.0000	LF	3,100.00000000	0.00
ric-man international, inc	1.0000	LF	550.00000000	0.00
Man-Con Inc.	1.0000	LF	69.23000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,650.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,600.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	350.00000000	0.00
Lanzo Construction Company	1.0000	LF	3,100.00000000	0.00
ric-man international, inc	1.0000	LF	690.00000000	0.00
Man-Con Inc.	1.0000	LF	297.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,700.00000000	0.00
Hinterland Group Inc.	1.0000	LF	5,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	425.00000000	0.00
Lanzo Construction Company	1.0000	LF	3,900.00000000	0.00
ric-man international, inc	1.0000	LF	950.00000000	0.00
Man-Con Inc.	1.0000	LF	511.86000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,750.00000000	0.00
Hinterland Group Inc.	1.0000	LF	14,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	650.00000000	0.00
Lanzo Construction Company	1.0000	LF	3,900.00000000	0.00
ric-man international, inc	1.0000	LF	2,100.00000000	0.00
Man-Con Inc.	1.0000	LF	911.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 18-INCH - 24-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	28,500.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	36,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	29,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	144,600.00000000	0.00
ric-man international, inc	1.0000	EA	50,000.00000000	0.00
Man-Con Inc.	1.0000	EA	9,074.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	13,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 18-INCH - 24-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	29,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	48,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	38,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	144,600.00000000	0.00
ric-man international, inc	1.0000	EA	56,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,661.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	18,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 18-INCH - 24-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	29,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	92,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	42,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	194,700.00000000	0.00
ric-man international, inc	1.0000	EA	76,000.00000000	0.00
Man-Con Inc.	1.0000	EA	48,998.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	23,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 18-INCH - 24-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	30,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	155,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	45,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	233,500.00000000	0.00
ric-man international, inc	1.0000	EA	100,000.00000000	0.00
Man-Con Inc.	1.0000	EA	68,268.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	37,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,850.00000000	0.00
Hinterland Group Inc.	1.0000	LF	1,800.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	575.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	LF	8,100.00000000	0.00
ric-man international, inc	1.0000	LF	1,100.00000000	0.00
Man-Con Inc.	1.0000	LF	142.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,900.00000000	0.00
Hinterland Group Inc.	1.0000	LF	3,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	600.00000000	0.00
Lanzo Construction Company	1.0000	LF	8,100.00000000	0.00
ric-man international, inc	1.0000	LF	840.00000000	0.00
Man-Con Inc.	1.0000	LF	179.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,300.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,950.00000000	0.00
Hinterland Group Inc.	1.0000	LF	5,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	625.00000000	0.00
Lanzo Construction Company	1.0000	LF	8,800.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	1,300.00000000	0.00
Man-Con Inc.	1.0000	LF	1,034.04000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,000.00000000	0.00
Hinterland Group Inc.	1.0000	LF	14,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	650.00000000	0.00
Lanzo Construction Company	1.0000	LF	8,800.00000000	0.00
ric-man international, inc	1.0000	LF	3,500.00000000	0.00
Man-Con Inc.	1.0000	LF	1,669.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 30-INCH - 36-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	33,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	38,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	750.00000000	0.00
Lanzo Construction Company	1.0000	EA	157,600.00000000	0.00
ric-man international, inc	1.0000	EA	64,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	10,884.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	23,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 30-INCH - 36-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	34,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	85,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	48,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	196,400.00000000	0.00
ric-man international, inc	1.0000	EA	74,000.00000000	0.00
Man-Con Inc.	1.0000	EA	49,887.74000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	28,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 30-INCH - 36-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	34,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	125,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	52,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	207,700.00000000	0.00
ric-man international, inc	1.0000	EA	88,000.00000000	0.00
Man-Con Inc.	1.0000	EA	61,164.99000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	32,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 30-INCH - 36-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	35,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	200,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	55,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	246,600.00000000	0.00
ric-man international, inc	1.0000	EA	112,000.00000000	0.00
Man-Con Inc.	1.0000	EA	18,877.19000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	37,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,350.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	400.00000000	0.00
Lanzo Construction Company	1.0000	LF	13,000.00000000	0.00
ric-man international, inc	1.0000	LF	1,400.00000000	0.00
Man-Con Inc.	1.0000	LF	228.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,000.00000000	0.00

continued...

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,400.00000000	0.00
Hinterland Group Inc.	1.0000	LF	3,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,850.00000000	0.00
Lanzo Construction Company	1.0000	LF	13,500.00000000	0.00
ric-man international, inc	1.0000	LF	1,900.00000000	0.00
Man-Con Inc.	1.0000	LF	970.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,450.00000000	0.00
Hinterland Group Inc.	1.0000	LF	6,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,150.00000000	0.00
Lanzo Construction Company	1.0000	LF	13,500.00000000	0.00
ric-man international, inc	1.0000	LF	3,600.00000000	0.00
Man-Con Inc.	1.0000	LF	1,370.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	16,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,200.00000000	0.00
Lanzo Construction Company	1.0000	LF	15,100.00000000	0.00
ric-man international, inc	1.0000	LF	3,700.00000000	0.00
Man-Con Inc.	1.0000	LF	521.81000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 42-INCH - 48-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	80,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	42,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	1,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	188,800.00000000	0.00
ric-man international, inc	1.0000	EA	102,000.00000000	0.00
Man-Con Inc.	1.0000	EA	12,205.78000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	28,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 42-INCH - 48-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	80,500.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	55,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	145,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	227,600.00000000	0.00
ric-man international, inc	1.0000	EA	114,000.00000000	0.00
Man-Con Inc.	1.0000	EA	16,612.81000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	33,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 42-INCH - 48-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	81,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	100,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	165,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	239,000.00000000	0.00
ric-man international, inc	1.0000	EA	120,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,198.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	52,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 42-INCH - 48-INCH (PV-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	81,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	220,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	75,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	277,800.00000000	0.00
ric-man international, inc	1.0000	EA	146,000.00000000	0.00
Man-Con Inc.	1.0000	EA	23,784.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	67,560.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	8,000.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,800.00000000	0.00
Lanzo Construction Company	1.0000	LF	28,900.00000000	0.00
ric-man international, inc	1.0000	LF	1,900.00000000	0.00
Man-Con Inc.	1.0000	LF	397.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,550.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	8,050.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,825.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	LF	29,400.00000000	0.00
ric-man international, inc	1.0000	LF	2,600.00000000	0.00
Man-Con Inc.	1.0000	LF	413.96000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,850.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	8,100.00000000	0.00
Hinterland Group Inc.	1.0000	LF	6,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,850.00000000	0.00
Lanzo Construction Company	1.0000	LF	29,400.00000000	0.00
ric-man international, inc	1.0000	LF	3,300.00000000	0.00
Man-Con Inc.	1.0000	LF	532.25000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,700.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	8,150.00000000	0.00
Hinterland Group Inc.	1.0000	LF	16,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,850.00000000	0.00
Lanzo Construction Company	1.0000	LF	32,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	5,700.00000000	0.00
Man-Con Inc.	1.0000	LF	651.36000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,450.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 4-INCH - 6-INCH, 0 TO-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	24,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	14,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	125,400.00000000	0.00
ric-man international, inc	1.0000	EA	30,000.00000000	0.00
Man-Con Inc.	1.0000	EA	21,021.98000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,950.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 4-INCH- 6-INCH, 5 TO-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	38,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	125,400.00000000	0.00
ric-man international, inc	1.0000	EA	32,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	27,681.79000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	9,595.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 4-INCH- 6-INCH, 10 TO-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	85,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	164,200.00000000	0.00
ric-man international, inc	1.0000	EA	58,000.00000000	0.00
Man-Con Inc.	1.0000	EA	11,327.48000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	18,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,250.00000000	0.00
Hinterland Group Inc.	1.0000	LF	1,800.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	250.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,900.00000000	0.00
ric-man international, inc	1.0000	LF	490.00000000	0.00
Man-Con Inc.	1.0000	LF	185.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	LF	205.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,300.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,200.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	325.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,900.00000000	0.00
ric-man international, inc	1.0000	LF	630.00000000	0.00
Man-Con Inc.	1.0000	LF	243.27000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,350.00000000	0.00
Hinterland Group Inc.	1.0000	LF	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	375.00000000	0.00
Lanzo Construction Company	1.0000	LF	3,200.00000000	0.00
ric-man international, inc	1.0000	LF	2,000.00000000	0.00
Man-Con Inc.	1.0000	LF	115.54000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	900.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 8-INCH - 10-INCH, 0 T-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	28,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	14,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	126,200.00000000	0.00
ric-man international, inc	1.0000	EA	32,000.00000000	0.00
Man-Con Inc.	1.0000	EA	13,795.40000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	7,850.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 8-INCH - 10-INCH, 5 T-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	50,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	126,200.00000000	0.00
ric-man international, inc	1.0000	EA	34,000.00000000	0.00
Man-Con Inc.	1.0000	EA	22,519.70000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	11,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 8-INCH - 10-INCH, 10-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	95,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	18,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	165,000.00000000	0.00
ric-man international, inc	1.0000	EA	62,000.00000000	0.00
Man-Con Inc.	1.0000	EA	46,498.62000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	22,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	450.00000000	0.00
Lanzo Construction Company	1.0000	LF	4,000.00000000	0.00
ric-man international, inc	1.0000	LF	540.00000000	0.00
Man-Con Inc.	1.0000	LF	281.92000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	375.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,550.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	LF	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	475.00000000	0.00
Lanzo Construction Company	1.0000	LF	4,000.00000000	0.00
ric-man international, inc	1.0000	LF	670.00000000	0.00
Man-Con Inc.	1.0000	LF	860.13000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	625.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,600.00000000	0.00
Hinterland Group Inc.	1.0000	LF	10,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,525.00000000	0.00
Lanzo Construction Company	1.0000	LF	4,800.00000000	0.00
ric-man international, inc	1.0000	LF	2,100.00000000	0.00
Man-Con Inc.	1.0000	LF	293.94000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	975.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 12-INCH - 16-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	21,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	38,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	32,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	134,000.00000000	0.00
ric-man international, inc	1.0000	EA	46,000.00000000	0.00
Man-Con Inc.	1.0000	EA	24,331.58000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	8,100.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 12-INCH - 16-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	21,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	54,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	45,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	134,000.00000000	0.00
ric-man international, inc	1.0000	EA	48,000.00000000	0.00
Man-Con Inc.	1.0000	EA	24,629.32000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	13,050.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 12-INCH - 16-INCH, 10-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	22,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	100,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	26,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	184,100.00000000	0.00
ric-man international, inc	1.0000	EA	76,000.00000000	0.00
Man-Con Inc.	1.0000	EA	40,121.48000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	23,350.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,100.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	425.00000000	0.00
Lanzo Construction Company	1.0000	LF	6,600.00000000	0.00
ric-man international, inc	1.0000	LF	640.00000000	0.00
Man-Con Inc.	1.0000	LF	438.25000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	410.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,150.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	480.00000000	0.00
Lanzo Construction Company	1.0000	LF	6,600.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	780.00000000	0.00
Man-Con Inc.	1.0000	LF	619.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	675.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	10,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	750.00000000	0.00
Lanzo Construction Company	1.0000	LF	6,600.00000000	0.00
ric-man international, inc	1.0000	LF	2,200.00000000	0.00
Man-Con Inc.	1.0000	LF	753.39000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,115.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 20-INCH - 24-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	32,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	45,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	20,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	7,300.00000000	0.00
ric-man international, inc	1.0000	EA	48,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	40,536.36000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	13,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 20-INCH - 24-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	33,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	65,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	32,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	142,400.00000000	0.00
ric-man international, inc	1.0000	EA	52,000.00000000	0.00
Man-Con Inc.	1.0000	EA	53,237.97000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	16,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 20-INCH - 24-INCH, 10-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	33,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	145,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	40,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	142,400.00000000	0.00
ric-man international, inc	1.0000	EA	94,000.00000000	0.00
Man-Con Inc.	1.0000	EA	78,641.17000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	35,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (2-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,250.00000000	0.00
Hinterland Group Inc.	1.0000	LF	3,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	725.00000000	0.00
Lanzo Construction Company	1.0000	LF	192,500.00000000	0.00
ric-man international, inc	1.0000	LF	870.00000000	0.00
Man-Con Inc.	1.0000	LF	792.57000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	625.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (2-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,300.00000000	0.00
Hinterland Group Inc.	1.0000	LF	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	750.00000000	0.00
Lanzo Construction Company	1.0000	LF	10,900.00000000	0.00
ric-man international, inc	1.0000	LF	1,100.00000000	0.00
Man-Con Inc.	1.0000	LF	802.04000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,025.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (2-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,350.00000000	0.00
Hinterland Group Inc.	1.0000	LF	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	775.00000000	0.00
Lanzo Construction Company	1.0000	LF	10,900.00000000	0.00
ric-man international, inc	1.0000	LF	3,600.00000000	0.00
Man-Con Inc.	1.0000	LF	1,650.22000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 30-INCH - 36-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	64,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	48,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	11,600.00000000	0.00
ric-man international, inc	1.0000	EA	78,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,725.05000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	18,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 30-INCH - 36-INCH, 5-	See ITB Specifications	EA	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	65,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	90,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	85,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	241,500.00000000	0.00
ric-man international, inc	1.0000	EA	82,000.00000000	0.00
Man-Con Inc.	1.0000	EA	95,601.81000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	21,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 30-INCH - 36-INCH, 10-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	65,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	185,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	85,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	241,500.00000000	0.00
ric-man international, inc	1.0000	EA	134,000.00000000	0.00
Man-Con Inc.	1.0000	EA	121,005.01000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	40,950.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	6,450.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	LF	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	750.00000000	0.00
Lanzo Construction Company	1.0000	LF	280,300.00000000	0.00
ric-man international, inc	1.0000	LF	1,300.00000000	0.00
Man-Con Inc.	1.0000	LF	1,427.61000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	925.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	6,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,200.00000000	0.00
Lanzo Construction Company	1.0000	LF	20,100.00000000	0.00
ric-man international, inc	1.0000	LF	1,500.00000000	0.00
Man-Con Inc.	1.0000	LF	1,532.07000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,150.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	6,550.00000000	0.00
Hinterland Group Inc.	1.0000	LF	15,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	LF	1,400.00000000	0.00
Lanzo Construction Company	1.0000	LF	20,900.00000000	0.00
ric-man international, inc	1.0000	LF	4,000.00000000	0.00
Man-Con Inc.	1.0000	LF	2,380.25000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,975.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 42-INCH - 48-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	131,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	55,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	140,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	22,500.00000000	0.00
ric-man international, inc	1.0000	EA	144,000.00000000	0.00
Man-Con Inc.	1.0000	EA	29,682.60000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	22,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 42-INCH- 48-INCH, 5 T-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	132,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	125,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	150,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	276,700.00000000	0.00
ric-man international, inc	1.0000	EA	150,000.00000000	0.00
Man-Con Inc.	1.0000	EA	137,782.73000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	26,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE 42-INCH- 48-INCH, 10-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	133,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	225,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	165,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	276,700.00000000	0.00
ric-man international, inc	1.0000	EA	194,000.00000000	0.00
Man-Con Inc.	1.0000	EA	163,185.99000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	44,975.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	13,100.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,450.00000000	0.00
Lanzo Construction Company	1.0000	LF	315,500.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	2,500.00000000	0.00
Man-Con Inc.	1.0000	LF	669.63000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,325.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	13,200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,750.00000000	0.00
Lanzo Construction Company	1.0000	LF	39,400.00000000	0.00
ric-man international, inc	1.0000	LF	2,800.00000000	0.00
Man-Con Inc.	1.0000	LF	3,236.39000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,578.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	13,300.00000000	0.00
Hinterland Group Inc.	1.0000	LF	15,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,800.00000000	0.00
Lanzo Construction Company	1.0000	LF	40,100.00000000	0.00
ric-man international, inc	1.0000	LF	5,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	LF	4,506.52000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,225.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 4-INCH - 6-INCH, 0 TO-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	24,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	14,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	41,700.00000000	0.00
ric-man international, inc	1.0000	EA	24,000.00000000	0.00
Man-Con Inc.	1.0000	EA	13,206.28000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,695.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 4-INCH - 6-INCH, 5 TO-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	38,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	122,200.00000000	0.00
ric-man international, inc	1.0000	EA	26,000.00000000	0.00
Man-Con Inc.	1.0000	EA	18,605.01000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	9,950.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,050.00000000	0.00
Hinterland Group Inc.	1.0000	LF	1,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	275.00000000	0.00
Lanzo Construction Company	1.0000	LF	1,500.00000000	0.00
ric-man international, inc	1.0000	LF	320.00000000	0.00
Man-Con Inc.	1.0000	LF	159.05000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	295.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,100.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	325.00000000	0.00
Lanzo Construction Company	1.0000	LF	1,500.00000000	0.00
ric-man international, inc	1.0000	LF	350.00000000	0.00
Man-Con Inc.	1.0000	LF	165.47000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	595.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 8-INCH - 10-INCH, 0 T-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	32,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	124,500.00000000	0.00
ric-man international, inc	1.0000	EA	26,000.00000000	0.00
Man-Con Inc.	1.0000	EA	15,232.92000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	7,595.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 8-INCH - 10-INCH, 5 T-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	45,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	124,500.00000000	0.00
ric-man international, inc	1.0000	EA	28,000.00000000	0.00
Man-Con Inc.	1.0000	EA	23,725.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	11,595.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	225.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,400.00000000	0.00
ric-man international, inc	1.0000	LF	370.00000000	0.00
Man-Con Inc.	1.0000	LF	230.97000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	395.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,250.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,800.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	325.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,400.00000000	0.00
ric-man international, inc	1.0000	LF	400.00000000	0.00
Man-Con Inc.	1.0000	LF	280.60000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	675.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 12-INCH - 16-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	48,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	129,800.00000000	0.00
ric-man international, inc	1.0000	EA	32,000.00000000	0.00
Man-Con Inc.	1.0000	EA	19,370.05000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	10,550.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 12-INCH - 16-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	17,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	65,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	17,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	129,800.00000000	0.00
ric-man international, inc	1.0000	EA	32,000.00000000	0.00
Man-Con Inc.	1.0000	EA	24,768.77000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	15,990.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,650.00000000	0.00
Hinterland Group Inc.	1.0000	LF	3,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	LF	325.00000000	0.00
Lanzo Construction Company	1.0000	LF	4,500.00000000	0.00
ric-man international, inc	1.0000	LF	450.00000000	0.00
Man-Con Inc.	1.0000	LF	358.10000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	550.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,700.00000000	0.00
Hinterland Group Inc.	1.0000	LF	6,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	350.00000000	0.00
Lanzo Construction Company	1.0000	LF	4,500.00000000	0.00
ric-man international, inc	1.0000	LF	490.00000000	0.00
Man-Con Inc.	1.0000	LF	373.37000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	825.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 20-INCH - 24-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	25,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	60,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	28,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	138,500.00000000	0.00
ric-man international, inc	1.0000	EA	40,000.00000000	0.00
Man-Con Inc.	1.0000	EA	41,691.54000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	15,850.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 20-INCH - 24-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	25,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	85,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	35,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	138,500.00000000	0.00
ric-man international, inc	1.0000	EA	40,000.00000000	0.00
Man-Con Inc.	1.0000	EA	60,053.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	21,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (2-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	425.00000000	0.00
Lanzo Construction Company	1.0000	LF	8,100.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	690.00000000	0.00
Man-Con Inc.	1.0000	LF	568.84000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	795.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (2-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,550.00000000	0.00
Hinterland Group Inc.	1.0000	LF	7,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	450.00000000	0.00
Lanzo Construction Company	1.0000	LF	8,100.00000000	0.00
ric-man international, inc	1.0000	LF	720.00000000	0.00
Man-Con Inc.	1.0000	LF	652.97000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,085.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 30-INCH - 36-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	50,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	75,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	213,600.00000000	0.00
ric-man international, inc	1.0000	EA	100,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	62,390.26000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	22,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 30-INCH - 36-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	51,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	100,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	36,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	213,600.00000000	0.00
ric-man international, inc	1.0000	EA	100,000.00000000	0.00
Man-Con Inc.	1.0000	EA	75,091.87000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	28,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	5,050.00000000	0.00
Hinterland Group Inc.	1.0000	LF	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	800.00000000	0.00
Lanzo Construction Company	1.0000	LF	13,000.00000000	0.00
ric-man international, inc	1.0000	LF	1,100.00000000	0.00
Man-Con Inc.	1.0000	LF	967.32000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	LF	1,175.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	5,100.00000000	0.00
Hinterland Group Inc.	1.0000	LF	10,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,000.00000000	0.00
Lanzo Construction Company	1.0000	LF	13,500.00000000	0.00
ric-man international, inc	1.0000	LF	1,200.00000000	0.00
Man-Con Inc.	1.0000	LF	1,284.86000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,485.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 4-INCH - 6-INCH, 0 TO-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	28,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	122,900.00000000	0.00
ric-man international, inc	1.0000	EA	26,000.00000000	0.00
Man-Con Inc.	1.0000	EA	16,625.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,895.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 4-INCH - 6-INCH, 5 TO-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	42,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	17,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	122,900.00000000	0.00
ric-man international, inc	1.0000	EA	26,000.00000000	0.00
Man-Con Inc.	1.0000	EA	18,698.70000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	10,150.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,000.00000000	0.00
Hinterland Group Inc.	1.0000	LF	1,600.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	250.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,500.00000000	0.00
ric-man international, inc	1.0000	LF	350.00000000	0.00
Man-Con Inc.	1.0000	LF	168.38000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	395.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,050.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,600.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	275.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,500.00000000	0.00
ric-man international, inc	1.0000	LF	380.00000000	0.00
Man-Con Inc.	1.0000	LF	218.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	695.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 8-INCH - 10-INCH, 0 T-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	36,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	14,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	124,300.00000000	0.00
ric-man international, inc	1.0000	EA	26,000.00000000	0.00
Man-Con Inc.	1.0000	EA	13,767.33000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	7,895.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 8-INCH - 10-INCH, 5 T-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	50,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	124,300.00000000	0.00
ric-man international, inc	1.0000	EA	28,000.00000000	0.00
Man-Con Inc.	1.0000	EA	19,164.73000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	11,995.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,150.00000000	0.00
Hinterland Group Inc.	1.0000	LF	3,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	325.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,700.00000000	0.00
ric-man international, inc	1.0000	LF	390.00000000	0.00
Man-Con Inc.	1.0000	LF	217.67000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	495.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (8-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	5,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	LF	375.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,700.00000000	0.00
ric-man international, inc	1.0000	LF	420.00000000	0.00
Man-Con Inc.	1.0000	LF	250.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	775.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 12-INCH - 16-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	55,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	17,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	129,200.00000000	0.00
ric-man international, inc	1.0000	EA	30,000.00000000	0.00
Man-Con Inc.	1.0000	EA	27,142.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	11,350.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 12-INCH - 16-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	75,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	18,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	129,200.00000000	0.00
ric-man international, inc	1.0000	EA	32,000.00000000	0.00
Man-Con Inc.	1.0000	EA	29,001.04000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	17,990.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,600.00000000	0.00
Hinterland Group Inc.	1.0000	LF	4,200.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	425.00000000	0.00
Lanzo Construction Company	1.0000	LF	4,600.00000000	0.00
ric-man international, inc	1.0000	LF	510.00000000	0.00
Man-Con Inc.	1.0000	LF	365.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	550.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (1-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,650.00000000	0.00
Hinterland Group Inc.	1.0000	LF	7,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	430.00000000	0.00
Lanzo Construction Company	1.0000	LF	4,600.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	540.00000000	0.00
Man-Con Inc.	1.0000	LF	352.13000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	825.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 20-INCH - 24-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	24,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	72,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	28,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	137,500.00000000	0.00
ric-man international, inc	1.0000	EA	38,000.00000000	0.00
Man-Con Inc.	1.0000	EA	55,590.58000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	16,850.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 20-INCH - 24-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	24,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	95,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	30,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	137,500.00000000	0.00
ric-man international, inc	1.0000	EA	40,000.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	66,357.31000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	22,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (2-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,400.00000000	0.00
Hinterland Group Inc.	1.0000	LF	5,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	650.00000000	0.00
Lanzo Construction Company	1.0000	LF	7,000.00000000	0.00
ric-man international, inc	1.0000	LF	740.00000000	0.00
Man-Con Inc.	1.0000	LF	464.10000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	795.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (2-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,450.00000000	0.00
Hinterland Group Inc.	1.0000	LF	9,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	675.00000000	0.00
Lanzo Construction Company	1.0000	LF	7,000.00000000	0.00
ric-man international, inc	1.0000	LF	780.00000000	0.00
Man-Con Inc.	1.0000	LF	591.17000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	LF	1,085.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 30-INCH - 36-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	50,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	85,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	206,600.00000000	0.00
ric-man international, inc	1.0000	EA	64,000.00000000	0.00
Man-Con Inc.	1.0000	EA	64,013.08000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	24,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 30-INCH - 36-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	50,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	110,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	85,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	206,600.00000000	0.00
ric-man international, inc	1.0000	EA	66,000.00000000	0.00
Man-Con Inc.	1.0000	EA	76,271.52000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	30,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	5,000.00000000	0.00
Hinterland Group Inc.	1.0000	LF	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,200.00000000	0.00
Lanzo Construction Company	1.0000	LF	16,700.00000000	0.00
ric-man international, inc	1.0000	LF	1,500.00000000	0.00
Man-Con Inc.	1.0000	LF	1,441.61000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,175.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (3-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	5,050.00000000	0.00
Hinterland Group Inc.	1.0000	LF	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,375.00000000	0.00
Lanzo Construction Company	1.0000	LF	17,200.00000000	0.00
ric-man international, inc	1.0000	LF	1,500.00000000	0.00
Man-Con Inc.	1.0000	LF	2,119.82000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,485.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 42-INCH - 48-INCH, 0-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	95,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	95,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	1,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	242,500.00000000	0.00
ric-man international, inc	1.0000	EA	110,000.00000000	0.00
Man-Con Inc.	1.0000	EA	28,848.07000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	34,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE 42-INCH - 48-INCH, 5-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	96,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	120,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	90,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	281,300.00000000	0.00
ric-man international, inc	1.0000	EA	112,000.00000000	0.00
Man-Con Inc.	1.0000	EA	120,791.04000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	41,525.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	9,550.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	LF	9,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,100.00000000	0.00
Lanzo Construction Company	1.0000	LF	25,700.00000000	0.00
ric-man international, inc	1.0000	LF	3,100.00000000	0.00
Man-Con Inc.	1.0000	LF	572.14000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	1,800.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER PIPE ADDITIONAL FOOTAGE (4-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	9,600.00000000	0.00
Hinterland Group Inc.	1.0000	LF	14,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,150.00000000	0.00
Lanzo Construction Company	1.0000	LF	26,200.00000000	0.00
ric-man international, inc	1.0000	LF	3,200.00000000	0.00
Man-Con Inc.	1.0000	LF	2,848.57000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	2,125.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (5/8 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	3,400.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	3,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	28,300.00000000	0.00
ric-man international, inc	1.0000	EA	21,000.00000000	0.00
Man-Con Inc.	1.0000	EA	4,937.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	2,350.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (5/8 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	5,400.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	3,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	44,800.00000000	0.00
ric-man international, inc	1.0000	EA	23,000.00000000	0.00
Man-Con Inc.	1.0000	EA	5,937.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,250.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (3/4 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	3,800.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	3,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	28,300.00000000	0.00
ric-man international, inc	1.0000	EA	21,000.00000000	0.00
Man-Con Inc.	1.0000	EA	4,937.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	2,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (3/4 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	5,800.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	3,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	44,800.00000000	0.00
ric-man international, inc	1.0000	EA	23,000.00000000	0.00
Man-Con Inc.	1.0000	EA	5,937.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,675.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (1 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,250.00000000	0.00
Lanzo Construction Company	1.0000	EA	28,300.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	EA	21,000.00000000	0.00
Man-Con Inc.	1.0000	EA	4,937.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	2,950.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (1 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,250.00000000	0.00
Lanzo Construction Company	1.0000	EA	44,800.00000000	0.00
ric-man international, inc	1.0000	EA	23,000.00000000	0.00
Man-Con Inc.	1.0000	EA	5,937.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,795.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (1.5 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	4,800.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,450.00000000	0.00
Lanzo Construction Company	1.0000	EA	30,700.00000000	0.00
ric-man international, inc	1.0000	EA	22,000.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	6,823.53000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,375.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (1.5 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	7,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,625.00000000	0.00
Lanzo Construction Company	1.0000	EA	47,200.00000000	0.00
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	7,022.63000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,275.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (2 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	5,400.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	30,700.00000000	0.00
ric-man international, inc	1.0000	EA	23,000.00000000	0.00
Man-Con Inc.	1.0000	EA	9,263.24000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	5,995.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE SINGLE (2 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,850.00000000	0.00
Lanzo Construction Company	1.0000	EA	47,200.00000000	0.00
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	11,027.65000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	6,450.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (5/8 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	4,200.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,350.00000000	0.00
Lanzo Construction Company	1.0000	EA	29,300.00000000	0.00
ric-man international, inc	1.0000	EA	22,000.00000000	0.00
Man-Con Inc.	1.0000	EA	7,105.59000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,600.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (5/8 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,200.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,350.00000000	0.00
Lanzo Construction Company	1.0000	EA	45,800.00000000	0.00
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	7,304.70000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	6,400.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (3/4 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	4,600.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,400.00000000	0.00
Lanzo Construction Company	1.0000	EA	29,300.00000000	0.00
ric-man international, inc	1.0000	EA	22,000.00000000	0.00
Man-Con Inc.	1.0000	EA	7,105.59000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,450.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (3/4 --	See ITB Specifications	EA	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	45,800.00000000	0.00
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	7,304.70000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	7,250.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (1 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	5,400.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	29,300.00000000	0.00
ric-man international, inc	1.0000	EA	22,000.00000000	0.00
Man-Con Inc.	1.0000	EA	8,813.59000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,950.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (1 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	7,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,800.00000000	0.00
Lanzo Construction Company	1.0000	EA	45,800.00000000	0.00
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	9,012.70000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	8,125.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (1.5 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	4,700.00000000	0.00
Lanzo Construction Company	1.0000	EA	32,200.00000000	0.00
ric-man international, inc	1.0000	EA	24,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,764.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	6,650.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (1.5 --	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	4,800.00000000	0.00
Lanzo Construction Company	1.0000	EA	48,600.00000000	0.00
ric-man international, inc	1.0000	EA	28,000.00000000	0.00
Man-Con Inc.	1.0000	EA	12,755.06000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	8,450.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (2 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	6,150.00000000	0.00
Lanzo Construction Company	1.0000	EA	32,200.00000000	0.00
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	15,005.28000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	9,150.00000000	0.00

Item	Description	Unit of Measure	Quantity
WATER SERVICE LINE DOUBLE (2 - I-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	17,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	9,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	6,250.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	48,600.00000000	0.00
ric-man international, inc	1.0000	EA	29,000.00000000	0.00
Man-Con Inc.	1.0000	EA	18,561.65000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	11,350.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (4 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	800.00000000	0.00
Hinterland Group Inc.	1.0000	LF	55.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	130.00000000	0.00
Lanzo Construction Company	1.0000	LF	400.00000000	0.00
ric-man international, inc	1.0000	LF	2,400.00000000	0.00
Man-Con Inc.	1.0000	LF	134.90000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (6 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	820.00000000	0.00
Hinterland Group Inc.	1.0000	LF	65.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	150.00000000	0.00
Lanzo Construction Company	1.0000	LF	500.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	2,400.00000000	0.00
Man-Con Inc.	1.0000	LF	153.56000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (8 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	850.00000000	0.00
Hinterland Group Inc.	1.0000	LF	85.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	175.00000000	0.00
Lanzo Construction Company	1.0000	LF	500.00000000	0.00
ric-man international, inc	1.0000	LF	2,400.00000000	0.00
Man-Con Inc.	1.0000	LF	194.44000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (10 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	900.00000000	0.00
Hinterland Group Inc.	1.0000	LF	115.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	190.00000000	0.00
Lanzo Construction Company	1.0000	LF	580.00000000	0.00
ric-man international, inc	1.0000	LF	2,500.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	LF	234.34000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (12 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	950.00000000	0.00
Hinterland Group Inc.	1.0000	LF	145.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	250.00000000	0.00
Lanzo Construction Company	1.0000	LF	660.00000000	0.00
ric-man international, inc	1.0000	LF	2,500.00000000	0.00
Man-Con Inc.	1.0000	LF	318.81000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (16 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,050.00000000	0.00
Hinterland Group Inc.	1.0000	LF	225.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	325.00000000	0.00
Lanzo Construction Company	1.0000	LF	820.00000000	0.00
ric-man international, inc	1.0000	LF	4,900.00000000	0.00
Man-Con Inc.	1.0000	LF	499.18000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (18 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	320.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	375.00000000	0.00
Lanzo Construction Company	1.0000	LF	890.00000000	0.00
ric-man international, inc	1.0000	LF	5,000.00000000	0.00
Man-Con Inc.	1.0000	LF	317.88000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (20 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,250.00000000	0.00
Hinterland Group Inc.	1.0000	LF	330.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	550.00000000	0.00
Lanzo Construction Company	1.0000	LF	960.00000000	0.00
ric-man international, inc	1.0000	LF	5,000.00000000	0.00
Man-Con Inc.	1.0000	LF	743.80000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (24 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	650.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	625.00000000	0.00
Lanzo Construction Company	1.0000	LF	1,200.00000000	0.00
ric-man international, inc	1.0000	LF	5,100.00000000	0.00
Man-Con Inc.	1.0000	LF	945.29000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (30 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	1,900.00000000	0.00
Hinterland Group Inc.	1.0000	LF	930.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	850.00000000	0.00
Lanzo Construction Company	1.0000	LF	1,500.00000000	0.00
ric-man international, inc	1.0000	LF	5,500.00000000	0.00
Man-Con Inc.	1.0000	LF	1,573.43000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (36 - INCH)-	See ITB Specifications	LF	1.0000

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,300.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	1,450.00000000	0.00
Lanzo Construction Company	1.0000	LF	1,820.00000000	0.00
ric-man international, inc	1.0000	LF	5,800.00000000	0.00
Man-Con Inc.	1.0000	LF	2,128.08000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (42 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	2,600.00000000	0.00
Hinterland Group Inc.	1.0000	LF	2,400.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,600.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,300.00000000	0.00
ric-man international, inc	1.0000	LF	7,600.00000000	0.00
Man-Con Inc.	1.0000	LF	2,623.26000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
DIRECTIONAL BORINGS (48 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	3,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	LF	3,800.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,700.00000000	0.00
Lanzo Construction Company	1.0000	LF	2,600.00000000	0.00
ric-man international, inc	1.0000	LF	7,800.00000000	0.00
Man-Con Inc.	1.0000	LF	3,140.63000000	0.00
EnviroWaste Services Group, Inc.	0.0000	LF	0.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE LINER (6 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	220.00000000	0.00
Hinterland Group Inc.	1.0000	LF	85.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	135.00000000	0.00
Lanzo Construction Company	1.0000	LF	300.00000000	0.00
ric-man international, inc	1.0000	LF	220.00000000	0.00
Man-Con Inc.	1.0000	LF	165.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	45.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE LINER (8 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	190.00000000	0.00
Hinterland Group Inc.	1.0000	LF	74.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	LF	145.00000000	0.00
Lanzo Construction Company	1.0000	LF	200.00000000	0.00
ric-man international, inc	1.0000	LF	300.00000000	0.00
Man-Con Inc.	1.0000	LF	100.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	47.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE LINER (10 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	85.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	145.00000000	0.00
Lanzo Construction Company	1.0000	LF	300.00000000	0.00
ric-man international, inc	1.0000	LF	430.00000000	0.00
Man-Con Inc.	1.0000	LF	110.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	52.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE LINER (12 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	210.00000000	0.00
Hinterland Group Inc.	1.0000	LF	100.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	200.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	LF	300.00000000	0.00
ric-man international, inc	1.0000	LF	460.00000000	0.00
Man-Con Inc.	1.0000	LF	132.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	60.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE LINER (14 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	240.00000000	0.00
Hinterland Group Inc.	1.0000	LF	115.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	175.00000000	0.00
Lanzo Construction Company	1.0000	LF	300.00000000	0.00
ric-man international, inc	1.0000	LF	490.00000000	0.00
Man-Con Inc.	1.0000	LF	156.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	72.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE LINER (16 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	250.00000000	0.00
Hinterland Group Inc.	1.0000	LF	145.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	160.00000000	0.00
Lanzo Construction Company	1.0000	LF	300.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	LF	520.00000000	0.00
Man-Con Inc.	1.0000	LF	201.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	80.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE LINER (18 - INCH)-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	280.00000000	0.00
Hinterland Group Inc.	1.0000	LF	165.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	160.00000000	0.00
Lanzo Construction Company	1.0000	LF	300.00000000	0.00
ric-man international, inc	1.0000	LF	590.00000000	0.00
Man-Con Inc.	1.0000	LF	541.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	95.00000000	0.00

Item	Description	Unit of Measure	Quantity
LATERAL-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	5,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	5,250.00000000	0.00
Lanzo Construction Company	1.0000	EA	21,200.00000000	0.00
ric-man international, inc	1.0000	EA	9,200.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	25,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,200.00000000	0.00

Item	Description	Unit of Measure	Quantity
LATERAL ADDITIONAL FOOTAGE-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	1,500.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	325.00000000	0.00
Lanzo Construction Company	1.0000	LF	600.00000000	0.00
ric-man international, inc	1.0000	LF	270.00000000	0.00
Man-Con Inc.	1.0000	LF	747.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	125.00000000	0.00

Item	Description	Unit of Measure	Quantity
LATERAL ADDITIONAL-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	4,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	5,250.00000000	0.00
Lanzo Construction Company	1.0000	EA	44,300.00000000	0.00
ric-man international, inc	1.0000	EA	22,000.00000000	0.00
Man-Con Inc.	1.0000	EA	4,815.94000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	150.00000000	0.00

Item	Description	Unit of Measure	Quantity
F&I 6-INCH CLEAN-OUT ON EXISTING-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	5,600.00000000	0.00
Hinterland Group Inc.	1.0000	EA	3,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	850.00000000	0.00
Lanzo Construction Company	1.0000	EA	42,900.00000000	0.00
ric-man international, inc	1.0000	EA	3,500.00000000	0.00
Man-Con Inc.	1.0000	EA	1,838.33000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	1,250.00000000	0.00

Item	Description	Unit of Measure	Quantity
F&I 6-INCH CLEAN-OUT ON EXISTING-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	7,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	4,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	1,150.00000000	0.00
Lanzo Construction Company	1.0000	EA	14,000.00000000	0.00
ric-man international, inc	1.0000	EA	6,500.00000000	0.00
Man-Con Inc.	1.0000	EA	3,566.44000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	1,475.00000000	0.00

Item	Description	Unit of Measure	Quantity
NEW MANHOLE - FROM 0 FEET TO 5 F-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	18,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	122,900.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	21,103.81000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,850.00000000	0.00

Item	Description	Unit of Measure	Quantity
NEW MANHOLE - FROM 5 FEET TO 8 F-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	28,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	124,300.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	24,898.49000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,250.00000000	0.00

Item	Description	Unit of Measure	Quantity
NEW MANHOLE - FROM 8 FEET TO 12-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	20,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	48,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	125,600.00000000	0.00
ric-man international, inc	1.0000	EA	17,000.00000000	0.00
Man-Con Inc.	1.0000	EA	39,506.26000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,700.00000000	0.00

Item	Description	Unit of Measure	Quantity
NEW MANHOLE - FROM 12 FEET TO 15-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	35,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	75,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	139,200.00000000	0.00
ric-man international, inc	1.0000	EA	19,000.00000000	0.00
Man-Con Inc.	1.0000	EA	45,225.01000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	12,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
NEW MANHOLE - FROM 15 FEET TO 20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	45,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	95,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	75,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	143,200.00000000	0.00
ric-man international, inc	1.0000	EA	29,000.00000000	0.00
Man-Con Inc.	1.0000	EA	90,312.96000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	18,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REMOVAL OF MANHOLE - FROM 0 FEET-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	5,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	750.00000000	0.00
Lanzo Construction Company	1.0000	EA	75,800.00000000	0.00
ric-man international, inc	1.0000	EA	2,700.00000000	0.00
Man-Con Inc.	1.0000	EA	5,619.87000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	1,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
REMOVAL OF MANHOLE - FROM 5 FEET-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	5,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	1,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	75,800.00000000	0.00
ric-man international, inc	1.0000	EA	2,700.00000000	0.00
Man-Con Inc.	1.0000	EA	6,890.10000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	1,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REMOVAL OF MANHOLE - FROM 8 FEET-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	6,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	24,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	1,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	75,800.00000000	0.00
ric-man international, inc	1.0000	EA	4,000.00000000	0.00
Man-Con Inc.	1.0000	EA	13,510.49000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	2,200.00000000	0.00

Item	Description	Unit of Measure	Quantity
REMOVAL OF MANHOLE - FROM 12 FEE-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	6,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	42,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	5,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	87,100.00000000	0.00
ric-man international, inc	1.0000	EA	4,000.00000000	0.00
Man-Con Inc.	1.0000	EA	22,594.18000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	2,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
REMOVAL OF MANHOLE - FROM 15 FEE-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	7,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	65,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	5,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,100.00000000	0.00
ric-man international, inc	1.0000	EA	8,000.00000000	0.00
Man-Con Inc.	1.0000	EA	30,305.31000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
SEWER MANHOLE REHABILITATION-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	9,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	26,600.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	EA	3,300.00000000	0.00
Man-Con Inc.	1.0000	EA	10,498.90000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	275.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE 24-INCH MANHOLE RING AND-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	3,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	3,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,250.00000000	0.00
Lanzo Construction Company	1.0000	EA	11,700.00000000	0.00
ric-man international, inc	1.0000	EA	3,100.00000000	0.00
Man-Con Inc.	1.0000	EA	4,698.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	975.00000000	0.00

Item	Description	Unit of Measure	Quantity
CORING-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	2,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	4,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	3,000.00000000	0.00
ric-man international, inc	1.0000	EA	1,300.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	5,478.56000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	325.00000000	0.00

Item	Description	Unit of Measure	Quantity
24-IN X 24-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	5,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	4,250.00000000	0.00
Lanzo Construction Company	1.0000	EA	83,200.00000000	0.00
ric-man international, inc	1.0000	EA	3,400.00000000	0.00
Man-Con Inc.	1.0000	EA	5,079.36000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,550.00000000	0.00

Item	Description	Unit of Measure	Quantity
24-IN X 30-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	8,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	6,575.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,300.00000000	0.00
ric-man international, inc	1.0000	EA	3,400.00000000	0.00
Man-Con Inc.	1.0000	EA	8,340.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	3,595.00000000	0.00

Item	Description	Unit of Measure	Quantity
24-IN X 36-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	13,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,300.00000000	0.00
ric-man international, inc	1.0000	EA	3,700.00000000	0.00
Man-Con Inc.	1.0000	EA	8,650.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,125.00000000	0.00

Item	Description	Unit of Measure	Quantity
30-IN X 30-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	14,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,300.00000000	0.00
ric-man international, inc	1.0000	EA	3,700.00000000	0.00
Man-Con Inc.	1.0000	EA	9,022.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,200.00000000	0.00

Item	Description	Unit of Measure	Quantity
30-IN X 36-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	16,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	84,800.00000000	0.00
ric-man international, inc	1.0000	EA	3,900.00000000	0.00
Man-Con Inc.	1.0000	EA	10,217.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
30-IN X 48-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	17,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,300.00000000	0.00
ric-man international, inc	1.0000	EA	4,400.00000000	0.00
Man-Con Inc.	1.0000	EA	9,867.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,600.00000000	0.00

Item	Description	Unit of Measure	Quantity
36-IN X 36-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	18,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	85,900.00000000	0.00
ric-man international, inc	1.0000	EA	4,200.00000000	0.00
Man-Con Inc.	1.0000	EA	11,020.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
36-IN X 48-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	19,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	20,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,200.00000000	0.00
ric-man international, inc	1.0000	EA	5,300.00000000	0.00
Man-Con Inc.	1.0000	EA	10,680.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,895.00000000	0.00

Item	Description	Unit of Measure	Quantity
42-IN X 42-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	17,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	22,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	14,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	87,200.00000000	0.00
ric-man international, inc	1.0000	EA	6,000.00000000	0.00
Man-Con Inc.	1.0000	EA	12,509.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,150.00000000	0.00

Item	Description	Unit of Measure	Quantity
42-IN X 48-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	19,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	24,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	96,500.00000000	0.00
ric-man international, inc	1.0000	EA	6,200.00000000	0.00
Man-Con Inc.	1.0000	EA	16,034.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,200.00000000	0.00

Item	Description	Unit of Measure	Quantity
48-IN X 48-IN - HEAVY DUTY (H-20-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	19,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	25,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	14,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	96,500.00000000	0.00
ric-man international, inc	1.0000	EA	5,400.00000000	0.00
Man-Con Inc.	1.0000	EA	8,544.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,375.00000000	0.00

Item	Description	Unit of Measure	Quantity
DUCTILE IRON PIPE FITTINGS-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	100.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	135.00000000	0.00
Lanzo Construction Company	1.0000	EA	2,600.00000000	0.00
ric-man international, inc	1.0000	EA	590.00000000	0.00
Man-Con Inc.	1.0000	EA	40.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	375.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER GATE VALVES, 4-INC-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	8,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	3,400.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,800.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	55,200.00000000	0.00
ric-man international, inc	1.0000	EA	4,900.00000000	0.00
Man-Con Inc.	1.0000	EA	7,855.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	23,675.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER GATE VALVES, 10-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	5,400.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	58,700.00000000	0.00
ric-man international, inc	1.0000	EA	7,500.00000000	0.00
Man-Con Inc.	1.0000	EA	12,088.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	28,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER GATE VALVES, 16-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	28,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	18,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	28,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	85,600.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	EA	25,000.00000000	0.00
Man-Con Inc.	1.0000	EA	45,582.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	33,550.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER GATE VALVES, 20-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	38,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	40,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	47,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	98,600.00000000	0.00
ric-man international, inc	1.0000	EA	34,000.00000000	0.00
Man-Con Inc.	1.0000	EA	62,017.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	52,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER GATE VALVES, 30-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	107,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	85,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	90,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	242,800.00000000	0.00
ric-man international, inc	1.0000	EA	106,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	162,600.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	63,575.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER GATE VALVES, 42-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	185,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	125,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	205,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	370,000.00000000	0.00
ric-man international, inc	1.0000	EA	189,000.00000000	0.00
Man-Con Inc.	1.0000	EA	87,047.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	81,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER BUTTERFLY VALVES,-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	9,600.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	9,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	55,200.00000000	0.00
ric-man international, inc	1.0000	EA	6,800.00000000	0.00
Man-Con Inc.	1.0000	EA	7,676.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	28,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER BUTTERFLY VALVES,-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	10,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	19,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	59,700.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	14,484.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	35,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER BUTTERFLY VALVES,-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	20,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	16,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	23,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	65,900.00000000	0.00
ric-man international, inc	1.0000	EA	20,000.00000000	0.00
Man-Con Inc.	1.0000	EA	23,688.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	55,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER BUTTERFLY VALVES,-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	45,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	40,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	70,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	155,900.00000000	0.00
ric-man international, inc	1.0000	EA	43,000.00000000	0.00
Man-Con Inc.	1.0000	EA	59,020.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	65,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE WATER BUTTERFLY VALVES,-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	79,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	75,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	150,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	192,400.00000000	0.00
ric-man international, inc	1.0000	EA	80,000.00000000	0.00
Man-Con Inc.	1.0000	EA	94,715.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	82,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
AIR RELEASE VALVES - WATER (INST-	See ITB Specifications	EA	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	9,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	81,000.00000000	0.00
ric-man international, inc	1.0000	EA	4,900.00000000	0.00
Man-Con Inc.	1.0000	EA	15,913.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	6,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
AIR RELEASE VALVES - WATER (INST-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	6,700.00000000	0.00
Hinterland Group Inc.	1.0000	EA	14,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	70,300.00000000	0.00
ric-man international, inc	1.0000	EA	3,800.00000000	0.00
Man-Con Inc.	1.0000	EA	16,912.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	6,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE SEWER PLUG VALVES, 4-INC-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	9,500.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	3,400.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	56,600.00000000	0.00
ric-man international, inc	1.0000	EA	6,200.00000000	0.00
Man-Con Inc.	1.0000	EA	10,200.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	16,575.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE SEWER PLUG VALVES, 10-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	5,400.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	13,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	60,500.00000000	0.00
ric-man international, inc	1.0000	EA	8,400.00000000	0.00
Man-Con Inc.	1.0000	EA	12,185.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	27,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE SEWER PLUG VALVES, 16-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	22,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	18,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	42,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	73,100.00000000	0.00
ric-man international, inc	1.0000	EA	19,000.00000000	0.00
Man-Con Inc.	1.0000	EA	27,912.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	35,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE SEWER PLUG VALVES, 20-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	54,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	40,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	75,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	137,200.00000000	0.00
ric-man international, inc	1.0000	EA	51,000.00000000	0.00
Man-Con Inc.	1.0000	EA	56,567.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	45,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE SEWER PLUG VALVES, 30-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	121,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	85,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	120,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	218,200.00000000	0.00
ric-man international, inc	1.0000	EA	114,000.00000000	0.00
Man-Con Inc.	1.0000	EA	129,968.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	63,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE SEWER PLUG VALVES, 42-IN-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	278,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	125,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	250,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	506,000.00000000	0.00
ric-man international, inc	1.0000	EA	265,000.00000000	0.00
Man-Con Inc.	1.0000	EA	491,710.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	75,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
AIR RELEASE VALVES - WASTEWATER-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	7,100.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	4,600.00000000	0.00
Lanzo Construction Company	1.0000	EA	114,700.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	EA	4,200.00000000	0.00
Man-Con Inc.	1.0000	EA	10,714.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	6,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
AIR RELEASE VALVES - WASTEWATER-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	7,200.00000000	0.00
Hinterland Group Inc.	1.0000	EA	14,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	104,000.00000000	0.00
ric-man international, inc	1.0000	EA	4,200.00000000	0.00
Man-Con Inc.	1.0000	EA	12,071.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	6,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
6-INCH: 6 X 6 TAPPING VALVES AND-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	58,000.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	8,211.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	7,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
6-INCH: 6 X 4 TAPPING VALVES AND-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	7,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	58,000.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	8,211.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	8,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
8-INCH: 8 X 8 TAPPING VALVES AND-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	9,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	60,900.00000000	0.00
ric-man international, inc	1.0000	EA	14,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,493.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	14,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
8-INCH: 8 X 6 TAPPING VALVES AND-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	7,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	11,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	60,900.00000000	0.00
ric-man international, inc	1.0000	EA	13,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,493.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	11,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
8-INCH: 8 X 4 TAPPING VALVES AND-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	7,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	60,900.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,493.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	18,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
10-INCH: 10 X 10 TAPPING VALVES-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	18,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	15,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	13,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	67,500.00000000	0.00
ric-man international, inc	1.0000	EA	18,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,673.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	17,675.00000000	0.00

Item	Description	Unit of Measure	Quantity
10-INCH: 10 X 8 TAPPING VALVES A-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	14,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	67,500.00000000	0.00
ric-man international, inc	1.0000	EA	14,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,673.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	15,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
10-INCH: 10 X 6 TAPPING VALVES A-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	67,500.00000000	0.00
ric-man international, inc	1.0000	EA	13,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,673.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	14,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
10-INCH: 10 X 4 TAPPING VALVES A-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	11,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	21,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	67,500.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	10,673.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	11,250.00000000	0.00

Item	Description	Unit of Measure	Quantity
12-INCH: 12 X 12 TAPPING VALVES-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	21,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	18,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	20,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	76,500.00000000	0.00
ric-man international, inc	1.0000	EA	21,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,550.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	22,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
12-INCH: 12 X 10 TAPPING VALVES-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	18,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	16,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	17,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	76,500.00000000	0.00
ric-man international, inc	1.0000	EA	18,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,550.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	20,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
12-INCH: 12 X 8 TAPPING VALVES A-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	14,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	17,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	76,500.00000000	0.00
ric-man international, inc	1.0000	EA	15,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,550.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	17,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
12-INCH: 12 X 6 TAPPING VALVES A-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	13,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	15,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	76,500.00000000	0.00
ric-man international, inc	1.0000	EA	13,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,550.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	15,700.00000000	0.00

Item	Description	Unit of Measure	Quantity
12-INCH: 12 X 4 TAPPING VALVES A-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,250.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	76,500.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,550.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	13,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
INSTALLATION OF NEW HYDRANT-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	9,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	59,100.00000000	0.00
ric-man international, inc	1.0000	EA	12,000.00000000	0.00
Man-Con Inc.	1.0000	EA	11,311.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,650.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACEMENT OF EXISTING HYDRANT-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	7,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	59,100.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	EA	9,500.00000000	0.00
Man-Con Inc.	1.0000	EA	16,475.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	5,200.00000000	0.00

Item	Description	Unit of Measure	Quantity
RELOCATION OF EXISTING HYDRANT-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	8,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	6,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	59,100.00000000	0.00
ric-man international, inc	1.0000	EA	7,900.00000000	0.00
Man-Con Inc.	1.0000	EA	17,566.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
RELOCATION OF EXISTING HYDRANT A-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	14,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	10,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	59,100.00000000	0.00
ric-man international, inc	1.0000	EA	15,000.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	21,639.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,350.00000000	0.00

Item	Description	Unit of Measure	Quantity
INSTALLATION OF BACTERIOLOGICAL-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	6,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	2,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	850.00000000	0.00
Lanzo Construction Company	1.0000	EA	24,800.00000000	0.00
ric-man international, inc	1.0000	EA	2,200.00000000	0.00
Man-Con Inc.	1.0000	EA	1,385.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	1,250.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 4-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	8,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	5,250.00000000	0.00
Lanzo Construction Company	1.0000	EA	60,600.00000000	0.00
ric-man international, inc	1.0000	EA	9,000.00000000	0.00
Man-Con Inc.	1.0000	EA	14,097.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	EA	14,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 6-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	12,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	9,200.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	61,300.00000000	0.00
ric-man international, inc	1.0000	EA	9,400.00000000	0.00
Man-Con Inc.	1.0000	EA	14,675.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	15,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 8-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	13,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	9,800.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	62,900.00000000	0.00
ric-man international, inc	1.0000	EA	11,000.00000000	0.00
Man-Con Inc.	1.0000	EA	16,135.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	17,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 10-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	15,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	11,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,900.00000000	0.00
Lanzo Construction Company	1.0000	EA	66,600.00000000	0.00
ric-man international, inc	1.0000	EA	13,000.00000000	0.00
Man-Con Inc.	1.0000	EA	20,770.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	19,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 12-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	16,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	8,900.00000000	0.00
Lanzo Construction Company	1.0000	EA	71,500.00000000	0.00
ric-man international, inc	1.0000	EA	14,000.00000000	0.00
Man-Con Inc.	1.0000	EA	21,348.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	22,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 14-INCH-	See ITB Specifications	EA	1.0000

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	19,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	14,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	76,900.00000000	0.00
ric-man international, inc	1.0000	EA	16,000.00000000	0.00
Man-Con Inc.	1.0000	EA	27,856.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	25,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 16-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	22,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	16,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	12,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	80,800.00000000	0.00
ric-man international, inc	1.0000	EA	19,000.00000000	0.00
Man-Con Inc.	1.0000	EA	31,427.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	28,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 18-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	23,500.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	EA	17,500.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	14,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	83,300.00000000	0.00
ric-man international, inc	1.0000	EA	21,000.00000000	0.00
Man-Con Inc.	1.0000	EA	35,554.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	32,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 20-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	25,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	19,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	16,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	86,400.00000000	0.00
ric-man international, inc	1.0000	EA	23,000.00000000	0.00
Man-Con Inc.	1.0000	EA	41,333.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	35,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 24-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	29,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	25,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	EA	17,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	92,600.00000000	0.00
ric-man international, inc	1.0000	EA	26,000.00000000	0.00
Man-Con Inc.	1.0000	EA	46,042.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	38,900.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 30-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	47,000.00000000	0.00
Hinterland Group Inc.	1.0000	EA	42,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	31,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	151,300.00000000	0.00
ric-man international, inc	1.0000	EA	45,000.00000000	0.00
Man-Con Inc.	1.0000	EA	76,732.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	42,875.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 36-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	53,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	52,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	45,000.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	EA	160,400.00000000	0.00
ric-man international, inc	1.0000	EA	51,000.00000000	0.00
Man-Con Inc.	1.0000	EA	85,067.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	48,750.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 42-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	63,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	65,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	56,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	174,700.00000000	0.00
ric-man international, inc	1.0000	EA	60,000.00000000	0.00
Man-Con Inc.	1.0000	EA	125,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	54,000.00000000	0.00

Item	Description	Unit of Measure	Quantity
LINE STOP 48-INCH-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	110,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	88,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	90,000.00000000	0.00
Lanzo Construction Company	1.0000	EA	244,100.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	EA	104,000.00000000	0.00
Man-Con Inc.	1.0000	EA	225,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	57,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
DITCH BOTTOM TYPE C (INDEX 232)-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	9,800.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	119,700.00000000	0.00
ric-man international, inc	1.0000	EA	9,100.00000000	0.00
Man-Con Inc.	1.0000	EA	8,152.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	3,875.00000000	0.00

Item	Description	Unit of Measure	Quantity
DITCH BOTTOM TYPE D (INDEX 232)-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	15,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,700.00000000	0.00
Lanzo Construction Company	1.0000	EA	119,700.00000000	0.00
ric-man international, inc	1.0000	EA	11,000.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	10,332.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	4,375.00000000	0.00

Item	Description	Unit of Measure	Quantity
STORM MANHOLE TYPE M-4 (48 INCHE-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	11,000.00000000	0.00
Hinterland Group Inc.	1.0000	LF	24,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	4,500.00000000	0.00
Lanzo Construction Company	1.0000	LF	122,400.00000000	0.00
ric-man international, inc	1.0000	LF	9,400.00000000	0.00
Man-Con Inc.	1.0000	LF	14,919.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	4,200.00000000	0.00

Item	Description	Unit of Measure	Quantity
STORM MANHOLE TYPE M-5 (60 INCHE-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	10,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	32,000.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	5,500.00000000	0.00
Lanzo Construction Company	1.0000	LF	123,700.00000000	0.00
ric-man international, inc	1.0000	LF	11,000.00000000	0.00
Man-Con Inc.	1.0000	LF	19,807.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	LF	5,600.00000000	0.00

Item	Description	Unit of Measure	Quantity
18 INCHES ADS DRAIN BASIN OR APP-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	7,200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	95.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	2,450.00000000	0.00
Lanzo Construction Company	1.0000	LF	8,700.00000000	0.00
ric-man international, inc	1.0000	LF	8,100.00000000	0.00
Man-Con Inc.	1.0000	LF	4,497.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,050.00000000	0.00

Item	Description	Unit of Measure	Quantity
24 INCHES ADS DRAIN BASIN OR APP-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	9,500.00000000	0.00
Hinterland Group Inc.	1.0000	LF	110.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	3,450.00000000	0.00
Lanzo Construction Company	1.0000	LF	8,000.00000000	0.00
ric-man international, inc	1.0000	LF	8,800.00000000	0.00
Man-Con Inc.	1.0000	LF	4,464.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	3,500.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT RCP MATERIAL ONLY R-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	160.00000000	0.00
Hinterland Group Inc.	1.0000	LF	120.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	160.00000000	0.00
Lanzo Construction Company	1.0000	LF	5,600.00000000	0.00
ric-man international, inc	1.0000	LF	320.00000000	0.00
Man-Con Inc.	1.0000	LF	29.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	175.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT OPTIONAL MATERIAL R-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	170.00000000	0.00
Hinterland Group Inc.	1.0000	LF	110.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	180.00000000	0.00
Lanzo Construction Company	1.0000	LF	6,100.00000000	0.00
ric-man international, inc	1.0000	LF	300.00000000	0.00
Man-Con Inc.	1.0000	LF	100.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	180.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT RCP MATERIAL ONLY R-	See ITB Specifications	LF	1.0000

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	190.00000000	0.00
Hinterland Group Inc.	1.0000	LF	145.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	225.00000000	0.00
Lanzo Construction Company	1.0000	LF	5,600.00000000	0.00
ric-man international, inc	1.0000	LF	330.00000000	0.00
Man-Con Inc.	1.0000	LF	203.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	195.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT OPTIONAL MATERIAL R-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	200.00000000	0.00
Hinterland Group Inc.	1.0000	LF	130.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	350.00000000	0.00
Lanzo Construction Company	1.0000	LF	6,200.00000000	0.00
ric-man international, inc	1.0000	LF	320.00000000	0.00
Man-Con Inc.	1.0000	LF	193.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	200.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT RCP MATERIAL ONLY R-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	280.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	LF	195.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	600.00000000	0.00
Lanzo Construction Company	1.0000	LF	6,100.00000000	0.00
ric-man international, inc	1.0000	LF	520.00000000	0.00
Man-Con Inc.	1.0000	LF	268.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	225.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT OPTIONAL MATERIAL R-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	290.00000000	0.00
Hinterland Group Inc.	1.0000	LF	165.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	600.00000000	0.00
Lanzo Construction Company	1.0000	LF	7,200.00000000	0.00
ric-man international, inc	1.0000	LF	510.00000000	0.00
Man-Con Inc.	1.0000	LF	278.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	230.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT RCP MATERIAL ONLY R-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	450.00000000	0.00
Hinterland Group Inc.	1.0000	SY	245.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	SY	700.00000000	0.00
Lanzo Construction Company	1.0000	SY	7,100.00000000	0.00
ric-man international, inc	1.0000	SY	630.00000000	0.00
Man-Con Inc.	1.0000	SY	211.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	250.00000000	0.00

Item	Description	Unit of Measure	Quantity
PIPE CULVERT OPTIONAL MATERIAL R-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	460.00000000	0.00
Hinterland Group Inc.	1.0000	EA	225.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	750.00000000	0.00
Lanzo Construction Company	1.0000	EA	8,700.00000000	0.00
ric-man international, inc	1.0000	EA	590.00000000	0.00
Man-Con Inc.	1.0000	EA	190.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	255.00000000	0.00

Item	Description	Unit of Measure	Quantity
DEMUCKING-	See ITB Specifications	CY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	CY	200.00000000	0.00
Hinterland Group Inc.	1.0000	CY	85.00000000	0.00
Southern Underground Industries, INC	1.0000	CY	180.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	CY	5,000.00000000	0.00
ric-man international, inc	1.0000	CY	140.00000000	0.00
Man-Con Inc.	1.0000	CY	240.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	CY	65.00000000	0.00

Item	Description	Unit of Measure	Quantity
LIMEROCK BASE-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	60.00000000	0.00
Hinterland Group Inc.	1.0000	SY	45.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	65.00000000	0.00
Lanzo Construction Company	1.0000	SY	1,200.00000000	0.00
ric-man international, inc	1.0000	SY	52.00000000	0.00
Man-Con Inc.	1.0000	SY	96.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	25.00000000	0.00

Item	Description	Unit of Measure	Quantity
ASPHALTIC CONCRETE-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	85.00000000	0.00
Hinterland Group Inc.	1.0000	SY	80.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	110.00000000	0.00
Lanzo Construction Company	1.0000	SY	1,400.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	SY	33.00000000	0.00
Man-Con Inc.	1.0000	SY	195.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	13.50000000	0.00

Item	Description	Unit of Measure	Quantity
MILLING AND PAVING-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	55.00000000	0.00
Hinterland Group Inc.	1.0000	SY	95.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	55.00000000	0.00
Lanzo Construction Company	1.0000	SY	200.00000000	0.00
ric-man international, inc	1.0000	SY	30.00000000	0.00
Man-Con Inc.	1.0000	SY	312.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	18.50000000	0.00

Item	Description	Unit of Measure	Quantity
MOT RESIDENTIAL ROADS-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	5,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	5,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	2,750.00000000	0.00
Lanzo Construction Company	1.0000	EA	35,000.00000000	0.00
ric-man international, inc	1.0000	EA	2,600.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	EA	18,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	50.00000000	0.00

Item	Description	Unit of Measure	Quantity
MOT STATE OR COUNTY ROADS-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	8,500.00000000	0.00
Hinterland Group Inc.	1.0000	EA	12,000.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	7,500.00000000	0.00
Lanzo Construction Company	1.0000	EA	24,800.00000000	0.00
ric-man international, inc	1.0000	EA	5,200.00000000	0.00
Man-Con Inc.	1.0000	EA	18,000.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	350.00000000	0.00

Item	Description	Unit of Measure	Quantity
TEMPORARY ASPHALT-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	40.00000000	0.00
Hinterland Group Inc.	1.0000	SY	65.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	110.00000000	0.00
Lanzo Construction Company	1.0000	SY	300.00000000	0.00
ric-man international, inc	1.0000	SY	28.00000000	0.00
Man-Con Inc.	1.0000	SY	133.00000000	0.00

Item	Description	Unit of Measure	Quantity
SOD - ST. AUGUSTINE-	See ITB Specifications	SF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	SY	40.00000000	0.00

Item	Description	Unit of Measure	Quantity
SOD - ST. AUGUSTINE-	See ITB Specifications	SF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SF	7.00000000	0.00
Hinterland Group Inc.	1.0000	SF	8.00000000	0.00
Southern Underground Industries, INC	1.0000	SF	5.00000000	0.00
Lanzo Construction Company	1.0000	SF	2.00000000	0.00
ric-man international, inc	1.0000	SF	20.00000000	0.00
Man-Con Inc.	1.0000	SF	50.50000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SF	2.00000000	0.00

Item	Description	Unit of Measure	Quantity
SOD - ARGENTINE BAHIA-	See ITB Specifications	SF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SF	7.00000000	0.00
Hinterland Group Inc.	1.0000	SF	6.00000000	0.00
Southern Underground Industries, INC	1.0000	SF	5.00000000	0.00
Lanzo Construction Company	1.0000	SF	1.00000000	0.00
ric-man international, inc	1.0000	SF	14.00000000	0.00
Man-Con Inc.	1.0000	SF	60.25000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SF	3.25000000	0.00

Item	Description	Unit of Measure	Quantity
SHEET PILING-	See ITB Specifications	SF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SF	140.00000000	0.00
Hinterland Group Inc.	1.0000	SF	500.00000000	0.00
Southern Underground Industries, INC	1.0000	SF	45.00000000	0.00
Lanzo Construction Company	1.0000	SF	600.00000000	0.00
ric-man international, inc	1.0000	SF	65.00000000	0.00
Man-Con Inc.	1.0000	SF	161.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SF	25.00000000	0.00

Item	Description	Unit of Measure	Quantity
FLOWABLE FILL-	See ITB Specifications	CY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	CY	550.00000000	0.00
Hinterland Group Inc.	1.0000	SY	450.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	800.00000000	0.00
Lanzo Construction Company	1.0000	SY	500.00000000	0.00
ric-man international, inc	1.0000	SY	440.00000000	0.00
Man-Con Inc.	1.0000	SY	660.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	155.00000000	0.00

Item	Description	Unit of Measure	Quantity
STEEL PLATES-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	200.00000000	0.00
Hinterland Group Inc.	1.0000	EA	650.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	300.00000000	0.00
Lanzo Construction Company	1.0000	EA	2,900.00000000	0.00
ric-man international, inc	1.0000	EA	39,000.00000000	0.00
Man-Con Inc.	1.0000	EA	759.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	85.00000000	0.00

Item	Description	Unit of Measure	Quantity
CONCRETE SIDEWALK REPLACEMENT-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	110.00000000	0.00
Hinterland Group Inc.	1.0000	SY	85.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	275.00000000	0.00
Lanzo Construction Company	1.0000	SY	1,800.00000000	0.00
ric-man international, inc	1.0000	SY	120.00000000	0.00
Man-Con Inc.	1.0000	SY	131.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	95.00000000	0.00

Item	Description	Unit of Measure	Quantity
CONCRETE CURB AND GUTTER REPLACE-	See ITB Specifications	LF	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	LF	80.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	LF	65.00000000	0.00
Southern Underground Industries, INC	1.0000	LF	125.00000000	0.00
Lanzo Construction Company	1.0000	LF	1,100.00000000	0.00
ric-man international, inc	1.0000	LF	66.00000000	0.00
Man-Con Inc.	1.0000	LF	195.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	LF	45.00000000	0.00

Item	Description	Unit of Measure	Quantity
ASPHALT DRIVEWAY REPLACEMENT-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	100.00000000	0.00
Hinterland Group Inc.	1.0000	SY	145.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	175.00000000	0.00
Lanzo Construction Company	1.0000	SY	1,200.00000000	0.00
ric-man international, inc	1.0000	SY	84.00000000	0.00
Man-Con Inc.	1.0000	SY	195.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	30.00000000	0.00

Item	Description	Unit of Measure	Quantity
CONCRETE DRIVEWAY REPLACEMENT-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	230.00000000	0.00
Hinterland Group Inc.	1.0000	SY	85.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	SY	325.00000000	0.00
Lanzo Construction Company	1.0000	SY	1,700.00000000	0.00
ric-man international, inc	1.0000	SY	130.00000000	0.00
Man-Con Inc.	1.0000	SY	195.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	125.00000000	0.00

Item	Description	Unit of Measure	Quantity
PAVERS DRIVEWAY REPLACEMENT-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	300.00000000	0.00
Hinterland Group Inc.	1.0000	SY	250.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	305.00000000	0.00
Lanzo Construction Company	1.0000	SY	3,200.00000000	0.00
ric-man international, inc	1.0000	SY	190.00000000	0.00
Man-Con Inc.	1.0000	SY	289.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	55.00000000	0.00

Item	Description	Unit of Measure	Quantity
BRICK ROADWAYS OR CROSSWALK REPL-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	300.00000000	0.00
Hinterland Group Inc.	1.0000	SY	250.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	250.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	SY	6,900.00000000	0.00
ric-man international, inc	1.0000	SY	290.00000000	0.00
Man-Con Inc.	1.0000	SY	438.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	75.00000000	0.00

Item	Description	Unit of Measure	Quantity
REPLACE CONCRETE SLABS AND/OR AP-	See ITB Specifications	SY	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	SY	200.00000000	0.00
Hinterland Group Inc.	1.0000	SY	85.00000000	0.00
Southern Underground Industries, INC	1.0000	SY	250.00000000	0.00
Lanzo Construction Company	1.0000	SY	300.00000000	0.00
ric-man international, inc	1.0000	SY	350.00000000	0.00
Man-Con Inc.	1.0000	SY	195.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	SY	95.00000000	0.00

Item	Description	Unit of Measure	Quantity
TESTING LABORATORY - DENSITIES-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	100.00000000	0.00
Hinterland Group Inc.	1.0000	EA	150.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	175.00000000	0.00
Lanzo Construction Company	1.0000	EA	1,500.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	EA	110.00000000	0.00
Man-Con Inc.	1.0000	EA	117.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	125.00000000	0.00

Item	Description	Unit of Measure	Quantity
TESTING LABORATORY - CONCRETE TE-	See ITB Specifications	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	EA	300.00000000	0.00
Hinterland Group Inc.	1.0000	EA	450.00000000	0.00
Southern Underground Industries, INC	1.0000	EA	220.00000000	0.00
Lanzo Construction Company	1.0000	EA	1,500.00000000	0.00
ric-man international, inc	1.0000	EA	200.00000000	0.00
Man-Con Inc.	1.0000	EA	391.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	EA	100.00000000	0.00

Item	Description	Unit of Measure	Quantity
LABOR - FOREMAN-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	120.00000000	0.00
Hinterland Group Inc.	1.0000	HR	185.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	120.00000000	0.00
Lanzo Construction Company	1.0000	HR	200.00000000	0.00
ric-man international, inc	1.0000	HR	89.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	HR	208.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	135.00000000	0.00

Item	Description	Unit of Measure	Quantity
LABOR - PIPE LAYER (LEAD)-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	62.00000000	0.00
Hinterland Group Inc.	1.0000	HR	120.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	75.00000000	0.00
Lanzo Construction Company	1.0000	HR	83.00000000	0.00
ric-man international, inc	1.0000	HR	79.00000000	0.00
Man-Con Inc.	1.0000	HR	208.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	105.00000000	0.00

Item	Description	Unit of Measure	Quantity
LABOR - PIPE LAYER (TAIL)-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	62.00000000	0.00
Hinterland Group Inc.	1.0000	HR	95.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	65.00000000	0.00
Lanzo Construction Company	1.0000	HR	69.00000000	0.00
ric-man international, inc	1.0000	HR	61.00000000	0.00
Man-Con Inc.	1.0000	HR	115.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	HR	90.00000000	0.00

Item	Description	Unit of Measure	Quantity
LABOR - LABORER-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	55.00000000	0.00
Hinterland Group Inc.	1.0000	HR	85.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	60.00000000	0.00
Lanzo Construction Company	1.0000	HR	69.00000000	0.00
ric-man international, inc	1.0000	HR	43.00000000	0.00
Man-Con Inc.	1.0000	HR	92.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	75.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - EXCAVATOR (HEAVY DUT-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	210.00000000	0.00
Hinterland Group Inc.	1.0000	HR	225.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	325.00000000	0.00
Lanzo Construction Company	1.0000	HR	407.00000000	0.00
ric-man international, inc	1.0000	HR	390.00000000	0.00
Man-Con Inc.	1.0000	HR	861.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	550.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - EXCAVATOR (MEDIUM DU-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	200.00000000	0.00
Hinterland Group Inc.	1.0000	HR	185.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	350.00000000	0.00
Lanzo Construction Company	1.0000	HR	368.00000000	0.00
ric-man international, inc	1.0000	HR	190.00000000	0.00
Man-Con Inc.	1.0000	HR	472.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	300.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - EXCAVATOR (SMALL)-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	150.00000000	0.00
Hinterland Group Inc.	1.0000	HR	125.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	250.00000000	0.00
Lanzo Construction Company	1.0000	HR	273.00000000	0.00
ric-man international, inc	1.0000	HR	150.00000000	0.00
Man-Con Inc.	1.0000	HR	463.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	150.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - LOADER (HEAVY DUTY)-	See ITB Specifications	HR	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	190.00000000	0.00
Hinterland Group Inc.	1.0000	HR	225.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	325.00000000	0.00
Lanzo Construction Company	1.0000	HR	250.00000000	0.00
ric-man international, inc	1.0000	HR	150.00000000	0.00
Man-Con Inc.	1.0000	HR	387.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	150.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - LOADER (MEDIUM DUTY)-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	160.00000000	0.00
Hinterland Group Inc.	1.0000	HR	185.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	305.00000000	0.00
Lanzo Construction Company	1.0000	HR	241.00000000	0.00
ric-man international, inc	1.0000	HR	140.00000000	0.00
Man-Con Inc.	1.0000	HR	369.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	125.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - LOADER (SMALL)-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	110.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	HR	125.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	225.00000000	0.00
Lanzo Construction Company	1.0000	HR	241.00000000	0.00
ric-man international, inc	1.0000	HR	120.00000000	0.00
Man-Con Inc.	1.0000	HR	330.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	150.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - COMBINATION BACKHOE/-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	100.00000000	0.00
Hinterland Group Inc.	1.0000	HR	145.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	225.00000000	0.00
Lanzo Construction Company	1.0000	HR	208.00000000	0.00
ric-man international, inc	1.0000	HR	130.00000000	0.00
Man-Con Inc.	1.0000	HR	318.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	175.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - VIBRATORY COMPACTOR-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	85.00000000	0.00
Hinterland Group Inc.	1.0000	HR	145.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	HR	65.00000000	0.00
Lanzo Construction Company	1.0000	HR	223.00000000	0.00
ric-man international, inc	1.0000	HR	47.00000000	0.00
Man-Con Inc.	1.0000	HR	97.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	20.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - ASPHALT ROLLER-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	80.00000000	0.00
Hinterland Group Inc.	1.0000	HR	145.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	95.00000000	0.00
Lanzo Construction Company	1.0000	HR	278.00000000	0.00
ric-man international, inc	1.0000	HR	120.00000000	0.00
Man-Con Inc.	1.0000	HR	255.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	45.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - VIBRATORY PLATE COMP-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	52.00000000	0.00
Hinterland Group Inc.	1.0000	HR	45.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	60.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	HR	102.00000000	0.00
ric-man international, inc	1.0000	HR	20.00000000	0.00
Man-Con Inc.	1.0000	HR	97.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	15.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - ROAD GRADER-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	175.00000000	0.00
Hinterland Group Inc.	1.0000	HR	200.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	275.00000000	0.00
Lanzo Construction Company	1.0000	HR	265.00000000	0.00
ric-man international, inc	1.0000	HR	150.00000000	0.00
Man-Con Inc.	1.0000	HR	360.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	235.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - LOW BOY 50-T-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	325.00000000	0.00
Hinterland Group Inc.	1.0000	HR	250.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	400.00000000	0.00
Lanzo Construction Company	1.0000	HR	159.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	HR	850.00000000	0.00
Man-Con Inc.	1.0000	HR	611.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	100.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - FLATBED TRUCK-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	85.00000000	0.00
Hinterland Group Inc.	1.0000	HR	180.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	150.00000000	0.00
Lanzo Construction Company	1.0000	HR	144.00000000	0.00
ric-man international, inc	1.0000	HR	59.00000000	0.00
Man-Con Inc.	1.0000	HR	400.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	125.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - WATERING TRUCK-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	85.00000000	0.00
Hinterland Group Inc.	1.0000	HR	225.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	150.00000000	0.00
Lanzo Construction Company	1.0000	HR	137.00000000	0.00
ric-man international, inc	1.0000	HR	93.00000000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	HR	365.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	175.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - PUMP TRUCK-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	140.00000000	0.00
Hinterland Group Inc.	1.0000	HR	450.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	350.00000000	0.00
Lanzo Construction Company	1.0000	HR	137.00000000	0.00
ric-man international, inc	1.0000	HR	330.00000000	0.00
Man-Con Inc.	1.0000	HR	777.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	235.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - VACUUM TANK TRUCK-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	210.00000000	0.00
Hinterland Group Inc.	1.0000	HR	375.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	375.00000000	0.00
Lanzo Construction Company	1.0000	HR	478.00000000	0.00
ric-man international, inc	1.0000	HR	420.00000000	0.00
Man-Con Inc.	1.0000	HR	953.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	HR	275.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - CCTV TRUCK-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	280.00000000	0.00
Hinterland Group Inc.	1.0000	HR	450.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	225.00000000	0.00
Lanzo Construction Company	1.0000	HR	326.00000000	0.00
ric-man international, inc	1.0000	HR	2,000.00000000	0.00
Man-Con Inc.	1.0000	HR	572.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	200.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - PAVER-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	200.00000000	0.00
Hinterland Group Inc.	1.0000	HR	500.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	285.00000000	0.00
Lanzo Construction Company	1.0000	HR	172.00000000	0.00
ric-man international, inc	1.0000	HR	260.00000000	0.00
Man-Con Inc.	1.0000	HR	777.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	225.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - TRENCH BOX, 6FT.X16F-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	33.00000000	0.00
Hinterland Group Inc.	1.0000	HR	75.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	40.00000000	0.00
Lanzo Construction Company	1.0000	HR	113.00000000	0.00
ric-man international, inc	1.0000	HR	29.00000000	0.00
Man-Con Inc.	1.0000	HR	70.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	25.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - TRENCH BOX, 8FT.X20F-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	45.00000000	0.00
Hinterland Group Inc.	1.0000	HR	85.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	65.00000000	0.00
Lanzo Construction Company	1.0000	HR	227.00000000	0.00
ric-man international, inc	1.0000	HR	34.00000000	0.00
Man-Con Inc.	1.0000	HR	82.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	35.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - TRENCH BOX, 8FT.X24F-	See ITB Specifications	HR	1.0000

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	60.00000000	0.00
Hinterland Group Inc.	1.0000	HR	100.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	75.00000000	0.00
Lanzo Construction Company	1.0000	HR	284.00000000	0.00
ric-man international, inc	1.0000	HR	58.00000000	0.00
Man-Con Inc.	1.0000	HR	93.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	45.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - SEDIMENT BOX, 7,000-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	45.00000000	0.00
Hinterland Group Inc.	1.0000	HR	85.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	80.00000000	0.00
Lanzo Construction Company	1.0000	HR	300.00000000	0.00
ric-man international, inc	1.0000	HR	20.00000000	0.00
Man-Con Inc.	1.0000	HR	93.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	75.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - SEDIMENT BOX, 9,000-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	47.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Hinterland Group Inc.	1.0000	HR	95.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	90.00000000	0.00
Lanzo Construction Company	1.0000	HR	335.00000000	0.00
ric-man international, inc	1.0000	HR	460.00000000	0.00
Man-Con Inc.	1.0000	HR	105.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	95.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - PUMP, 8-INCH.-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	75.00000000	0.00
Hinterland Group Inc.	1.0000	HR	250.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	120.00000000	0.00
Lanzo Construction Company	1.0000	HR	520.00000000	0.00
ric-man international, inc	1.0000	HR	160.00000000	0.00
Man-Con Inc.	1.0000	HR	110.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	450.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - PUMP, 6-INCH.-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	65.00000000	0.00
Hinterland Group Inc.	1.0000	HR	180.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Southern Underground Industries, INC	1.0000	HR	110.00000000	0.00
Lanzo Construction Company	1.0000	HR	520.00000000	0.00
ric-man international, inc	1.0000	HR	160.00000000	0.00
Man-Con Inc.	1.0000	HR	98.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	325.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - PUMP, 4-INCH.-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	55.00000000	0.00
Hinterland Group Inc.	1.0000	HR	150.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	100.00000000	0.00
Lanzo Construction Company	1.0000	HR	500.00000000	0.00
ric-man international, inc	1.0000	HR	110.00000000	0.00
Man-Con Inc.	1.0000	HR	86.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	275.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - PUMP, 3-INCH.-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	45.00000000	0.00
Hinterland Group Inc.	1.0000	HR	125.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	65.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lanzo Construction Company	1.0000	HR	47.00000000	0.00
ric-man international, inc	1.0000	HR	46.00000000	0.00
Man-Con Inc.	1.0000	HR	75.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	250.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - PUMP, 2-INCH.-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	35.00000000	0.00
Hinterland Group Inc.	1.0000	HR	85.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	40.00000000	0.00
Lanzo Construction Company	1.0000	HR	45.00000000	0.00
ric-man international, inc	1.0000	HR	46.00000000	0.00
Man-Con Inc.	1.0000	HR	63.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	75.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - DUMP TRUCK, SINGLE A-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	60.00000000	0.00
Hinterland Group Inc.	1.0000	HR	185.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	150.00000000	0.00
Lanzo Construction Company	1.0000	HR	98.00000000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
ric-man international, inc	1.0000	HR	120.00000000	0.00
Man-Con Inc.	1.0000	HR	276.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	250.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - DUMP TRUCK, DOUBLE A-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	110.00000000	0.00
Hinterland Group Inc.	1.0000	HR	225.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	175.00000000	0.00
Lanzo Construction Company	1.0000	HR	98.00000000	0.00
ric-man international, inc	1.0000	HR	130.00000000	0.00
Man-Con Inc.	1.0000	HR	281.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	325.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - CUT OFF SAW-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	40.00000000	0.00
Hinterland Group Inc.	1.0000	HR	15.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	60.00000000	0.00
Lanzo Construction Company	1.0000	HR	32.00000000	0.00
ric-man international, inc	1.0000	HR	11.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Man-Con Inc.	1.0000	HR	70.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	35.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - HYDRAULIC CONCRETE C-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	65.00000000	0.00
Hinterland Group Inc.	1.0000	HR	85.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	125.00000000	0.00
Lanzo Construction Company	1.0000	HR	10.00000000	0.00
ric-man international, inc	1.0000	HR	20.00000000	0.00
Man-Con Inc.	1.0000	HR	89.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	95.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - SMALL TOOLS-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	100.00000000	0.00
Hinterland Group Inc.	1.0000	HR	85.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	85.00000000	0.00
Lanzo Construction Company	1.0000	HR	7.00000000	0.00
ric-man international, inc	1.0000	HR	56.00000000	0.00
Man-Con Inc.	1.0000	HR	186.00000000	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
EnviroWaste Services Group, Inc.	1.0000	HR	25.00000000	0.00

Item	Description	Unit of Measure	Quantity
EQUIPMENT - TURBIDITY SCREEN/BAR-	See ITB Specifications	HR	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
David Mancini and Sons, Inc	1.0000	HR	50.00000000	0.00
Hinterland Group Inc.	1.0000	HR	45.00000000	0.00
Southern Underground Industries, INC	1.0000	HR	50.00000000	0.00
Lanzo Construction Company	1.0000	HR	113.00000000	0.00
ric-man international, inc	1.0000	HR	120.00000000	0.00
Man-Con Inc.	1.0000	HR	102.00000000	0.00
EnviroWaste Services Group, Inc.	1.0000	HR	50.00000000	0.00

Header Questions And Responses

QUESTION

Did you sign and attach all the required forms.

Question Responses

Supplier	Response	Has Attachment
David Mancini and Sons, Inc	Yes	Yes
Hinterland Group Inc.	Yes	Yes
Southern Underground Industries, INC	Yes	Yes
Lanzo Construction Company	Yes	Yes

Question Responses		
Supplier	Response	Has Attachment
ric-man international, inc	Yes	Yes
Man-Con Inc.	Yes	Yes
EnviroWaste Services Group, Inc.	Yes	Yes

QUESTION

Did you sign and attach the Questionnaire Form.

Question Responses		
Supplier	Response	Has Attachment
David Mancini and Sons, Inc	Yes	Yes
Hinterland Group Inc.	Yes	Yes
Southern Underground Industries, INC	Yes	Yes
Lanzo Construction Company	Yes	Yes
ric-man international, inc	Yes	Yes
Man-Con Inc.	Yes	Yes
EnviroWaste Services Group, Inc.	Yes	Yes

Contacts

Name	Email
Paulette Turner	PTurner@fortlauderdale.gov

Q And A

Supplier	Question	Answer
Lanzo Construction Company	We are requesting for Engineer's Estimate or Budget allocated for this Annual Contract.	The total project cost is estimated at $6,000,000.00. The contract term is 2 years with the right to extend for 2 additional 1-year terms.
David Mancini & Sons, Inc.	Is there a budget for this project?	Please refer to previous response dated August 14, 2023.
Lanzo Construction Company	The CITB Questionnaire Sheets seem to be missing from the Required Forms.	Questionnaire Form is now attached.
Man-Con Inc.	See attachment.	Updated Line-item list attached.
Man-Con Inc.	We would like to request a one-week extension on the bid due date please.	The City is not considering a bid extension at this time.
Man-Con Inc.	Is there a bid bond form from the City that we should submit?	No, the City does not have a bid bond form.

CITY OF FORT LAUDERDALE BID/PROPOSAL CERTIFICATION

Please Note: It is the sole responsibility of the bidder/proposer to ensure that their response is submitted electronically through the City's on-line strategic sourcing platform prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration) Southern Underground Industries, Inc. EIN (Optional): _____

Address: 794 S Military Trail

City: Deerfield Beach State: FL Zip: 33442

Telephone No.: 954-590-0322 FAX No.: _____ Email: bids@southernundergroundindustries.com

Delivery: Calendar days after receipt of Purchase Order **(section 1.02 of General Conditions)**: 1

Total Bid Discount **(section 1.05 of General Conditions)**: _____

Check box if your firm qualifies for DBE **(section 1.09 of General Conditions)**: ☐

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued
1	7/15/23						
2	8/11/23						
3	8/15/23						
4	8/18/23						

VARIANCES: If you take exception or have variances to any term, condition, specification, scope of service, or requirement in this competitive solicitation you must specify such exception or variance in the space provided below or reference in the space provided below all variances contained on other pages within your response. Additional pages may be attached if necessary. No exceptions or variances will be deemed to be part of the response submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A.

N/A

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal. I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, that in no event shall the City's liability for respondent's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Belseri Comerford
Name (printed)

Belseri Comerford
Signature

8/24/23
Date

President
Title

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:
(Name, legal status and address)
Southern Underground Industries, Inc.
794 South Military Trail
Deerfield Beach, FL 33442

SURETY:
(Name, legal status and principal place of business)
Nationwide Mutual Insurance Company
One West Nationwide Boulevard
Columbus, OH 43215-2220

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

OWNER:
(Name, legal status and address)
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, FL 33301-1016

BOND AMOUNT: $ Five Percent of Total Amount Bid (5% of Total Amount Bid)

PROJECT:
(Name, location or address, and Project number, if any)
Annual Sewer Repair and Replacement.
Bid No. 154; Project No. 12849

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

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

Signed and sealed this 11th day of August, 2023

(Witness)

(Witness) Doreen Shearin, CSR

Southern Underground Industries, Inc.
(Principal)

(Title) President Balzeri Comer Jr.

Nationwide Mutual Insurance Company
(Surety) *(Seal)*

(Title) David T. Satine, Attorney-in-Fact

Southern Underground Industries, Inc. State of Florida Official SEAL (Seal) 2008

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

DAVID T SATINE; JONATHAN A BURSEVICH; WARREN M ALTER;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.

Antonio C. Albanese, **Vice President** of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

SEAL

STATE OF NEW YORK COUNTY OF NEW YORK: ss

On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.

Stephanie Rubino McArthur
Notary Public, State of New York
No. 02MC6270117
Qualified in New York County
Commission Expires October 19, 2024

Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 11th day of August, 2023.

Laura B. Guy

Assistant Secretary

BDJ 1(08-21)00

BID NO. 154 SPECIFIC REFERENCES FORM

Bidder shall submit proof of repairing/replacing water, stormwater, wastewater or reclaimed water pressure/gravity pipelines of the same size diameter or larger, including the same minimum linear footage as the project, or greater linear footage using open cut methodology, including mainlines, lateral connections, stack singles or double wye lateral installations in the State of Florida in the last five (5) years. Bidder shall submit proof of construction experience for a minimum of three (3) projects in accordance with the requirements of the solicitation specifications / scope of work. Include the owner's name, address, phone number, and current e-mail address.

Note: Do not include proposed team members or parent/subsidiary companies as references in your submittals.

A. PRIME BIDDER'S NAME: Southern Underground Industries

CLIENT NO.1 - Name of firm to be contacted: City of Fort Lauderdale

Address: 794 S Military Trail

Contact Person: Terrance Bray

Phone No: (954) _____

Contact E-Mail Address: tbray@fortlauderdale.com

Project Performance Period: 09/19 to 09/23
Dates should be in mm/yy format

Project Name : Fort Lauderdale Annual Sewer Repair

Location of Project: Fort Lauderdale

Description of the overall scope: Furnishing all labor and equipment for the emergency repair of gravity sewer main, water main, force main, pump stations all at various depths and sizes

Description of work that was self-performed by Bidder:
All of the work was self performed

BID NO. 154 SPECIFIC REFERENCES FORM

CLIENT NO.2 - Name of firm to be contacted: City of Miramar

Address: 13900 Pembroke Road, Miramar, FL, 33027

Contact Person: Eric Francois

Phone No: (954) _____

Contact E-Mail Address: jafrancis@miramarfl.gov

Project Performance Period: 06/20 to 06/23
Dates should be in mm/yy format

Project Name : Miramar Annual Water and Sewer Repair Contract

Location of Project: City of Miramar

Description of the overall scope: Furnishing all labor and equipment for the emergency repair of gravity sewer main, water main, force main, pump stations all at various depths and sizes

Description of work that was self-performed by Bidder:
All of the work was self performed

BID NO. 154 SPECIFIC REFERENCES FORM

CLIENT NO.3 - Name of firm to be contacted: City of Lauderhill

Address: 5581 W Oakland Park Blvd, Lauderhill, FL, 33313

Contact Person: Herb Johnson

Phone No: (954) _____

Contact E-Mail Address: hjohn@lauderhill-fl.gov

Project Performance Period: 09/19 to Ongoing
Dates should be in mm/yy format

Project Name : City of Lauderhill Emergency Annual Water and Sewer Repair Contract

Location of Project: City of Lauderhill

Description of the overall scope: Furnishing all labor and equipment for the emergency repair of gravity sewer main, water main, force main, pump stations all at various depths and sizes

Description of work that was self-performed by Bidder:
All of the work was self performed

NON-COLLUSION STATEMENT

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

> 3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g., ownership of five (5) percent or more).
>
> 3.4. Immediate family members (spouse, parents, and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS
N/A	

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Authorized Signature

President
Title

Belseri Comer-Ford
Name (Printed)

8/24/23
Date

Rev 09-2022

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-17(a)(i)(ii), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

A. Contractors doing business with the City shall not discriminate against their employees based on the employee's race, color, religion, gender (including identity or expression), marital status, sexual orientation, national origin, age, disability, or any other protected classification as defined by applicable law.

Contracts. Every Contract exceeding $100,000, or otherwise exempt from this section shall contain language that obligates the Contractor to comply with the applicable provisions of this section.

The Contract shall include provisions for the following:

(i) The Contractor certifies and represents that it will comply with this section during the entire term of the contract.

(ii) The failure of the Contractor to comply with this section shall be deemed to be a material breach of the contract, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

Authorized Signature

Belseri Comerford President

Print Name and Title

8/24/23

Date

TRENCH SAFETY

Bidder acknowledges that included in the appropriate bid items of his bid and in the Total Bid for complying with the Florida Trench Safety Act, Florida Statutes 553.60 – 553.64. Th identifies the costs of such compliance to be summarized below:

Trench Safety Measure (Description)	Units of Measure (LF/SF)	Unit (Quantity)	Unit Cost	E
A. Shoring, trench box	LF	1	$ 5,000.00	$ 5,000.00
B.			$	$
C.			$	$
D.			$	$
			Total: $	5,000.00

The bidder certifies that all trench excavation done within his control in excess of five feet (5') i in accordance with the Occupational Safety and Health Administration's excavation safety star 1926.650 Subpart P., and the Florida Trench Safety Act, Florida Statutes 553.60-553.64.

Failure to complete the above may result in the bid being declared non-responsive.

DATE: 8/24/23

(SIGNATURE)

STATE OF: FL COUNTY OF: Broward

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

Belseri Comerford
(Name of Individual Signing)

Belseri Comerford who, after first being duly sworn by me, affixed his/her signature in the space provided

24 day of August , 2023 .

N

Notary Public State of Florida
Anthony Robert Marini
My Commission HH 121070
Expires 04/22/2025

My Commission Expires: 04/22/25

E-VERIFY AFFIRMATION STATEMENT

Solicitation/Bid /Contract No: 12849

Project Description:

Emergency annual contract for water and sewer repair

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

A. all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,

B. all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: Southern Underground Industries

Authorized Company Person's Signature: 

Authorized Company Person's Title: President

Date: 8/24/23

SOUTUND-02 REYNOLDSMA

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 6/19/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Mallory Reynolds	
Insurance Office of America 1855 West State Road 434 Longwood, FL 32750	PHONE (A/C, No, Ext): (407) 998-4134	FAX (A/C, No):
	E-MAIL ADDRESS: mallory.reynolds@ioausa.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : HDI Specialty Insurance Company	16131
INSURED	INSURER B : First Liberty Insurance Corporation	33588
Southern Underground Industries, Inc. 794 South Military Trail Deerfield Beach, FL 33442	INSURER C : Indemnity National Insurance Company	18468
	INSURER D : Employers Insurance Company of Wausau	21458
	INSURER E : Westchester Surplus Lines Insurance Company	10172
	INSURER F : Federal Insurance Company	20281

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR	X		CLD6033900S	6/1/2023	6/1/2024	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	X POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
B	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO			AS6Z91471781023	6/1/2023	6/1/2024	BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
C	UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 1,000,000
	X EXCESS LIAB CLAIMS-MADE			XS000127023	6/1/2023	6/1/2024	AGGREGATE	$ 1,000,000
	DED RETENTION $							$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N **(Mandatory in NH)** N	N / A		WCCZ91471781013	6/1/2023	6/1/2024	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
E	Contractors Pollutio			G71528406005	6/1/2023	6/1/2024	Aggregate	4,000,000
F	Equipment Floater			45468572	6/1/2023	6/1/2024	Leased/Rented	400,000

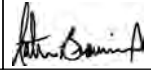
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



ACORD 25 (2016/03) **© 1988-2015 ACORD CORPORATION. All rights reserved.**

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QUESTIONNAIRE SHEET

PLEASE PRINT OR TYPE:

Firm Name:

President

Business Address:

Telephone:

Fax:

E-Mail Address:

What was the last project of this nature which you completed? Include the year, description, and contract value.

The following are named as three corporations and representatives of those corporations for which you have performed work similar to that required by this contract, and which the City may contact as your references (include addresses, telephone numbers and e-mail addresses). Include the project name, year, description, and contract value.

How many years has your organization been in business?

Have you ever failed to complete work awarded to you; if so, where and why?

The name of the qualifying agent for the firm and his position is:

Certificate of Competency Number of Qualifying Agent:

Effective Date: Expiration Date:

Licensed in:

Engineering Contractor's License #
(County/State)

Expiration Date:

NOTE: To be considered for award of this contract, the bidder must submit a financial statement upon request.

NOTE: Contractor must have proper licensing and shall provide copy of same with his proposal.

QUESTIONNAIRE SHEET

1. Have you personally inspected the proposed work and have you a complete plan for its performance?

2. Will you sublet any part of this work? If so, list the portions or specialties of the work that you will.

a)

b)

c)

d)

e)

f)

g)

3. What equipment do you own that is available for the work?

4. What equipment will you purchase for the proposed work?

5. What equipment will you rent for the proposed work?

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

COMERFORD, BELSERI L

SOUTHERN UNDERGROUND INDUSTRIES INC
6115 NW 77TH WAY
TAMARAC FL 33321

LICENSE NUMBER: CUC1224635

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

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

Print or type. See **Specific Instructions** on page 3.

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

Southern Underground Industries, Inc.

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

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

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

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

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

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

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

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

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

794 S Military Trail

Requester's name and address (optional)

6 City, state, and ZIP code

Deerfield Beach, FL, 33442

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

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

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

2	6	–	2	5	2	1	2	3	5

Part II Certification

Under penalties of perjury, I certify that:

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

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

Sign Here | **Signature of U.S. person** ▶ _____ **Date** ▶ 5/3/23

General Instructions

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

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

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

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

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

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

Equipment Numbers			
Loaders	**Make**	**Model**	**Vin #**
101	CAT	938M	P5K01921
102	John Deere	344L	1LU344LXPZB054512
103	John Deere	544L	1DW544LZJKF699974
104	CAT	930M	F5K01509
105	John Deere	304L	1LU304KXAZB040632
106	Volvo	L60H	VCEOL60HP0S621694
Excavators			
201	CAT	325	TEL10427
202	John Deere	345G	1FF345GXCKF020422
203	Hitachi	345	HCMMDD560E00010102
204	John Deere	60G	1FF060GXCJJ289368
205	John Deere	50G	1FF050GXHFH282418
206	John Deere	245G	1FF245GXJLF801539
207	John Deere	60G	1FF060GXKLJ292470
208	John Deere	135G	1FF135GXLHF500555
209	John Deere	135G	1FF135GXHFE401061
210	John Deere	60G	1FF060GXTHJ288703
211	John Deere	35G	1FF035GXVLK290528
212	CAT	315GC	FTY00383
213	John Deere	35G	1FF035GXVLK290528
214	Volvo	ECR58	VCE0EC58L00013499
Rollers			
301	BOMAG	BW120SL-5	101880611005
302	BOMAG	BW124 DH-5	101587261019
Broom Tractor			
501	John Deere	5090E	1LV5090ECLK402966
502	John Deere	4066R	1LV4066RCLL408331
503	John Deere	4052R	LVCG130007825
Skid Steer			
901	John Deere	333G	1T0333EMJFE275509
902	John Deere	332G	1T0332GKVLF370246
903	CAT	299D3	DY904623
Asphalt Paver			
	CAT	AP255E	D8A00480
Directional Drill			
	Vermeer	D40X55 S3	1VRY200G6L1001503
	Vermeer	D60x90 S3	1VRJ2903KM1001014
Mixing System			

	Vermeer	MX300	1VRL05050LF000474
	Vermeer	MX300	1VRL05059LF000473
Water Tanks			
	Vermeer	TK1000	1VRM08060LF000487
	Vermeer	TK1000	1VRM08062LF000426
Vacuum Trailers			
	Vermeer	CS 870 GT	5HZB192W2LK002046
	Vermeer	CS 1273 GT	7NWB192W5MK010006
Pump Truck			
16	Freightliner	M2	1FVHCYBS4DHFF8452
802	Freightliner	M2	1FVHCYCY8EHFT3353
WellPoint Pump			
	Holland	8" Open Enclosure	2385229
	Holland	8" Silent closed	705607C
Hydraulic Pump			
	MWI	6" Hydraulic Pump	26M653289
Locating Systems			
	DCI	DigiTrak Falcon F5	30159066

D.VISION OF CORPOR□TIONS



Detail by Entity Name

Florida Profit Corporation
SOUTHERN UNDERGROUND INDUSTRIES, INC.

Filing Information

Document Number	P08000043219
FEI/EIN Number	26-2521235
Date Filed	04/29/2008
State	FL
Status	ACTIVE
Last Event	AMENDMENT
Event Date Filed	10/28/2019
Event Effective Date	NONE

Principal Address

794 South Military Trail
Deerfield Beach, FL 33442

Changed: 03/27/2023

Mailing Address

776 South Military Trail
Suite 794
Deerfield Beach, FL 33442

Changed: 03/27/2023

Registered Agent Name & Address

COMERFORD, BELSERI L
6115 NW 77th Way
Tamarac, FL 33321

Name Changed: 06/30/2020

Address Changed: 03/15/2022

Officer/Director Detail

Name & Address

Title PTD

COMERFORD, BELSERI L
30 Harbour Isle W
Unit 204
Fort Pierce, FL 34949

Title Executive Secretary

COMERFORD, BELSERI L
30 Harbour Isle W
Unit 204
Fort Pierce, FL 34949

Annual Reports

Report Year	Filed Date
2021	01/22/2021
2022	03/15/2022
2023	03/27/2023

Document Images

03/27/2023 -- ANNUAL REPORT	View image in PDF format
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04/30/2012 -- ANNUAL REPORT	View image in PDF format
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05/02/2010 -- ANNUAL REPORT	View image in PDF format
10/20/2009 -- Amendment	View image in PDF format
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