CITY OF HAVELOCK
Post Office Box 368
Havelock, NC 28532

INVITATION TO BID

Pursuant to North Carolina General Statutes §143-131, the City of Havelock invites informal bids on the following:

Bids must be submitted in accordance with the attached specifications. Bids must include an itemized schedule (including quantity, unit price and total) for each work element. Bids can be submitted by mail, email, fax or hand delivered. Cover sheets, envelopes, etc. should be clearly marked with the words:

"City of Havelock,
Water Line Loop Project"

Address Bids to: **Lee Tillman, Director of Finance**
City of Havelock
P.O. Box 368
1 Governmental Ave.
Havelock, NC 28532
Fax: 252-447-0126
Email: Bids@havelocknc.us

Bids will be accepted until **3:00 PM (EST) on Friday, April 16, 2021** at which time they will be reviewed in the office of the City Finance Director. Quotes are not subject to public inspection until the contract is awarded. The bids are good for 75 days after opening. The winning bidder will be issued a Notice To Proceed (NTP) along with a Purchase Order. The performance period is 90 calendar days from the NTP.

Bidders are cautioned not to submit bids until the proposed requirements and specifications have been carefully examined. It will be considered that bidders will have satisfied themselves as to the accuracy of the specifications. No proposal will be considered unless prices are submitted for all items requested in any section. The City reserves the right to change the amount of quantities.

All bids submitted should be to the desired specifications. Any exceptions to the specifications will be evaluated based on the best interest of the City. Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and bidder will be held responsible therefore. Deviations shall be explained in detail. The bidder shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.

The names of certain brands or makes denote quality standard in the article desired, but do not restrict bidders to the specific brand, make or manufacturer named. They are meant to convey to prospective bidders the general style, type, character and quality of the article desired.

The successful bidder on all construction contracts will be required to conduct the operation in accordance with all Federal, State, and Municipal health and safety rules, regulations and laws applicable to the operation. The successful bidder may be asked to provide the City with a copy of the company's safety plan prior to commencing work. For all projects over $30,000, a general contractor's license must be furnished to the City if applicable.

Certificate to Transact Business in North Carolina: As a condition of contract award, each out-of-State Vendor that is a corporation, limited-liability company or limited-liability partnership shall have received, and shall maintain throughout the term of The Contract, a Certificate of Authority to Transact Business in North Carolina from the North Carolina Secretary of State, as required by North Carolina law. A contract requiring only an isolated transaction completed within a period of six months, and not in the course of a number of repeated transactions of like nature, shall not be considered as transacting business in North Carolina and shall not require a Certificate of Authority to Transact Business.

The City will not sell bid packages. Plans, specifications, and addenda may be viewed and obtained online at www.havelocknc.us. Click on: "Bid on a Contract"; "Current Bids". The Bidder's List is maintained by Vendor Registry. Registration for the Bidder's List is made online at www.havelocknc.us. Click on: "Bid on a Contract"; "Vendor login/Registration".

N.C.G.S. (North Carolina General Statutes), specifically §160A-20.1(b), prohibit the City from entering into contracts with contractors and subcontractors who have not complied with the requirement of Article 2 or Chapter 64. The Contractor shall submit the E-Verify Affidavit, located in the Bid Proposal section, with their bid. Bids that do not include this Affidavit will be considered non-responsive.

N.C.G.S 147-86.42-84 requires that contractors with a North Carolina Local Government must not utilize any subcontractor found on the State Treasurer's Iran Divestment list or Companies Boycotting Israel list. The referenced lists can be found on the State Treasurer's website at the address www.nctreasurers.com and will be updated every 180 days.

The City of Havelock reserves the right to reject any or all proposals and to purchase items from the state contract in the efforts to award the contract to the bidder it deems to be for the best interest of the City.

MODIFICATION AND WITHDRAWAL OF BIDS. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids. A request to withdraw a bid may be made to the Owner within 72 hours after Bids are opened in accordance with NCGS § 143-129.1 Requests to withdraw a Bid will be subject to the requirements of NCGS §143-129.1 and in the sole discretion of the City of Havelock Finance Officer.

This institution is an equal opportunity provider, and employer.

Contact person(s) for information on this bid:

For questions in regards to the bid specifications, the City requires and only responds to questions submitted in writing and sent via email to: Bids@havelocknc.us

Questions must be received by **2:00 PM (EST) on Tuesday, April 6, 2021**. If questions are received, the City will respond no later than **2:00 PM (EST) on Thursday, April 8, 2021**.

A pre-bid meeting will be held on March 31, 2021 at 11 AM at City Hall rear parking lot located at One Governmental Ave*, *Havelock, NC 28532. This is near the Atlantic Blvd proposed worksite. The meeting will be held to discuss the Project and answer pertinent questions. Representatives of the City will be available to answer questions. The pre-bid meeting is not mandatory.

This is the 16th day of March 2021

Published: Vendor Registry March 16, 2021

CITY OF HAVELOCK

Lee W. Tillman
Director of Finance

STATE OF NORTH CAROLINA
AFFIDAVIT
CITY OF HAVELOCK

I, _____ (the individual attesting below), being duly authorized by and

on behalf of _____ (the entity hereinafter "Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).

2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of employee through E-Verify in accordance with NCGS §64-26(a).

3. Employer is a person, business entity, or other organization that transacts business in the State and that employs 25 or more employees in this State. (mark Yes or No)

    a. YES_____, or

    b. NO_____

4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project, Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This _____ day of _____, 20_____.

Signature of Affiant: _____

Print or Type Name: _____

State of North Carolina County of _____

Signed and sworn to (or affirmed) before me, this the

_____ day of _____, 20_____.

_____ _____
Signature of Notary Printed Name of Notary

Bid Sheet

Site 1: _____

Site 2: _____

NC Sales Tax: _____

Delivery Cost (if applicable): _____

Total Cost to City: _____

Bids must include an itemized schedule by quantity, unit price and total for each work element.

It is the City's intention to award this bid to one contractor as single project with multiple areas; however, the City reserves the right to adjust the scope of work and award a reduced list of areas.

Company Name: _____

Company Address: _____

Contact Person: _____

Telephone Number: _____

Email Address: _____

NC Contractor's License Type and Number: _____

Number of Addendums Acknowledged (circle one): N/A 1 2 3 4

As of the date listed below, the vendor or bidder listed above is compliant with N.C.G.S. 147-86.42-84, the Iran Divestment Act and the Companies Boycotting Israel Act.

Authorized Signature: _____

Print Name of Authorized Signature: _____

Title: _____

Address Bid to: Lee Tillman, Director of Finance
City of Havelock
P.O. Drawer 368
1 Governmental Avenue
Havelock, NC 28532
Bids@Havelocknc.us

Please indicate the Bid name on the outside of the envelope.

City of Havelock Waterline Loop Project
<u>Work to be done:</u>

Objective: To loop dead-end water mains located at following locations.

1. Site 1 Atlantic Avenue and Main Street, from existing tap at Fire station 2 Governmental Ave, Havelock, NC 28532to existing tap at Rt. 70 Hydrant (1135ft). Provide valves at junction of new to old pipe connections. Provide new hydrant across from lacrosse field – verify location with City. Note to install new pipe beyond edge of street sufficient to avoid existing 1" waterline along same route. See Figures 1 & 4.

2. Site 2 from existing tap at Fox Ridge Court to existing tap at Belltown Road past drainage ditch south of Tall Pine Rd (1415ft). Provide valves at junction of new to old pipe connections. See Figure 2.

Total of 2550 linear feet of 6 in. diameter C-900 PVC piping, typical depth 3ft to top of pipe.

Project Description

Project will include excavation and trenching as required to install sections of PVC water piping with all associated bedding material, valves and connection appurtenances for locations as noted above. Provide traffic control as required. Restore sites to conditions equal or improved prior to commencement of work.

A. Scope of Work

1. This section describes the Project in general and provides an overview of the extent of the Work to be performed by the CONTRACTOR. Detailed requirements and extent of Work is stated in the applicable Specifications and scope descriptions below, and/or applicable attachments and addenda to this scope. CONTRACTOR shall, except as otherwise specifically stated herein or in any applicable part of these Contract Documents, provide and pay for all labor, materials, equipment, tools, construction equipment, and other facilities and services necessary for proper execution, testing, and completion of the Work.

2. Any part or item of the Work which is reasonably implied or normally required to make the installation satisfactorily operable shall be performed by the CONTRACTOR and the expense thereof shall be included in the applicable unit prices or lump sum prices bid for the Work. It is the intent of these Specifications to provide the CITY with the complete system. All miscellaneous appurtenances and other items of Work that are incidental to meeting the intent of the Specifications shall be considered as having been included in the applicable unit prices or lump sum prices bid for the Work even though these appurtenances and items may not be specifically called for in the Bid Documents.

3. Examination

a. Before submitting his Bid, each Bidder must:

1. Examine the Bid Documents thoroughly;
2. Visit the site to familiarize himself with local conditions that may in any manner affect performance of the work;
3. Familiarize himself with federal, state, and local laws, ordinances, rules and regulations affecting performance of the work;
4. Carefully correlate his observations with the requirements of the Bid Documents.
5. Submit questions regarding all conflicts, errors, or discrepancies in the Bid Documents prior to question deadline.
6. The site shall be inspected only in the company of an authorized representative of the City with appointments made through the City of Havelock, 252-444-6709.

b. Before submitting his Bid, each Bidder will, at his own expense, make such additional surveys and investigations as he may deem necessary to determine his Bid Price for performance of the work within the terms of the Bid Documents. Any Bidder desiring access to the site for the purpose of additional subsurface investigations must advise the City for coordination of access.

c. The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 3.

d. Complete sets of Bid Documents can be obtained from the vendor registry as stated in the Invitation to Bid. Complete sets of Bid Documents shall be used in preparing bids.

4. Interpretation
All questions about the meaning or intent of the Bid Documents shall be submitted in writing to The City of Havelock. Questions received after the question deadline will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

5. Contract Time
The number of days for completion of the work (the Contract Time) is set forth in the Bid. The Contractor shall commence work on the date specified in the Notice to Proceed, and he shall complete the work within the stipulated Contract time.

B. Proposal Form

1. Proposals shall be submitted on the Proposal Form furnished with the Bid.
Documents.
2. All blank spaces for Bid prices in the Proposal shall be properly completed in ink in both words and numerals. In case of conflict between the Price in words and its equivalent shown in numerals, the words will take precedence. PROPOSALS SHALL NOT BE CONDITIONAL, LIMITED OR RESTRICTED IN ANY WAY.

C. Award of Contract

1. The City reserves the right to reject any and all Bids and waive any and all informalities, and the right to disregard all nonconforming or conditional Bids or counter-proposals. In evaluating Bids, City shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and alternates and installed prices as requested in the Proposal forms. He may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of Subcontractors and other persons and organizations must be submitted, as requested. He may conduct such investigations as he deems necessary to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the work in accordance with the Contract Documents to City's satisfaction within the prescribed time. City reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to City's satisfaction.
2. If a Contract is to be awarded, it will be awarded to the lowest responsible Bidder whose evaluation by City indicates to the City that the Award will be in the best interest of the Project.

3. It is the City's intention to award this bid to one contractor as single project with multiple areas; however, the City reserves the right to adjust the scope of work and award a reduced list of areas.

D. Mechanical Requirements

1. The Contractor shall furnish and install, to the required line and grade, all piping together with all fittings and valves required for a complete install.
2. The Contractor shall furnish and install all fittings, couplings, connections, sleeves required for the installation. The Contractor will also furnish all labor, materials, equipment, tools, and services required for installation and testing of all piping. Piping shall include all required hardware, bolts, gaskets, hangars and supports.
3. The work shall include, but not limited to:
   a. Connections to existing pipelines
   b. Test Excavation necessary to locate or verify existing pipe and valves.
   c. Installation of all new pipe and materials required for a complete installation
   d. Cleaning, testing and disinfecting as required

4. Material Certification, Shop Drawings and Submittals:
   a. The Contractor shall furnish to the City a Material Certification stating that the pipe materials and valve structure furnished conform to all applicable provisions of the corresponding Specifications. Specifically, the Certification shall state compliance with the applicable standards (ASTM, AWWA, etc.) for fabrication and testing.
   b. Shop drawings shall not be required for this project.

5. Piping System Schedules
   a. Piping requirements for this Section are outlined in the Piping System Schedule. In the absence of a specified test pressure, pipe shall be tested at a pressure 50 percent greater than the normal operating pressure as determined by City Staff or 10 psig, whichever is greater unless the Schedule indicates that no test is required.

6. Valve Schedules
   a. Performance Affidavits shall be required for all valves listed in the valve schedule(s). All valves shall be tagged by the manufacturer according to the control valve designations listed in the Schedule.

7. PVC/CPVC AND HDPE PIPE
   a. Polyvinyl chloride (PVC), chlorinated polyvinyl chloride (CPVC) and High Density Polyethylene (HDPE) pipe shall be laid and joints assembled according to the respective manufacturer's recommendation. PVC pipe installation shall comply with applicable sections of the Uni-Bell PVC Pipe Association Recommended Standard Specifications.
   b. Plastic piping shall not be installed when the temperature is less than 60ºF except as otherwise recommended by the manufacturer and approved by the City.
   c. For PVC and CPVC piping, unions shall be socket weld type with Viton O ring.

8. INSTALLATION
   a. All piping shall be installed by skilled workmen and in accordance with the best standard practice for piping installation, and as specified or recommended by the pipe manufacturer. Proper tools and appliances for the safe and convenient handling and installing of the pipe and

fittings shall be used. Great care shall be taken to prevent any pipe coating from being damaged on the inside or outside of the pipe and fittings. All pieces shall be carefully examined for defects, and no piece shall be installed which is known to be cracked, damaged, or otherwise defective. If any defective pieces should be discovered after having been installed, it shall be removed and replaced with a sound one in a satisfactory manner by the Contractor and at his own expense. Pipe and fittings shall be thoroughly cleaned before they are installed and shall be kept clean until they are accepted in the complete work. All piping connections to equipment shall be provided with unions or coupling flanges located so that piping may be readily dismantled from the equipment.

b. All excavation shall be made in such a manner and to such widths as will provide ample room for properly installing the pipe and permit thorough compaction of backfill around the pipe. The minimum trench widths shall be done in strict accordance with all applicable parts of the OSHA Regulations, 29CFR 1926, Subpart P, and any applicable attachments and addenda to this scope.
c. ALL EXCAVATION REQUIRED BY THIS CONTRACT SHALL BE UNCLASSIFIED. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK EXCAVATION REQUIRED FOR THE INSTALLATION OF PIPE OR STRUCTURES IN THIS SCOPE.
d. Enlargements of the trench shall be made as needed to give ample space for operations at pipe joints. The width of the trench shall be limited to the maximum dimensions based on this scope, except where a wider trench is needed for the installation of and work within sheeting and bracing. Except where otherwise specified, excavation slopes shall be flat enough to avoid slides which will cause disturbance of the subgrade, damage to adjacent areas, or endanger the lives or safety of persons in the vicinity.
e. Hand excavation shall be employed wherever, in the opinion of the City Representative, it is necessary for the protection of existing utilities, poles, trees, pavements, or obstructions.
f. No greater length of trench in any location shall be left open, in advance of pipe laying, than shall be authorized or directed by the City Representative and, in general, such length shall be limited to approximately one hundred (100) feet. The Contractor shall excavate the trenches to the full depth, width and grade indicated in this scope including the relevant requirements for bedding. The trench bottoms shall then be examined by the City Representative as to the condition and bearing value before any pipe is laid or bedding is placed. See Figure 3.
g. No pressure testing shall be performed until the pipe has been properly bedded in place.
h. Water shall be kept out of the trench until jointing and backfilling are completed. When work is not in progress, open ends of pipe, fittings, and valves shall be securely closed so that no water, earth, or other substance will enter the pipes, fitting, or valves. Pipe ends left for future connections shall be valved, plugged, or capped, and anchored as required.
i. All piping shall be installed in such a manner that it will be free to expand and/or contract without injury to itself or to structures and equipment to which it is connected. All piping shall be erected to accurate lines and grades with no abrupt changes in line or grade and shall be supported and braced against movement, temporary, or permanent. All exposed piping shall be installed with vertical and horizontal angles properly related to adjoining surfaces or pipes to give the appearance of good workmanship. Pipes crossing within a vertical distance of less than or equal to one (1) foot shall be encased and supported with concrete at the point of crossing to prevent damage to the adjacent pipes.
j. The full length of each section of pipe shall rest solidly upon the bed of the trench, with recesses excavated to accommodate bells, couplings, joints, and fittings. Before joints are made, each pipe shall be well bedded on a solid foundation; and no pipe shall be brought into

position until the preceding length has been thoroughly bedded and secured in place. Pipe that has the grade or joint disturbed after laying shall be taken up and relayed by the Contractor at his own expense. Pipe shall not be laid in water or when trench conditions are unsuitable for work.

k. Proper and suitable tools and appliances for the safe convenient handling and laying of pipe shall be used and shall in general agree with manufacturer's recommendations.

l. AT THE CLOSE OF EACH WORK DAY THE END OF THE PIPELINE SHALL BE TIGHTLY SEALED WITH A CAP OR PLUG SO THAT NO WATER, DIRT, OR OTHER FOREIGN SUBSTANCE MAY ENTER THE PIPELINE, AND THIS PLUG SHALL BE KEPT IN PLACE UNTIL PIPE LAYING IS RESUMED.

m. Detector tape shall be installed 12 inches below final grade and directly above all buried potable water piping. The tape shall be blue and silver and shall be clearly and permanently labeled "Water". Detector tape shall be Lineguard III as manufactured by Lineguard, Inc., or equivalent.

Provide option for City to provide, and Contractor to install, detector balls 4” above pipes spaced min 6 ft / max 200ft on straight line of sight runs, in line with above ground landmarks and 1ft along arcs or deflections.

n. AT THE CLOSE OF WORK EACH DAY PIPELINE TRENCHES SHALL BE COMPLETELY BACKFILLED. See *G. Backfilling*, Below

11. FIRE HYDRANT

a. Fire hydrants shall be of the compression type meeting AWWA C502-80 standards, designed for a minimum working pressure of 150 psi and a hydrostatic test pressure of 300 psi with the valve in both the open and closed positions. STANDARD SPECIFICATIONS & CONSTRUCTION DETAILS MANUAL Page 27 All hydrants shall be equipped with two 2½-inch nozzles and one 4-inch pumper nozzle, to face roadway. Each nozzle shall be bronze with cast iron caps secured thereto with a suitable steel chain. Nozzles shall have National Standard threads. The hydrants shall be open-left and equipped with a pentagon-type operating nut (National Standard) measuring 1½ inches from point to flat. Hydrants shall be of the "dry top" type with the upper rod threads completely enclosed in a sealed grease or oil chamber, equipped with "O" ring seals and a Teflon thrust bearing. The hydrant valve opening shall be of sufficient size to insure such flows and corresponding minimum losses as set forth by the American Water Works Association. The minimum valve opening shall be 6” inches. The hydrants shall have a 6-inch shoe or boot, mechanical joint. Hydrants shall have bronze to bronze threads provided between the hydrant seat or seat ring and the seat attaching assembly. The hydrant shall be of the "safety" type so that, if the upper barrel is broken off, the hydrant valve will remain closed and reasonably tight. All hydrants shall be furnished with barrel and stem extensions as required by the final field location to provide a nominal minimum bury of three feet, six inches (3'-6"), or greater, if indicated on the Drawings. Hydrants shall be Mueller Centurion, American Mark 73, Clow Medallion or Kennedy Guardian. 6.05 Installation of Water Mains, Fittings, Valves & Appurtenances a. Setting Hydrants: Fire hydrants shall be installed at all points indicated on the drawings and in strict accordance with the standard detail. Hydrants shall be set plumb with the steamer nozzle facing the street. The area surrounding the hydrant shall be generally flat and clear for a distance of 3 feet in each direction of the hydrant. The traffic flange shall be 2" above the finish grade. New hydrants shall be factory or field painted to match existing Town hydrants. Hydrants shall be lubricated upon completion of installation. See Figures 2 and 4.

12. FLUSHING AND TESTING

a. All piping shall be properly flushed, chlorinated and tested unless specifically exempted elsewhere in the Specifications or otherwise approved by the City Representative. All liquid conveying pipelines shall be flushed and tested with water. The Contractor shall furnish and install all means and apparatus necessary for getting the air or water into the pipeline for flushing and testing including pumps, compressors, gauges, and meters, any necessary plugs and caps, and any required blow-off piping and fittings, etc., complete with any necessary reaction blocking to prevent pipe movement during the flushing and testing. All pipelines shall be flushed and tested in such lengths or sections as agreed upon among the City, Engineer, and Contractor. Test pressures shall be as specified per AWWA and/or NC-DOT standards, and shall be measured at the lowest point of the pipe segment being tested. The Contractor shall give the City Representative reasonable notice of the time when he intends to test portions of the pipelines. The City Representative reserves the right, within reason, to request flushing and testing of any section or portion of a pipeline.

b. The Contractor shall provide water for all flushing and testing of liquid conveying pipelines. Only potable water shall be used for flushing and testing the potable water system.

c. At the conclusion of the installation work, the Contractor shall thoroughly clean all new liquid conveying pipe by flushing with water or other means to remove all dirt, stones, pieces of wood, etc., which may have entered the pipe during the construction period. If after this cleaning any obstructions remain, they shall be corrected by the Contractor, at his own expense, to the satisfaction of the Engineer. Liquid conveying pipelines shall be flushed at the rate of at least 2.5 feet per second for a duration suitable to the Engineer or shall be flushed by other methods approved by the Engineer.

d. After flushing, all liquid conveying pipelines shall be hydrostatically tested at the test pressure specified per AWWA and/or NC-DOT standards. The procedure used for the hydrostatic test shall be in accordance with the requirements of AWWA C600. Each pipeline shall be filled with water for a period of no less than 24 hours and then subjected to 150 psi for 2 hours. During this test, exposed piping shall show no leakage. Allowable leakage in buried piping shall be in accordance with AWWA C600.

e. Any leaks or defective pipe disclosed by the hydrostatic test shall be repaired or replaced by the Contractor, at his own expense, and the test repeated until all such piping shows no leaks.

13. DISINFECTION

a. All pipe and fittings connected to and forming a part of a potable water supply shall be disinfected in accordance with the procedures described in AWWAC 651. Disinfection shall also be in accordance with the requirements of the North Carolina Division of Environmental Health and the City.

b. Disinfection shall be accomplished after the pipe has been flushed, if applicable, and passed the hydrostatic test. Such piping shall be filled with 50 parts per million (PPM) of chlorine and held in contact for not less than 24 hours. Final tests after 24 hours contact time shall show a minimum residual chlorine content of 10 ppm in all parts of the system. Disinfection shall be repeated as often as necessary, and as directed by the Engineer and/or NCDEH and/or the City until the minimum residual chlorine content of 10 ppm has been reached. The Contractor shall obtain certificates of satisfactory bacteriological tests and furnish them to the City before the request is made for acceptance of the work. The Contractor shall furnish and install, at his own expense, all means and apparatus necessary for performing the disinfection. The chlorine

solution shall be thoroughly flushed out prior to placing the new sections of pipe in service. The Contractor is cautioned that the spent chlorine solution must be disposed of in such a way as not to be detrimental to animal, plant, or fish life. Chlorine residual tests will be made after flushing to assure that residual is not in excess of 1 ppm at any point in system.

c. Solvent cement for socket type joints shall conform to ASTM D 2564 for PVC pipe and fittings. Solvent cement for sodium hypochlorite service shall be Weld-On 724 as manufactured by IPS Corporation, or equal.
d. Pipe material shall be made from clean, virgin, NSF approved Class 12454 or 12364 compound conforming to resin specification ASTM D1784. Standard laying lengths shall be 20-feet (±1 inch). Random lengths of not more than 15% of the total footage of each size may be shipped in lieu of the standard lengths. Reruns of reclaimed material shall not be accepted.
e. The pipe shall have bell and spigot ends and be water tight. Pipe shall have an integral elastomeric-gasket bell end. Gaskets shall be in conformance with ASTM F477.
f. Minimum pipe stiffness (F/dY) at 5% deflection shall be 115 psi for all sizes when tested in accordance with D2412.

14. VALVES

A. THE REQUIREMENT

1. The Contractor shall furnish and install, complete with all assemblies and accessories, all valves specified herein, including all fittings, appurtenances and transition pieces required for a complete and operable installation.
2. All valves shall be constructed of first quality materials which have strength, wearing, and corrosion resistance characteristics entirely suitable for the types of service for which the individual valves are designated. Except where noted otherwise, valves designated for water service shall conform to pertinent sections of the latest revision of AWWA C500 Specifications. Cast iron valve bodies and parts shall meet the requirements of the latest revision of ASTM Designation A 126, "Standard Specifications for Gray Iron Castings for Valves, Flanges, and Pipe Fittings, Class B."
3. All valve body castings shall be clean, sound, and without defects of any kind. No plugging, welding, or repairing of defects will be allowed.
4. Valves shall have flanged ends for exposed service and mechanical joint ends for buried service, unless otherwise specified herein. Flanged ends shall be flat faced, 125 lb. American Standard unless otherwise shown or specified in accordance with ANSI B16.1. All bolt heads and nuts shall be hexagonal of American Standard size. The Contractor shall be responsible for coordinating connecting piping. Valves with screwed ends shall be made tight with Teflon tape. Unions are required at all screwed joint valves.
5. The Contractor shall furnish to the City a Performance Affidavit where required in individual valve specifications. Performance tests shall be conducted in accordance with the latest revision of AWWAC500 and affidavits shall conform to the requirements of the Specifications
6. Submittals shall be issued and are to include all layout dimensions, size and materials of construction for all components, information on support and anchoring where necessary.

B. VALVE BOXES

1. The Contractor shall furnish and install valve boxes as required or specified herein.
2. All valve boxes shall be placed so as not to transmit shock or stress to the valve and shall be centered and plumb over the operating nut of the valve. The ground in the trench upon which

the valve boxes rest shall be thoroughly compacted to prevent settlement. The boxes shall be fitted together securely and set so that the cover is flush with the finished grade of the adjacent surface. A concrete pad as required shall be provided around the valve box, sloped outwards.

3. All valve boxes shall be 2-piece cast iron, sliding type, 5-1/4" shaft, with heavy duty traffic weight collar and the lid marked with the appropriate carrier product (i.e.: WATER). Boxes shall be as manufactured by James B. Clow & Sons, Kennedy Valve Mfg. Co., Charlotte Pipe and Foundry Company, or equal.
4. PVC and CPVC simplex basket strainers shall be provided in PVC and CPVC piping as applicable. 1/2”-4” strainers shall be one-piece molded body with (3) ports to facilitate straight-thru flow pattern or u-shape flow pattern as required. Connections shall be true union type to ease installation/future maintenance. The cover, vent plug, and drain plug shall all be hand-removable, requiring no tools. EPDM or Viton seals shall be used as required for chemical service, and internal baskets shall be 1/32” perforation (20-mesh) for 1/2”-1” sizes, and 1/8” perforation for 1-1/2”-8” sizes. 6” and 8” strainers shall be fabricated construction and shall contain flanged connections as standard. The pressure rating for 1/2”- 8” sizes shall be 150 psi @ 70°F, non-shock. Strainers shall be manufactured by Hayward Industrial Products, or equal.

C. EXECUTION

1. Except where noted otherwise herein, all valves shall be installing and tested in accordance with the latest revision of AWWA C500. Before installation, all valves shall be lubricated, manually opened and closed to check their operation and the interior of the valves shall be thoroughly cleaned. Valves shall be placed in the positions as directed in this scope. Joints shall be made as directed under the Piping Specifications. The valves shall be so located that they are easily accessible for operating purposes, and shall bear no stresses due to loads from the adjacent pipe. The Contractor shall be responsible for coordinating connecting piping.
2. All valves shall be tested at the operating pressures at which the particular line will be used. Any leakage or "sweating" of joints shall be stopped, and all joints shall be tight. All motor operated and cylinder operated valves shall be tested for control operation as directed by the City Representative.
3. Provide valves in quantity, size, and type with all required accessories as directed in this scope.
4. Install all valves and appurtenances in accordance with manufacturer's instructions. Install suitable corporation stops at all points shown or required where air binding of pipe lines might occur. Install all valves so that operating handwheels or wrenches may be conveniently turned from operating floor but without interfering with access, and as approved by the City Representative. Unless otherwise approved, install all valves plumb and level. Valves shall be installed free from distortion and strain caused by misaligned piping, equipment or other causes.
5. Valve boxes shall be set plumb, and centered with the bodies directly over the valves so that traffic loads are not transmitted to the valve. Earth fill shall be carefully tamped around each valve box to a distance of 4 feet on all sides of the box, or to the undisturbed trench face, if less than 4 feet.

D. SHOP AND FIELD TESTING

Shop and field testing of valves shall be as follows:

1. Certified factory testing shall be provided for all components of the valve and operator system. Valves and operators shall be shop tested in accordance with the requirements in the latest revision of AWWA C500, including performance tests, leakage test, hydrostatic tests, and proof of design tests. The manufacturer through the Contractor shall submit certified copies of the reports covering the test for acceptance by the City Representative.
2. Shop testing shall be provided for the operators consisting of a complete functional check of each unit. Any deficiencies found in shop testing shall be corrected prior to shipment. The system supplier through the Contractor shall submit written certification that shop tests for the electrical/pneumatic system and all controls were successfully conducted and that these components provide the functions specified and required for proper operation of the valve operator system.
3. The Contractor shall conduct field tests to check and adjust system components, and to test and adjust operation of the overall system. Preliminary field tests shall be conducted prior to start up with final field tests conducted during start up. The factory service representative shall assist the Contractor during all field testing and prepare a written report describing test methods, and changes made during the testing, and summarizing test results. The service representative shall certify proper operation of the valve operator system upon successful completion of the final acceptance field testing.
4. Preliminary and final field tests shall be conducted at a time approved by the City Representative. The City Representative shall witness all field testing.
5. All costs in connection with field testing of equipment such as energy, light, lubricants, water, instruments, labor, equipment, temporary facilities for test purposes, etc. shall be borne by the Contractor. The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the City formally takes over the operation thereof.
6. Preliminary field tests shall be conducted prior to start up and shall include a functional check of the entire valve operator system and all system components. Preliminary field tests shall demonstrate that the valve operator system performs according to specifications and that all equipment, valves, controls, alarms, interlocks, etc., function properly. The preliminary field test report must be approved by the City Representative prior to conducting final field acceptance tests. Based on results of preliminary field tests, the Contractor shall make any adjustments required to settings, etc., to achieve the required valve closing time and operation specified or otherwise directed by the City Representative.
7. Final field acceptance tests shall be conducted simultaneously with the start-up and field testing of the pumps, air compressors, process air blowers, etc. Field tests shall be conducted for the full range of operating modes and conditions specified and as directed by the City Representative. Each of the valves shall be tested at minimum, maximum, and normal head/flow conditions, and under all specified conditions of opening and closing. Performance of pneumatic valves and compressed air system under normal operating conditions and during simulated power failures shall be checked.
8. Field testing shall include optimization of opening and closing times of the valves. The Contractor shall provide the means for accurate measurement of pipeline pressures as directed by the City Representative. Valve opening and closing times shall be adjusted based on process requirements to optimize operation of the valves. Final valve opening and closing times as determined by field tests shall be approved by the City Representative prior to final acceptance of the system.

E. GATE VALVES

Valves shall be constructed of materials suitable for the intended service.

1. Unless otherwise specified, Gate valves 3 inches and less shall be bronze, Y pattern, swing check valves of the regrinding type. Valves shall have a minimum 200 psi non-shock cold water pressure rating and shall be as manufactured by Jenkins Bros. Corp., Crane Company, or equal.
2. Gate valves larger than 3 inches shall be cushioned swing check valves rated for a minimum working pressure of 200 psi and shall be of the "Shockless Swing Check" type as manufactured by G.A. Industries, or equal.
3. Valve closure shall be controlled by an external weighted lever arm, the action of which is cushioned by a hydraulic oil or pneumatic cylinder. Counterweights and cushion cylinders shall be designed so that adjustments can be made in the field to minimize surge and to prevent backflow and hammering noises during actual service conditions. The hydraulic oil or pneumatic cushion system shall be completely self-contained.
4. Valve bodies, cover discs, levers, and disc arms shall be constructed of heavy cast iron or cast steel fully conforming to the latest revision of ASTM A 126 Class B or Class WCB, respectively. Valve ends shall be Standard American 125 pound flat faced flanged, in accordance with ANSI B16.1. Each valve disc shall be suspended from a noncorrosive shaft which shall pass through a stuffing box and be connected on the outside of the valve to the cushion and counterweight mechanism.
5. Valve seating shall be rubber to metal designed for drop tight shutoff. The body seat ring shall be made of bronze or stainless steel and the disc seat ring of 80 Durometer rubber. Body and disc seats shall be renewable.
6. With the exception of the valve body and seat, all parts in contact with water shall be manufactured from noncorrosive materials. Internal corrosive surfaces shall be shop painted with two coats of epoxy for corrosion resistance. Exterior surfaces shall be painted in accordance with per AWWA and/or NC-DOT standards.

F. PRODUCTS

1. Gate valves shall be of the non-lubricated, eccentric seating plug type with synthetic rubber faced plugs as manufactured by DeZurik Company, Pratt, Milliken, or equal. All valves shall be provided with limit stops and rotate 90° from fully open to fully shut. The minimum working pressure for all valves shall be 150 psi, and the test pressure shall be at least 270 psi for valves up through 12-inch and at least 230 psi for valves 14-inch and larger. The port area of valves shall be at least 80 percent of full pipe area for valves less than 24 inches and 70 percent for valves 24 inches and larger, unless otherwise specified herein. The body materials shall be of epoxy coated cast iron or semi steel, unless specified otherwise. Seats shall have a welded overlay of 90 percent pure nickel and machined to a finish containing no stress cracks. Plug facings shall be of Hycar, or equal and completely suitable for use with domestic sewage.
2. The shaft seal shall be either the bronze cartridge type with at least two O Rings, monolithic V Type, U-Cup Type, or pull down packing type. If monolithic V Type, U-Cup Type, or pull down packings are utilized, it shall be self-adjusting, self-compensating type. Packing shall be as manufactured by Chevron, or equal. Plug valves with pull down packings shall be designed with an extension bonnet so that repacking can be done without removal of the actuator.

3. All buried valves shall have mechanical joint ends (unless otherwise shown), conforming to ANSI A21.11 (AWWAC 111), and shall be operated with a standard AWWA2-inch square nut through a totally enclosed worm gear actuator. Valve boxes shall be installed with all buried valves and shall be as specified herein.
4. Unless otherwise shown, all exposed valves 4 inches in diameter and larger shall have flanged ends conforming to ANSI B16.1 125/150 pound standard with face to face dimensions of standard plug valves. Valves smaller than 4 inches in diameter shall have screwed ends, unless otherwise noted.
5. Valves 8 inches in diameter and larger shall be handwheel or floorstand operated where required through totally enclosed worm gear actuators, unless otherwise specified. Valves 6 inches in diameter and smaller shall have lever operators, unless otherwise specified. Manual operators for valves mounted above 6 feet from the operating floor shall be equipped with worm gear chainwheel actuators.
6. The manufacturer shall certify that the valves are capable of operating in continuous duty service under these pressures and flow conditions.
7. Each valve shall by hydrostatically tested and tested for bubble tightness after the operator has been mounted and adjusted. Copies of the hydrostatic and leakage test certification and certification of conformance shall be submitted to the City prior to shipment.
8. All internal and external ferrous components and surfaces of the valves, with the exception of stainless steel and finished or bearing surfaces, shall be shop painted with two coats (10mils min. dry film thickness) of the manufacturer's premium epoxy for corrosion resistance.
9. Damaged surfaces shall be repaired in accordance with the manufacturer's recommendations.

G. BACKFILLING

1. All trench excavations shall be backfilled immediately after pipe is laid therein. No material shall be used for backfilling that contains stones, rock, masonry, frozen earth, chunks of highly plastic clay, debris or earth which would result in a backfilled trench with an exceptionally high void content.
2. During backfill and compaction operations care is to be taken to maintain alignment and prevent damage to the joints.
3. Grade and maintain all pipe backfill areas in such a condition that erosion or saturation will not damage the pipe foundation or backfill.
4. Fill shall be used in maximum of 12-inch lifts when backfilling. Backfill is to be compacted to 95% density.
5. All trenches within pavement, berm and shoulder limits shall be backfilled or securely plated during non-working hours. Trenches outside of these areas shall be backfilled or shall be protected by approved temporary fencing or barricades during non-working hours. Clean up shall follow closely behind trenching operations. No open trench greater than two (2) pipe lengths in right way shall be allowed.

H. SUBCONTRACTING

It is the intent of the OWNER to select one (1) contractor to perform all WORK herein specified. While it may be reasonable to subcontract part of this effort, all subcontractors are subject to the OWNER's review and approval and must meet appropriate qualifications for their proposed roles and be approved by the OWNER before the CONTRACTOR engages the services of said subcontractor.

I. DEWATERING

The cost of pumping any groundwater necessary for water line installation shall be included in the Bid total.

J. CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

1. Where a proposed conduit is to be connected to, or cross over or under an existing sewer or underground utility, the contractor shall locate the existing pipes or utilities both as to line and grade before starting to lay the proposed conduit.
2. If it is determined that the elevation of the existing conduit, or existing appurtenance to be connected, requires a change in the conduit slope, the City shall be notified before starting construction of any portion of the proposed conduit which will be affected by the variance in the existing elevations.
3. If it is determined that the proposed conduit will intersect any existing sewer or underground utility if constructed the City shall be notified before starting construction of any portion of the proposed conduit which would be affected by the interference with any existing facility.

K. SEDIMENT AND EROSION CONTROL

1. Sites utilized by the contractor for the purpose of storing equipment, excess excavated materials, stripped topsoil, etc., shall be environmentally suitable for such purpose and shall be approved in advance by the project engineer. Environmentally suitable sites shall be level, devoid of mature stands of trees, and isolated from drainage facilities and features, wetlands, streams, and stream corridors.
2. The cleanup and disposal of excess excavated materials shall be done as soon as excavated and as the project engineer may direct.
3. Rock-check-dams, silt fences, or other filtering devices shall be maintained at areas of stockpiled materials, excavated areas, catch basins, and other storm water inlet structures in construction areas to control silt runoff.
4. All dewatering flows shall be kept free of silt, sediments, debris, and other pollutants through appropriate means (settling basins, filter, etc.); following this, the flows shall only be released directly into storm sewers, stream channels, to other stabilized drainage courses and not onto exposed soils, steep slopes or any other site where flows could cause further erosion.
5. All disturbed areas shall be seeded and mulched.

L. SEEDING AND MULCHING

1. Seeding and mulching shall be applied to all areas of exposed soil between the right-of-way lines, and within the construction area.
2. All operation described above shall be at the contract lump sum bid price and shall include labor, material and equipment required to complete this item of work.

M. LANDSCAPING RESTORATION

This item of work shall consist of repairing all existing landscaping to its pre-construction state. Cost of this item shall be considered incidental to the contract.

N. SPOILS REMOVAL

Removal and disposal of spoils resulting from excavation shall be included in the bid cost. Disposal of spoil material shall be at an approved site. Contractor shall coordinate this work with the owner of the disposal site. Unless otherwise noted, all materials removed during construction

become property of the contractor. The contractor shall be responsible for obtaining any permits related to the disposal of spoils.

O. OVERHANGING LIMBS
The bid price shall include the cost of any necessary tree removal or trimming. The contractor shall remove only those trees, shrubs, and vegetation necessary for construction. No tree removal or trimming outside of the City or state right-of-way or easements shall be allowed without permission of the owner, property owner and NCDOT within state right of way.

P. UTILITY INTERFERENCE
If, during the construction, interference arises with existing utilities it shall be the responsibility of the contractor to notify the utility company involved. The contractor shall notify, at least (7) seven days before breaking ground, all public service corporations having wires, poles, pipes, conduits, manholes, or other structures that may be affected by this operation.

Q. SAFETY
The contractor shall be solely responsible for complying with all federal, state, and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the contractor to initiate, maintain, and supervise all safety requirements, precautions, and programs in connection with the work. The cost of this item shall be incidental to this contract.

R. INSURANCE
No contractor or subcontractor shall commence any work until the approved certificate of liability insurance is filed with the owner naming the City as additional insured.

S. INCIDENTALS
It is the intention of these plans and specifications to develop a completed project. As such the bid price for the project shall include all work and materials necessary to complete the project in a workmanlike manner.

T. FIRE HYDRANT ASSEMBLY
The assembly will consist of the pipe branch, a gate valve with valve box, thrust blocking and restraining glands. Hydrants must conform to ANSI/AWWA C502. Must meet City of Havelock Fire Department Specifications and be an American Darling Hydrant.

U. WATERLINE PIPE
1. Use PVCO pipe conforming to ANSI/AWWA C900 with a minimum pressure rating of 200 psi. Use pipe with push-on type joints having bells made as an integral part of the pipe conforming to ASTM D3139.
2. Couplings and fittings shall conform to AWWA C800.
3. Pipe shall be anchored at all dead ends, reducers, bends, tees, valves, and other fittings by means of mechanical joint restraint.
4. Rubber gasket shall be used on all mechanical joint fittings and shall conform to AWWA C111.

V. CONNECTIONS TO EXISTING WATERLINES

Contractor shall dig test holes at connection points prior to any other work to establish the exact connection requirements.

W. STERILIZATION

1. The contractor shall chlorinate all pipe lines and this shall be done prior to pressure testing unless otherwise directed by the owner. Disinfection shall meet or exceed NCDENR requirements and AWWA C-651. Chlorination sampling and specimen testing shall be coordinated with the owner.
2. The contractor is responsible for all testing fees associated with bacteria and contaminant testing.
3. All pipes fittings, etc. Shall be swabbed or wiped down with a chlorine solution prior to installation.
4. Provide certified bacteriological and contaminant test results from an approved independent testing laboratory in accordance with NCDENR requirements.
5. Operate all valves and controls to assure thorough sterilization.
6. Dispose of waste water in accordance with all environmental regulations.
7. Flush with clean water until residual chlorine is reduced to the same level as in the existing water mains.

X. HYDROSTATIC TEST

1. After the pipe has been laid and backfilled, all newly laid pipe or valved section shall be subjected to hydrostatic pressure and leakage test. The tests must be performed in the presence of a representative of the City. The duration of the leakage test shall not be less than 2 hours. Hydrostatic pressure shall be applied by means of a pump taking water from an auxiliary supply. All piping must be properly filled and flushed to dispel all air before the test is made using potable water.
2. Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved section thereof, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.
3. Perform tests using clean water and provide certified results demonstrating no pressure drop or leakage when pressurized at 100 ± 5 psi for 2 hours.
4. During the hydrostatic test, a thorough examination of all piping, fittings, valves, hydrants, etc. shall be performed. Leaking joints shall be tightened and cracked or otherwise defective material shall be removed and replaced and the test shall be repeated until satisfactory results are obtained.
5. Additionally, repair any leaks that are visible after 2 hours' duration.

INSURANCE REQUIREMENTS:

Contractor's Liability and Other Insurance: The Contractor shall purchase and maintain with a company acceptable to the City and authorized to do business in the State of North Carolina, such insurance as will protect him from claims under workers' compensation laws, disability benefit laws or other similar employee benefit laws; from claims of damages because of bodily injury, occupational sickness or disease, or death of his employees; from claims for damages because of bodily injury and personal injury; and from claims for damage and destruction of tangible property, including loss of use resulting there-from – any or all of which may arise out of or result from the Contractor's operations under the Contract Documents, whether such operations be by

himself or any subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable.
The insurance shall be written for not less than the limits of liability specified below.
Automobile: Bodily injury and property liability covering all owned, non-owned and hired automobiles for limits of not less than $1,000,000 bodily injury each person, each accident and $1,000,000 property damage, or $1,000,000 combined single limit – bodily injury and property damage combined.
Commercial General Liability: Bodily injury and property damage liability as shall protect the Contractor and any subcontractor performing work under this Contract from claims of bodily injury or property damage which arise from operations of this Contracts, whether such operations are performed by the Contractor, any subcontractor, or anyone directly or indirectly employed by either. The amounts of such insurance shall not be less than $1,000,000 bodily injury each occurrence/aggregate and $1,000,000 property damage each occurrence/aggregate or $1,000,000 bodily injury and property damage combined single limits each occurrence/aggregate. This insurance shall include coverage for products/completed operations, personal injury liability and contractual liability assumed under the indemnity provision of this Contract and broad form property damage, explosion, collapse and underground property damage (XC&U). The coverage shall be on an occurrence basis.
Workers' Compensation and Employers' Liability: Shall meet the statutory requirement of the State of North Carolina, in an amount of $100,000 each accident and disease – each employee and $500,000 disease policy limit providing coverage for employees and owners.
The City shall be named as an additional insured under the commercial liability insurance for operations or services rendered under this Contract.
At the time of execution of the Contract, the Contractor shall provide the City with insurance certificates certifying that the foregoing insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be cancelled, allowed to expire, or be materially changed without giving the City thirty (30) days advance written notice by registered mail.
The Contractor is advised that if any part of the work under this Contract is sublet, he shall require the subcontractor(s) to carry insurance as required above. However, this will in no way relieve the Contractor from providing full insurance coverage on all phases of the Project, including any that are sublet.
MATERIALS AND EQUIPMENT STORAGE:
The Contractor shall be responsible for locating and providing storage areas for construction materials and equipment. The material and equipment storage shall comply with all local and state ordinances throughout the construction period. The Contractor shall restore the storage area to its original condition upon completion of the Project or upon such time as directed by the Public Services Director. Such restoration shall be at no additional cost to the City.
The Contractor shall be responsible for the safeguarding of materials and equipment against fire, theft and vandalism and shall not hold the City responsible in any way for the occurrences of same.
TERMINATION BY THE CITY FOR CAUSE:
The City may terminate the Contract if the Contractor:
Persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
Fails to make payment to subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the subcontractors;
Persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
Otherwise is guilty of substantial breach of a provision of the Contract Documents
When any of the above reasons exist, the City, upon certification by the Public Services Director that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the City and after

giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:
Take possession of the site and all materials, equipment, tools and construction equipment and machinery thereon owned by the Contractor;
Accept assignment of subcontracts; and
Finish the work by whatever reasonable method the City may deem expedient. Upon request of the Contractor, the City shall furnish the Contractor a detailed accounting of the costs incurred by the Owner in finishing the work.
When the City terminates the Contract for one of the reasons stated above, the Contractor shall not be entitled to receive further payment until the work is finished.
The City shall have authority to terminate the Contract without additional authorization by City Board of Commissioners.
If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, including compensation for the Engineer's services and expenses made necessary thereby, and other damages incurred by the City and not expressly waived, such expenses shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the City. The amount paid to the Contractor or the City, as the case may be, shall be certified by the Engineer, upon application, and this obligation for payment shall survive the termination of the Contract.
TERMINATION BY THE CITY FOR CONVENIENCE:
The City may, at any time, terminate the Contract for the City's convenience and without cause. Upon written notice from the City of such termination for the City's convenience, the Contractor shall:
Cease operations as directed by the City in the notice;
Take actions necessary, or that the City may direct, for the protection and preservation of the work; and
Except for the work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.
The City shall have authority to terminate the Contract without additional authorization by City Board of Commissioners.
In case of such termination for the City's convenience, the Contractor shall be entitled to receive payment for work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit for the completed work.

CONTRACT PERIOD:
The Contract Period of Performance is ninety (90) days. The Contract period will begin upon the issuance of the Notice to Proceed, and work must commence within 30 days of Notice to Proceed.
General Provisions.

1. The Contractor shall take all necessary precautions for high pressure waterline.
2. The Contractor is required to obtain all necessary permits. Permits required by the City of Havelock will be provided at no charge.
3. Contractor shall comply will all requirements of OSHA 1926.
4. Period of Performance is 90 days from date of award.
5. Contractor shall notify NC 811 and conduct a location survey prior to any excavations.
6. Contractor shall provide a minimum of one week (7 days) notice to City of Havelock for any water outages.
7. Contractor shall provide a minimum of one week (7 days) notice to City of Havelock for any road closure.

8. Work hours shall be 7am to 5pm, Monday through Friday. No work shall be performed on City holidays. Work outside established work hours must be scheduled with the City 48 hours in advance and is subject to approval.
9. Contractor is responsible for all damage to existing roads, driveways, drainage, or utilities that occur as a result of the construction of the project.
10. Contractor is responsible for all damage to City property that occur as a result of the construction of the project.
11. Contractor shall provide safety measures during entire length of the project.
12. Contractor is responsible for the storage and safety of all materials and equipment on jobsite.
13. All necessary efforts shall be made to control erosion and sediment release while this project is under construction.
14. All construction must be in keeping with State, NCDOT standards, including base stone, traffic control, and OSHA standards, including any confined space entries.

LIQUIDATED DAMAGES:

The Contractor agrees to pay the City $300 per day in liquidated damages for each day beyond the duration described above for the period of performance.

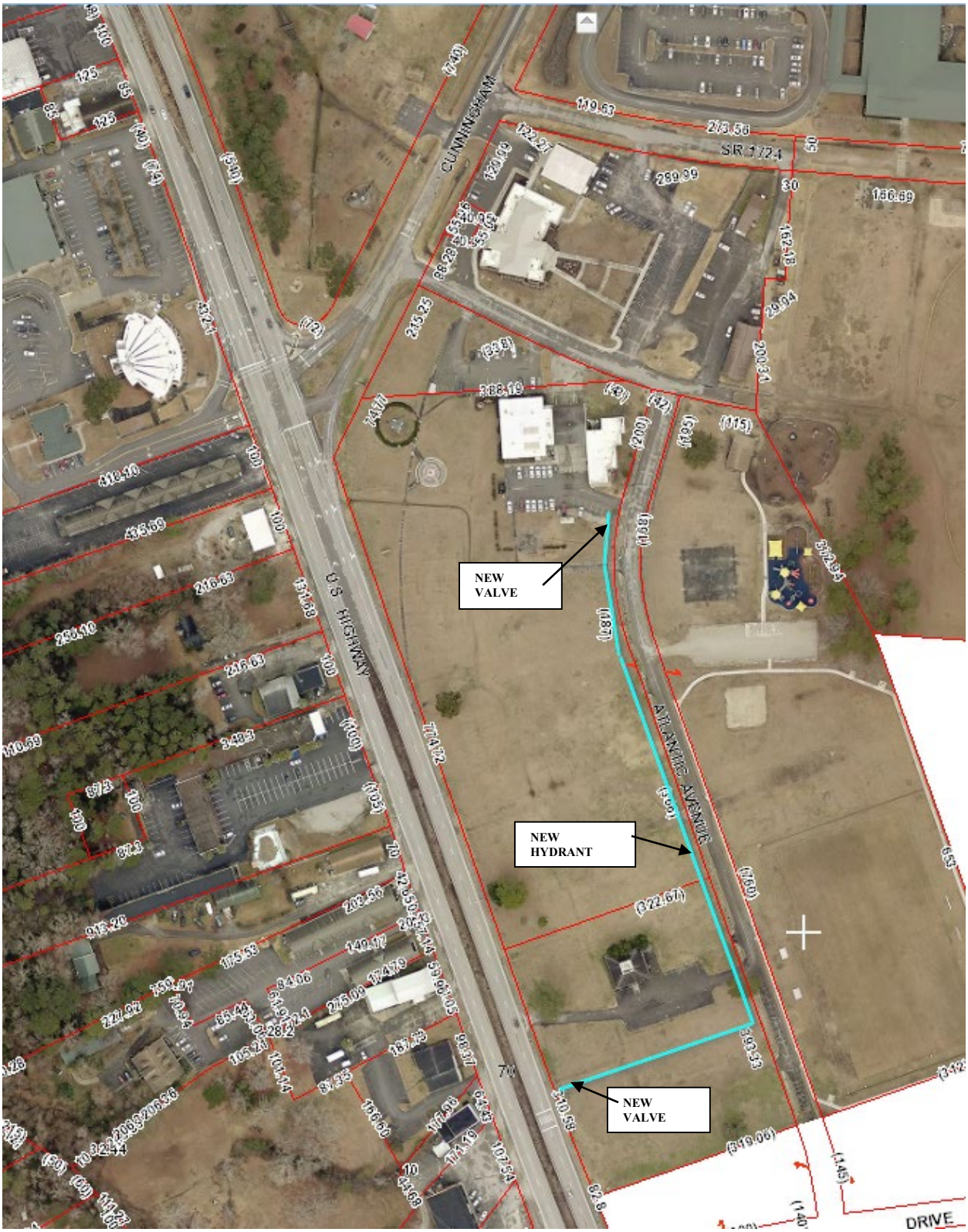

Figure 1
Line at Atlantic Avenue from Fire Station to Hwy 70 hydrant [SITE 1]

Figure 2
Line at Belltown Road [SITE 2]

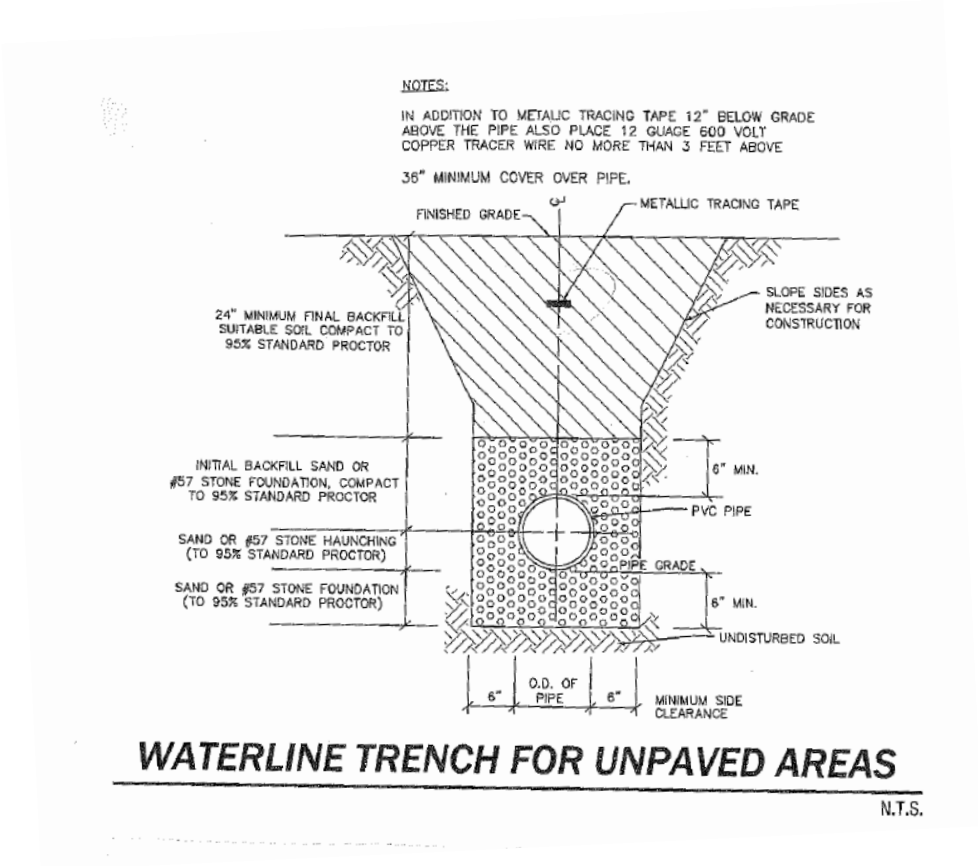

Figure 3.

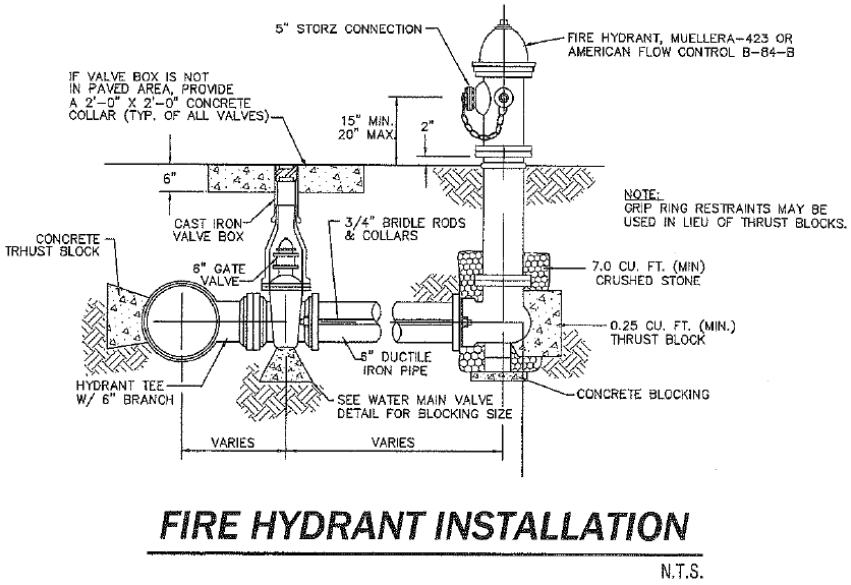

Figure 4.