

ADDENDUM TWO (2)

BID ADVERTISEMENT POSTED: DECEMBER 6, 2024
CITY BID NUMBER: WS-2014-117

To: All Bidders of Record and Plan holders

Project: Wake Forest Water Main Replacement and Repair

Owner: City of Raleigh, North Carolina, Public Utilities Department
Contact: ED STEMPIEN, PE
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Address: One Exchange Plaza, Suite 620, Raleigh, NC 27601

Engineer: WK Dickson & Co., LLC.
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Date of Addendum: January 07, 2025

This Addendum is hereby made a part of the contract documents and specifications of the referenced project. Your attention is directed to the following additions, deletions, and/or clarifications to the Contract Documents. All other requirements of the original specifications and drawings shall remain in effect in their respective order.

Acknowledgement of this Addendum shall be noted on the Bid Form (Section 00410, Article 3.01A). Failure to do so may disqualify the Bidder.

NOTICE TO BIDDERS:

This addendum addresses bidder questions that have been received by W.K. Dickson (WKD) as well as adjustments to Section 01 22 00, Unit Prices and the Bid Form. Please refer below for answers to bidder questions and the outlined revisions by WKD.

CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS:

Revisions to the following contract documents and technical specifications have been completed:

1. Section 01 22 00 – Unit Prices
 - a. Part 1, Section 1.04.H.: An additional bullet item has been added and is now the new section “I.” here. “Pavement Pre-marking: Will not be measured and shall be incidental to other items in the contract.”
 - b. The following payment descriptions have been updated or included:
 - i. 1.05.B.8. has been removed and the subsequent payment description item numbers have been updated.
 - ii. 1.05.B.19., X” Water Valve Abandonment now includes the following language: “...removal and disposal of existing valve box and cover on abandoned water line as necessary...”.
 - iii. 1.05.B.26., Water Service Changeover Contingency has been added.

- iv. 1.05.D.2., "X" Asphalt Roadway Milling and Overlay now includes "...Thermoplastic pavement marking lines, symbols, and characters..."
- v. 1.05.D.3., Full Depth Asphalt Pavement Repair now includes "...Thermoplastic pavement marking lines, symbols, and characters..."
- vi. 1.05.D.4., Removal & Replacement of Asphalt Pavement now includes "...Thermoplastic pavement marking lines, symbols, and characters..."
- vii. 1.05.D.5., Removal & Replacement of Asphalt Pavement (Private Streets and Parking Lots) now includes "...Thermoplastic pavement marking lines, symbols, and characters..."
- viii. 1.05.D.31., Right-of-Entry (ROE) Acquisition with the City of Raleigh and Property Owners removed mention of "...utilizing a N.C. licensed surveyor for any exhibit and agreement establishment..."
- ix. 1.05.D.33., NCDOT Temporary Excavation Shoring Plan has been added.
- x. 1.05.D.34., Surveyor Allowance has been added.

2. Section 00410: Bid Form

- a. Bid item #64 has been removed and the subsequent bid item numbers have been updated.
- b. Bid item #87 (formerly #88) has a revised unit quantity of 31 (formerly 30).
- c. Bid item #99, Water Service Changeover Contingency has been added.
- d. Bid item #161, NCDOT Temporary Shoring Plan has been added.
- e. Bid item #162, Surveyor Allowance has been added.

The above-mentioned documents are attached to this addendum.

CONTRACT DRAWINGS:

No revisions with this addendum.

BIDDER QUESTIONS:

1. **Question:** Can you confirm the intent that all of the waterline abandonment is to be grout filled vs abandon-in-place without grout?

Answer: Existing 6-inch and 8-inch water main planned for abandonment shall be by grout filled. Existing 1.5-inch and 2-inch water main planned for abandonment shall be by abandoning-in-place without grout.

2. **Question:** Section 01 22 00 1.05.B.16 and 17 states the Contractor is to include the water meter. Generally, COR provides and installs the actual water meter and we install the setters. Do we need to include the cost to purchase and install meters from the City?

Answer: If there is an existing meter and it is not functioning appropriately or found deficient according to the current City of Raleigh standards, the City will supply the meter. The Contractor will be responsible for installing the meter, providing and installing the setter, and all else outlined within pay item descriptions 1.05.B.15. and 1.05.B.16. (formerly items 1.05.B.16. and 1.05.B.17.).

3. **Question:** Bid item number 64 is for 6" water valve & box removal and 88 is for 6" water valve abandonment. In the Unit Price section 01 22 00 there are 2 descriptions for valve abandonment in 1.05.B.8 and 1.05.B.20. Can clarify the differences in the unit prices and which pay item description is for which item?

Answer: To simplify the bid, Bid item number 64 and the associated pay item description 1.05.B.8. has been deleted. One (1) additional unit has been added to the revised item 87 (formerly item 88). Pay item description 1.05.B.19. (formerly 1.05.B.20) now includes language addressing the removal and disposal of existing valve boxes and covers on abandoned water lines as necessary.

4. **Question:** Section 01 22 00 1.05.D.31 for the Right of Entry states the Contractor is to meet as necessary and provide sealed exhibits by a licensed surveyor as necessary. The description allows for an unlimited amount of time and cost in order to obtain a ROE agreement with a property owner. This type of work is unusual for utility replacement projects, and we need a scope of work that includes limitations to price appropriately. Can you revise what Work is required for this pay item?

Answer: Section 01 22 00, pay item description 1.05.D.31. for Right-of-Entry is intended as a contingency item if the Contractor has to enter private property in order to complete the work outlined within the Contract. The Contractor shall be responsible for obtaining right-of-entry agreements to enter privately owned property. The Contractor shall fill out and execute the City of Raleigh's standard Right-of-Entry Agreement template, which can be found within Appendix C of the Technical Specifications manual. Additional language has been added to the unit price to help clarify the scope of work and remove the N.C Professional Surveyor work inclusion to help prospective bidders price this line item.

Within Section 01 22 00, item 1.05.D.33., Surveyor Allowance has been added for utilizing (if necessary) a N.C. Professional Surveyor during the Right-of-Entry Agreement process.

5. **Question:** We will be in the Railroad ROW for a portion of the work? Is an encroachment with CSX Transportation required? Is Railroad Protective Liability Insurance required?

Answer: The Contractor shall stay out of the CSXT Railroad ROW while performing work along N. White Street. Because the Contractor is anticipated to remain outside of CSXT Railroad ROW, a CSXT encroachment has not been obtained and Railroad Protective Liability insurance is not required at this time.

6. **Question:** How is striping to be paid for the project?

Answer: Section 01 22 00, pay item descriptions 1.05.D.2., 1.05.D.3., 1.05.D.4., and 1.05.D.5 have been updated with expanded language for inclusion of thermoplastic pavement marking lines, symbols, and characters. Previously only "pavement markings" were mentioned within items 1.05.D.4. and 1.05.D.5.

- 7. Question: Can you show the existing MH inverts on sheet C14? It's difficult to price the service replacements without knowing the depth of the sewer main.**

Answer: We do not have survey for the manhole invert elevations along S. Allen Rd on sheet C14. We have limited information from others that we can convey to help prospective bidders price the sewer lateral replacements for this area. The Contractor will need to verify the sewer elevations prior to lateral replacement construction.

At the existing SSMH 132460, the sewer is anticipated to be roughly 6.7 vertical feet deep to the bottom of pipe.

At the existing SSMH 165486, the sewer is anticipated to be roughly 7.9 vertical feet deep to the bottom of pipe.

At the existing SSMH 133684, the sewer is anticipated to be roughly 5.7 vertical feet deep to the bottom of pipe.

This sewer is at the top of its branch, which has its flow conveyed towards the intersection of Robin Ave. and Cardinal Drive and then down Wait Avenue towards a sewer that runs parallel to Dunn Creek. Please refer to maps.raleighnc.gov/imaps/ to see a broader sewer layout view for this area.

Within Section 01 22 00, item 1.05.D.33., Surveyor Allowance has been added for utilizing (if necessary) a N.C. Professional Surveyor to conduct supplemental survey investigations prior to construction and installation to address insufficient existing condition information, if required to construct and install the work.

- 8. Question: Sheet D13 requires the asphalt repair of N and S Allen Street to have a crown. Is the crown for the asphalt replacement at a new elevation or is this just replacing existing grades? If it's a new grade there will likely be numerous valve and manhole lid adjustments. How would we be paid for valve/manhole adjustments?**

Answer: North and South Allen Street asphalt replacement will be at existing grades.

- 9. Question: The width of the trench for pay items 01 22 00 D.26-28 is pipe OD plus 4 feet. Can we change it so the trench width is the same as 01 22 00 D.4 for asphalt pavement?**

Answer: Within Specification 01 22 00, Unit Prices, pay item description measurements for 1.05.D.4. and 1.05.D.5. have been updated to be consistent with the trench width specified within six (6) other pay items: 1.05.D.6., 1.05.D.7., 1.05.D.9., 1.05.D.26., 1.05.D.27, and 1.05.D.28.

Pay items 1.05.D.4. and 1.05.D.5. shall be measured by the square yard along the centerline of the roadway cut times the pipe bell OD plus four (4) feet.

10. Question: The pay item descriptions for trenchless services is per EA, and requires the cost of up to 150 LF. Installing a 150 trenchless service is extremely risky and much more costly than a 20LF long installation. Can this distance be shortened so we don't have to include the cost for such a long trenchless installation?

Answer: Within Specification 01 22 00, Unit Prices, pay item descriptions 1.05.A.6. (20 LF), 1.05.B.12. (20 LF), and 1.05.B.14. (55 LF) have been updated with shortened trenchless service installations.

11. Question: Several notes on the plans require the Contractor to install services using a trenchless method. If the service cannot be installed trenchless due to unforeseen conditions will the Contractor be paid the additional cost for installation via other methods?

Answer: Within Specification 01 22 00, payment description item 1.05.B.26. (Water Service Changeover Contingency) has been added in the event that a service cannot be installed via trenchless means due to unforeseen conditions. So that a quantity can be assigned to this item, the engineer has assumed approximately 1/3 of the trenchless service installation changeovers to the opposite side will utilize this new unit price item, which is now bid item #99.

12. Question: Traffic Control Note 1 on sheet G2 requires the Contractor to hire a NC Professional Engineer to develop a traffic control plan. Our bid will be based on certain assumptions because there is not currently an approved plan. If the Town of Wake Forest or NCDOT does not accept our anticipated traffic control plan, there will likely be additional costs. Will The City of Raleigh pay for additional costs due to unanticipated traffic control requirements?

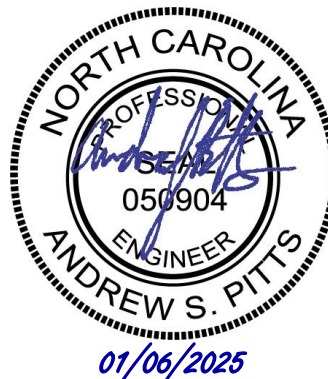
Answer: The Traffic Control Plan will be the Contractor's responsibility to assemble via hiring a NC Professional Engineer to develop. The only payment for Traffic Control is outlined by Temporary Traffic Control and the associated pay item description 1.05.D.32. The City of Raleigh will make no separate payment for additional costs due to unanticipated traffic control requirements.

Respectfully,

W.K. Dickson & Co., LLC.
N.C License F-0374



Andrew Pitts, PE
Project Manager



END OF ADDENDUM NO. TWO (2)

SECTION 01 22 00
UNIT PRICES

SECTION 01 22 00
UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Delineation of measurement and payment criteria applicable to Work performed under Contract by the unit price payment method.

1.02 FIELD MEASUREMENT

- A. Take measurements and compute quantities for submittal of the monthly pay request unless specified otherwise in the measurement paragraphs as indicated in this Section.

1.03 CHANGE IN QUANTITIES

- A. Increase in the quantity of a bid item above what is indicated in the Bid Form shall only be made by a Change Order as required by the Contract Documents.
- B. A final adjusting Change Order shall be made for adjustment of the actual quantities installed prior to submittal of the final pay request.

1.04 GENERAL

- A. Items with a "(X)" in the title of the following bid items represents the size or depth as indicated on the Bid Form. Items with "(Mat'l)" in the title represents the material as indicated on the Bid Form.
- B. Method of measurement for the individual Bid Items shall be as specified below.
- C. Payment for each item shall be in accordance with the Contract Unit Price times the number of units installed in accordance with the Contract Documents.
- D. Work for each bid item shall include, but not be limited to, the work listed below, and the labor, materials, equipment, and services required and reasonably implied by the Contract Documents for a complete installation.
- E. Traffic Control: Work shall be a lump sum Bid Item.
- F. Pipe plugs to permanently cap or terminate an abandoned utility pipe will not be measured but should be included in the individual unit price items, as appropriate. Pipe plugs will only be paid separately in locations that are needed to allow the Owner to inactivate the pipe providing the opportunity to reinstate it if the need arises in the future.
- G. Water: Work shall include disinfection.
- H. Sewer Service Pipe: Cleanouts shall be provided in accordance with NC building code.
- I. Pavement Pre-marking: Will not be measured and shall be incidental to other items in the contract.
- J. Payment: The first Application for Payment will be approved based on the utilities installed during the agreed upon payment period without testing. Subsequent Application for Payments shall not be approved by the Engineer unless utilities installed during the previous payment period have passed the specified tests and clean up and seeding is complete.

1.05 PAY ITEMS

A. Sanitary Sewer System Rehabilitation

1. X" (Mat'l) Sanitary Sewer Replacement, Depth X' – X'
 - a. Measurement: By the price per linear foot of sewer main installed. Measure pipe from center to center of manholes. No deduction will be made for space occupied by manholes. Measure depth of pipe vertically from pipe invert to original grade.
 - b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form.
 - 1) Clearing and grubbing where necessary.
 - 2) Temporary removal and restoration or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants (under 6 feet in height), guard rails, power and telephone poles.
 - 3) Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 4) Installation of warning / identification tape over utilities.
 - 5) Temporary support and protection of existing underground facilities.
 - 6) Connection to existing or new manholes.
 - 7) Flushing and testing.
 - 8) Repair to damaged new and existing utilities.
 - 9) Cutting and removal of existing paved surfaces. Patching of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 10) Grading of disturbed areas to original surface profile prior to seeding.
 - 11) Clean up and seeding.
 - 12) NASSCO certified post-installation CCTV.
2. X' ID (Mat'l) Manhole, Depth X' – X'
 - a. Measurement: By the number of various sizes and at the depth installed. Measure depths from manhole cover to lowest pipe invert.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavating, backfilling, #67 stone subbase, concrete sections as required for the depth, top adjusting rings, steps, pipe boots, and ring and cover (watertight and vented as indicated), piping for inside/outside drops, pipe supports, create a watertight connection of proposed and existing pipes, testing, cleanup, and NASSCO post-installation CCTV.
3. Connect to Existing Manhole
 - a. Measurement: Measure by each connection as identified on the Bid Form. Payment shall include all labor, material, equipment and accessories necessary to connect the proposed utility pipe or service to the existing structure and create a watertight seal.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, backfilling, coring, fittings, pipe boots/connections, seals, grout, and cleanup.

4. Replace Sanitary Sewer Service (same side)
 - a. Measurement: By number furnished and installed.
 - b. Work: The unit price shall include, but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) Property owner notification
 - 2) Clearing and grubbing where necessary.
 - 3) Construction access
 - 4) Locating existing sewer service
 - 5) Construction Staking
 - 6) Temporary removal and restoration/relocation or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants, guard rails, power and telephone poles.
 - 7) Excavating, shoring, and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 8) Installation of warning / identification tape over utilities.
 - 9) Installation of tracer wire on non-metallic utilities.
 - 10) Temporary support and protection of existing underground facilities.
 - 11) New 4-inch or 6-inch pipe from existing pipe to new/existing main, concrete blocking, connection to existing piping, and fittings.
 - 12) Tap to new or existing main with service saddle.
 - 13) Flushing and testing.
 - 14) Repair to damaged new and existing utilities.
 - 15) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 16) Removal and lawful disposal of existing service materials.
5. Replace Sanitary Sewer Service (opposite side)
 - a. Measurement: By number furnished and installed.
 - b. Work: The unit price shall include, but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) Property owner notification
 - 2) Clearing and grubbing where necessary.
 - 3) Construction access
 - 4) Locating existing sewer service
 - 5) Construction Staking
 - 6) Temporary removal and restoration/relocation or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants, guard rails, power and telephone poles.
 - 7) Excavating, shoring, and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 8) Installation of warning / identification tape over utilities.
 - 9) Installation of tracer wire on non-metallic utilities.
 - 10) Temporary support and protection of existing underground facilities.
 - 11) New 4-inch or 6-inch pipe from existing pipe to new/existing main, concrete blocking, connection to existing piping, and fittings.
 - 12) Tap to new or existing main with service saddle.
 - 13) Flushing and testing.

- 14) Repair to damaged new and existing utilities.
 - 15) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 16) Removal and lawful disposal of existing service materials.
6. Replace (via Trenchless method) Sanitary Sewer Service (opposite side)
- a. Measurement: By number furnished and installed.
 - b. Work: The unit price shall include, but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) Property owner notification
 - 2) Clearing and grubbing where necessary.
 - 3) Construction access
 - 4) Locating existing sewer service
 - 5) Construction Staking
 - 6) Temporary removal and restoration/relocation or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants, guard rails, power and telephone poles.
 - 7) Excavating, shoring, and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 8) Installation of warning / identification tape over utilities.
 - 9) Installation of tracer wire on non-metallic utilities.
 - 10) Temporary support and protection of existing underground facilities.
 - 11) New 4-inch or 6-inch pipe from existing pipe to new/existing main, concrete blocking, connection to existing piping, and fittings.
 - 12) Soil displacement hammer, pneumatic impact moling, or piercing tool utilization for service installation under pavement and existing permanent features for crossings less than 20 LF.
 - 13) Tap to new or existing main with service saddle.
 - 14) Flushing and testing.
 - 15) Repair to damaged new and existing utilities.
 - 16) Cutting and removal of existing paved surfaces. Patching of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 17) Removal and lawful disposal of existing service materials.
 - c. If the Contractor elects to install sanitary service via trenchless method from locations within private property rather than within right-of-way as designated by the Owner and/or Engineer, the Contractor shall provide either a temporary easement or otherwise written evidence of permission from the property owner to the Owner and Engineer documenting such authority.
7. X" Ductile Iron Gravity Sewer Service Lateral Adjustment Adjacent to CSXT ROW
- a. Measurement: By the price per linear foot of sewer lateral installed.
 - b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form.
 - 1) Field coordination with Owner's Project Coordinator.
 - 2) Clearing and grubbing where necessary.

- 3) Construction staking.
 - 4) Temporary removal and restoration or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants (under 6 feet in height), guard rails, power and telephone poles.
 - 5) Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 6) Temporary support and protection of existing underground facilities.
 - 7) Connection to existing sewer service lateral piping.
 - 8) Installation of backwater valves and clean out assemblies.
 - 9) Flushing and testing.
 - 10) Repair damaged new and existing utilities.
 - 11) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 12) Removal and lawful disposal of existing sewer service lateral and pipe fittings.
8. X" (Mat'l) Gravity Sewer Service Lateral Reroute
- a. Measurement: By the price per linear foot of sewer lateral installed.
 - b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form.
 - 1) Clearing and grubbing where necessary.
 - 2) Construction staking.
 - 3) Temporary removal and restoration or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants (under 6 feet in height), guard rails, power and telephone poles.
 - 4) Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 5) Temporary support and protection of existing underground facilities.
 - 6) Connection to existing or new sewer mains and sewer service lateral piping.
 - 7) Installation of backwater valves and clean out assemblies.
 - 8) Flushing and testing.
 - 9) Repair to damaged new and existing utilities.
 - 10) Cutting and removal of existing paved surfaces. Patching of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 11) Removal and lawful disposal of existing sewer service lateral and pipe fittings.
 - 12) Grading of disturbed areas to original surface profile prior to seeding.
 - 13) Clean up and seeding.
9. X" (Mat'l) Sanitary Sewer Service Cleanout Assembly
- a. Measurement: By number furnished and installed.
 - b. Work: The unit price shall include, but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) Clearing and grubbing where necessary.

- 2) Construction staking.
 - 3) Temporary removal and restoration/relocation or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants, guard rails, power and telephone poles.
 - 4) Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 5) Installation of warning / identification tape over utilities.
 - 6) Installation of tracer wire on non-metallic utilities.
 - 7) Temporary support and protection of existing underground facilities.
 - 8) Riser pipe, cleanout cap, connection to new and/or existing lateral piping, and fittings.
 - 9) Flushing and testing.
 - 10) Repair to damaged new and existing utilities.
 - 11) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 12) Removal and lawful disposal of existing riser pipe, cleanout, pipe fittings, and cap
 - 13) Clean up and seeding.
10. Sanitary Sewer Service Cleanout Assembly, Installed by Vacuum Excavation
- a. Measurement: By number furnished and installed.
 - b. Work: The unit price shall include, but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) Clearing and grubbing where necessary.
 - 2) Construction staking.
 - 3) Temporary removal and restoration/relocation or temporary support of, but not limited to, existing mailboxes, signs, fences, shrubs, plants, guard rails, power and telephone poles.
 - 4) Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 5) Installation of warning / identification tape over utilities.
 - 6) Installation of tracer wire on non-metallic utilities.
 - 7) Temporary support and protection of existing underground facilities.
 - 8) Vacuum excavation equipment and installation of cleanout and assembly.
 - 9) Riser pipe, cleanout cap, connection to new and/or existing lateral piping, and fittings.
 - 10) Flushing and testing.
 - 11) Repair to damaged new and existing utilities.
 - 12) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 13) Removal and lawful disposal of existing riser pipe, cleanout, pipe fittings, and cap
 - 14) Clean up and seeding.
11. Sewer Lateral CIPP Lining
- a. General: This unit price shall be utilized for the rehabilitation of deteriorated laterals by the installation of a lateral liner that is a tubular resin impregnated

sleeve with sufficient stretch such that it can transition from 4" to 6" in diameter and can negotiate bends without excessive working.

- b. Measurement: By the price per linear foot of lateral pipe to be lined, accepted, and approved. Measure along the centerline from the sewer main pipe or manhole to the edge or right of way. No deduction will be made for space occupied by manholes, cleanouts, or for the space occupied within the distribution sewer main.
- c. Work: Payment shall include but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) Clearing and grubbing where necessary.
 - 2) Property Owner Notification
 - 3) Construction access
 - 4) Setup of equipment.
 - 5) Required by-pass plan & pumping of sewage as necessary for work to proceed.
 - 6) Removal of line obstructions as necessary. Saw cut protruding service laterals flush with sewer main line.
 - 7) NASSCO LACP Certified Post TVing.
 - 8) Provide and install liner.
 - 9) Provide seal between liner and host pipe at cleanouts and the sewer main connection the lateral ties into.
 - 10) Re-open active sewer lateral.
 - 11) Clean up after completion of work.
 - 12) Complete as specified.
- d. If the Contractor elects to install a lateral liner from locations within private property rather than an outside cleanout as designated by the Owner and/or Engineer, the Contractor shall provide either a temporary easement or otherwise written evidence of permission from the property owner to the Owner and Engineer documenting such authority.

12. NASSCO Pre-Installation Lateral Inspections

- a. Measurement: By the price per linear foot of Lateral TV inspected. Measure pipe from edge of right of way to sewer main line connection. No deduction will be made for space occupied by manhole or sewer main. This unit price is applicable to 4" and 6" laterals.
- b. Work: All labor, material, equipment, tools, accessories, and incidental services required for complete TV inspection of each lateral, digital video recordings, NASSCO LACP inspection coding, NASSCO LACP inspection reports, safety measures, and submissions as required by the Engineer.
- c. **Payment Notice: *Correction and re-submission of non-compliant submissions will be at the Contractor's own expense. Payment will not be made until the required report submissions are accepted by the Engineer or Owner's Project Coordinator. Payment will not be made for inspections re-performed where the Engineer or Owner's Project Coordinator has determined the requirements of the specification have not been satisfied. Lateral cleaning shall be paid upon review and acceptance of the corresponding video inspection by the Engineer or Owner's Project Coordinator. The provision of "empty header" or "0-ft MSA" inspection data will be incidental to this work.***

13. Light Lateral Cleaning

- a. Measurement: By the price per linear foot of Lateral TV inspected. Measure pipe from edge of right of way to sewer main line connection. No deduction will be made for space occupied by manhole or sewer main. This unit price is applicable to 4" and 6" laterals.
- b. Work: All labor, materials, equipment, tools, accessories, and incidental services necessary for to perform light lateral cleaning (up to three [3] passes through the entire length of lateral segment) using a high-pressure water jetter; Bypass pumping; removal, and lawful disposal of loose and settled debris, obstructions, roots, asphalt, concrete, bricks, grease, scale, mineral deposits, tuberculation, rocks, and settled/ingress deposits.

Payment Notice: *Light lateral cleaning shall be paid upon review and acceptance of the corresponding video inspection by the Engineer or Owner's Project Coordinator.*

14. Heavy Lateral Cleaning

- a. Measurement: By the price per linear foot of Lateral TV inspected. Measure pipe from edge of right of way to sewer main line connection. No deduction will be made for space occupied by manhole or sewer main. Heavy Lateral Cleaning shall only be used upon authorization from Engineer or Owner's Project Coordinator. This unit price is applicable to 4" and 6" laterals.
- b. Work: All labor, materials, equipment, tools, accessories, and incidental services necessary for to perform heavy lateral cleaning (up to nine [9] passes through the entire length of lateral segment) using a high-pressure water jetter; Bypass pumping; removal, and lawful disposal of loose and settled debris, obstructions, grease, scale, mineral deposits, tuberculation, rocks, and settled/ingress deposits.

Payment Notice: *Heavy lateral cleaning shall be paid upon review and acceptance of the corresponding video inspection by the Engineer or Owner's Project Coordinator.*

15. Specialty Lateral Cleaning

- a. Measurement: By the price per linear foot of Lateral TV inspected. Measure pipe from center sewer main line to manholes. No deduction will be made for space occupied by manhole or sewer main. This unit price is applicable to 4" and 6" laterals.
- b. Work: All labor, materials, equipment, tools, traffic control, accessories, and incidental services necessary for to perform specialty lateral cleaning such as cutting of physically attached solid debris including but not limited to concrete, asphalt or encrustation, obstructions, scale, mineral deposits, tuberculation, excessive grease, and roots attached to the pipe surface that could not be removed with light or heavy lateral cleaning; Debris shall be cut to within an inch of the surface of the pipe wall; bypass pumping; the removal and lawful disposal of all debris generated during this effort.

Payment Notice: *Specialty lateral cleaning shall be paid upon review and acceptance of the corresponding video inspection by the Engineer or Owner's Project Coordinator.*

16. X" (Mat'l) Gravity Sewer Pipe Removal and Disposal, Depth X' -X'

- a. Measurement: Measure pipe from center to center of manholes. No deduction will be made for space occupied by manholes. Measure depth of pipe vertically from pipe invert to original grade.

- b. Work: Payment shall include but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) The length of existing sewer main to be removed at any one location will vary from one pipe section to several hundred feet.
 - 2) Clearing and grubbing where necessary.
 - 3) Temporary by-passing of sewer around the work area.
 - 4) Temporary removal and restoration or temporary support of, but not limited to, existing mail boxes, signs, fences, shrubs, plants (under 6 feet in height), guard rails, power and telephone poles.
 - 5) Excavating, shoring and bracing where required, dewatering as required, removal, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 6) Installation of warning / identification tape over utilities.
 - 7) Temporary support and protection of existing underground facilities.
 - 8) Cutting and removal of existing paved surfaces. Patching of existing paved surfaces shall be paid as indicated in the paragraph, "Patching of Asphalt and Concrete Pavement."
 - 9) Grade disturbed areas to original surface profile prior to seeding.
 - 10) Clean up and seeding.
 - 11) Removal and lawful disposal of existing materials.
- 17. X' ID Manhole Removal and Disposal, Depth X' – X'
 - a. Measurement: By the number of various sizes and at the depth installed. Measure depths from manhole cover to lowest pipe invert
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavating, removal, and lawful disposal of existing manhole, and backfilling.
- 18. Cleanout Assembly Removal and Disposal
 - a. Measurement: By each removed
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to removing cleanout assemblies and dispose of materials in an acceptable and lawful manner, including excavation, backfill, and site restoration.
- 19. X' ID Manhole Abandonment, Depth X' – X', Standard
 - a. Measurement: By diameter, depth, and each abandoned
 - 1) Includes all work required to abandon the existing manhole as indicated on the plans including the removal of manhole frame and cover. The frame and cover will remain the property of the OWNER and shall be delivered to a storage location specified by OWNER unless otherwise directed by the OWNER (For the purposes of establishing a bid, the location shall be the Public Utilities Operations Center in Raleigh at 3304 Lake Woodard Drive). In the event the OWNER does not desire the frame and cover for salvage purposes, the price shall include properly disposing of these items.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to select backfilling the void created by manhole removal to 3' below grade, removal and disposal of all manhole structures located above and to 3' below grade. Manhole shall be removed a minimum of 3-feet below grade or to first riser section sufficiently located below grade. This item shall also include plugging the pipe inverts with non-shrink grout a minimum of 6-inch thick, backfilling the abandoned sections with select

backfill and providing a concrete cap a minimum of 6-inches thick in accordance with the Detail on the Contract Drawings.

20. X" Gravity Sewer Abandonment/Plugging

- a. Measurement: By diameter and linear footage.
- b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to shoring, bracing, excavation, dewatering, backfilling, compaction and all else required to abandon gravity sewer lines in place by installing non-shrink grout into the pipe (plug) a minimum 6-inches thick as shown on the Contract Drawings. ***No separate payment will be made for grouting a sewer main inside a manhole as such work is incidental to manhole abandonment.***

B. Water System Extensions

1. X" (Mat'l) Water Main

- a. Measurement: By the price per linear foot of water main installed, for restrained or unrestrained as shown on the Bid Schedule. Measure horizontally or from station to station as shown or indicated on the Drawings. No deduction will be made for space occupied by valves or fittings.
- b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form.
 - 1) Clearing and grubbing where necessary.
 - 2) Construction staking.
 - 3) Temporary removal and restoration/relocation or temporary support of, but not limited to, existing mail boxes, signs, fences, shrubs, plants, guard rails, power and telephone poles.
 - 4) Excavating, shoring and bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 5) Installation of warning / identification tape over utilities.
 - 6) Installation of tracer wire on non-metallic utilities.
 - 7) Temporary support and protection of existing underground facilities.
 - 8) Pipe, concrete blocking, concrete cradle protection where specified on Plans, connection to existing piping, and fittings 3-inch and smaller.
 - 9) Flushing and testing.
 - 10) Repair to damaged new and existing utilities.
 - 11) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."

2. Abandon Existing X" Water Main

- a. Measurement: By the price per linear foot of existing water main abandoned (i.e., grouted) in place as measured horizontally along the centerline of the pipe.
- b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to temporary removal and restoration or temporary support of existing mail boxes, signs, fences, shrubs, plants (under 6 feet in height), power and telephone poles; excavation; shoring and bracing; removal of existing pipe as necessary for grouting operation; grout; backfilling; disconnection from existing system; cleanup; seeding, mulching

and tacking, and for all labor, materials and accessories required for a complete abandonment.

- c. Note that pipe plugs required for abandonment shall be included in the cost per linear foot of the utility abandoned.
3. X" Water Main Removal and Disposal
 - a. Measurement: By the price per linear foot of existing water main removed as measured horizontally along the centerline of the pipe.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to temporary removal and restoration or temporary support of existing mailboxes, signs, fences, shrubs, plants (under 6 ft in height), power and telephone poles; excavation, shoring and bracing, plugging, disconnection from existing system, removal of existing pipe, backfilling, cleanup, seeding, mulching and tacking, disposal of removed pipe, and for all labor, materials and accessories required for a complete removal and disposal.
4. X" Gate Valve and Box
 - a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to valve, valve box, concrete setting pad, concrete top collar, and all else required for complete installation.
5. Fire Hydrant Assembly
 - a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to furnishing and installing fire hydrant, hydrant tee, hydrant elbow, standpipe extension(s), concrete base, blocking, bridle rods and rod collars, the 6-inch gate valve (including valve box, concrete setting pad and concrete top collar) and 6-inch pipe from the water main to hydrant.
6. Re-connect Existing Fire Hydrant
 - a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to re-connect existing fire hydrant via new X" Water Main tie-in to existing X" gate valve and box.
7. Existing Fire Hydrant Assembly Removal
 - a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to removal and disposal of existing fire hydrant including hydrant elbow, riser, excavation, removal of existing valve box and cover, concrete, backfill, compaction, and seeding and mulching. Note grouting of existing hydrant leg shall be included in abandoned (X)-inch water line.
8. Fittings
 - a. Measurement: By the pound, for restrained or blocked, as shown on the drawings. For 4-inch diameter fittings and larger, poundage shall be based on the number and type of fittings installed times the weight of each type of fitting. Fitting weights shall be derived from those provided in AWWA C110 for the applicable fitting type. Note that all accessories (including, but not limited to, bolts, nuts, glands, restraining type glands, or concrete thrust blocking) required for proper fitting installation shall be provided but shall not

be included to determine weight for purposes of payment. A copy of the shipping invoice shall be provided to the Engineer/Owner's Representative and shall include an itemized list of fittings considered for payment. Note that fittings smaller than 4-inch diameter shall be included in the cost per linear foot of the utility installed.

- b. Work: Complete installation of Fitting.
9. X" x X" Tapping Sleeve & Valve with Valve Box
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to tapping sleeve, valve, valve box, concrete setting pad and concrete top collar.
10. X" Water Service (same side) Changeover
- a. Measurement: By the number furnished and installed.
 - b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form.
 - 1) Property owner notification.
 - 2) Construction access and set-up of equipment.
 - 3) Clearing and grubbing where necessary.
 - 4) Excavation, sheeting, shoring, bracing, backfilling, and compacting.
 - 5) Tapping the new water main, service saddle and corporation stop.
 - 6) "X"-inch service pipe from main to existing water meter.
 - 7) Connection of new service line to existing service line at meter box.
 - 8) Identification/verification of the size and material of the existing service line on private side of the meter box. (Separate payment, see bid item 1.05.B.14)
 - 9) Repair to damaged new and existing utilities.
 - 10) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 11) Complete installation from new main to the meter, including sampling, flushing, disinfection, and testing.
11. X" Water Service (same side) Changeover (Via Trenchless Method)
- a. Measurement: By the number furnished and installed.
 - b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form. If the Contractor elects to install water service via trenchless method from locations within private property rather than within right-of-way as designated by the Owner and/or Engineer, the Contractor shall provide either a temporary easement or otherwise written evidence of permission from the property owner to the Owner and Engineer documenting such authority.
 - 1) Property owner notification.
 - 2) Construction access and set-up of equipment.
 - 3) Clearing and grubbing where necessary.
 - 4) Excavation, sheeting, shoring, bracing, backfilling, and compacting.

- 5) Soil displacement hammer, pneumatic impact moling, or piercing tool utilization for service installation under pavement and existing permanent features for crossings less than 20 LF.
 - 6) Tapping the new water main, service saddle and corporation stop.
 - 7) "X"-inch service pipe from main to existing water meter.
 - 8) Connection of new service line to existing service line at meter box.
 - 9) Identification/verification of the size and material of the existing service line on private side of the meter box. (Separate payment, see bid item 1.05.B.14)
 - 10) Repair to damaged new and existing utilities.
 - 11) Complete installation from new main to the meter, including sampling, flushing, disinfection, and testing.
12. X" Water Service (opposite side) Changeover
- a. Measurement: By the number furnished and installed.
 - b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form.
 - 1) Property owner notification.
 - 2) Construction access and set-up of equipment.
 - 3) Clearing and grubbing where necessary.
 - 4) Excavation, sheeting, shoring, bracing, backfilling, and compacting.
 - 5) Tapping the new water main, service saddle and corporation stop.
 - 6) "X"-inch service pipe from main to existing water meter.
 - 7) Connection of new service line to existing service line at meter box.
 - 8) Identification/verification of the size and material of the existing service line on private side of the meter box. (Separate payment, see bid item 1.05.B.14)
 - 9) Repair to damaged new and existing utilities.
 - 10) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."
 - 11) Complete installation from new main to the meter, including sampling, flushing, disinfection, and testing.
13. X" Water Service (opposite side) Changeover (Via Trenchless Method)
- a. Measurement: By the number furnished and installed.
 - b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form. If the Contractor elects to install water service via trenchless method from locations within private property rather than within right-of-way as designated by the Owner and/or Engineer, the Contractor shall provide either a temporary easement or otherwise written evidence of permission from the property owner to the Owner and Engineer documenting such authority.
 - 1) Property owner notification.
 - 2) Construction access and set-up of equipment.
 - 3) Clearing and grubbing where necessary.
 - 4) Excavation, sheeting, shoring, bracing, backfilling, and compacting.

- 5) Soil displacement hammer, pneumatic impact moling, or piercing tool utilization for service installation under pavement and existing permanent features for crossings less than 55 LF.
 - 6) Tapping the new water main, service saddle and corporation stop.
 - 7) "X"-inch service pipe from main to existing water meter.
 - 8) Connection of new service line to existing service line at meter box.
 - 9) Identification/verification of the size and material of the existing service line on private side of the meter box. (Separate payment, see bid item 1.05.B.14)
 - 10) Repair to damaged new and existing utilities.
 - 11) Complete installation from new main to the meter, including sampling, flushing, disinfection, and testing.
14. Identification/Verification of Existing Service Line on Private Side of Meter Box
- a. Measurement: By the number of private service lines that have their material and diameter identified/verified.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, service material and diameter verification, recordation, backfill, logging the information, and informing Owner's Project Coordinator. The unit price provided shall be the only compensation for identification/verification of the existing service line size and material on the private side of the meter box.
15. Remove & Replace X" Meter
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to property owner notification, construction access, set-up of equipment, clearing and grubbing where necessary, excavation, removal and disposal of existing water meter where necessary, installation of new water meter where necessary, meter setter, meter box, backfill, compaction, seeding and mulching, reconnection to private side water service, and all else required for complete installation.
16. X" Meter Assembly
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to property owner notification, construction access, set-up of equipment, clearing and grubbing where necessary, excavation, installation of new water meter, meter setter, meter box, backfill, compaction, seeding and mulching, reconnection to private side water service, removal and disposal of existing water meter, and all else required for complete installation.
17. X" Blow-off Assembly
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, shoring and bracing as needed, installation of blow-off assembly, #67 stone, 3,000 psi concrete, connection to water main system, blow off valve, blind flange with 2-inch threaded plug, standard manhole cover, thrust block, mechanical restraining gland, backfilling, cleanup, seeding and mulching.
18. X" Blow-off Assembly Removal and Disposal
- a. Measurement: By the number furnished and installed.

- b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, plugging if needed, removal and disposal of existing blow-off assembly, backfill, compaction, and seeding and mulching.
19. X" Water Valve Abandonment
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation; shoring and bracing; concrete; plugging if needed, backfilling; disconnection from existing system; cleanup; removal and disposal of existing valve box and cover on abandoned water line as necessary, seeding, mulching and tacking, and all else required for complete abandonment.
20. X" Insertion Water Valve & Valve Box
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to furnishing and installing insertion valve, valve box, concrete setting pad, thrust blocking, concrete top collar, and all else required for complete installation.
21. X" Tap w/ Corporation Stop w/ tapping machine for Small Diameter WM tie-over.
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to furnishing and installing tap connection into main, corporation stop, and all else required for complete installation.
22. X" Saddle Tap
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to furnishing and installing tap connection into main, saddle, corporation stop, and all else required for complete installation.
23. X" Copper Tubing for Small Diameter WM tie-over
- a. Measurement: By the linear foot installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to furnishing and installing copper tubing, excavation, sheeting, shoring, bracing, pipe bedding, dielectric reducing union, temporary support and protection of existing underground utilities, repair to damaged utilities, flushing and testing; temporary removal and restoration/relocation or temporary support of existing mailboxes, signs, fences, shrubs, plants, guard rails, power and telephone poles; and all else required for complete installation.
24. X" Curb Stop & Valve Box
- a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to furnishing and installing tap connection into main with curb stop valve as required, valve, valve box, concrete setting pad, concrete top collar, and all else required for complete installation.
25. X" Temporary Water Main

- a. Measurement: By the price per linear foot of water main installed as indicated on the Drawings. No deduction will be made for space occupied by valves or fittings.
- b. Work: The unit price provided shall be the only compensation for the complete temporary installation and includes furnishing and installing all pipe, fittings, and appurtenances as well as incidental work necessary to provide a temporary system that does not compromise water quality.
 - 1) Temporary removal and restoration/relocation or temporary support of, but not limited to fences, shrubs, plants,
 - 2) As necessary, excavating, shoring/bracing where required, dewatering as required, installing, backfilling (including Class I material as specified for the pipe bedding, haunching, and initial backfill).
 - 3) As necessary, installation of warning / identification tape over utilities.
 - 4) As necessary, Installation of tracer wire on non-metallic utilities.
 - 5) Temporary support and protection of existing underground facilities.
 - 6) Pipe, concrete blocking, connection to existing piping, and fittings 3-inch and smaller.
 - 7) Flushing and testing.
 - 8) Repair to damaged new and existing utilities.
 - 9) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces shall be paid as indicated in the paragraph, "Asphalt and Concrete Pavement Patching."

26. Water Service Changeover Contingency

- a. Measurement: By the number furnished and installed. The Contractor shall not initiate this work item unless expressly authorized from the City of Raleigh project coordinator and/or Engineer prior to performing the work. This Contingency shall be utilized in the event that a service cannot be installed via trenchless methods due to unforeseen field conditions.
- b. Work: The unit price provided shall be the only compensation for the complete installation and includes furnishing and installing all pipe and appurtenances and all other incidental work necessary to provide a complete and ready-to-use system, except for those pay items segregated on the Bid Form.
 - 1) Property owner notification.
 - 2) Construction access and set-up of equipment.
 - 3) Clearing and grubbing where necessary.
 - 4) Excavation, sheeting, shoring, bracing, backfilling, and compacting.
 - 5) Tapping the new water main, service saddle and corporation stop.
 - 6) "X"-inch service pipe from main to existing water meter.
 - 7) Connection of new service line to existing service line at meter box.
 - 8) Identification/verification of the size and material of the existing service line on private side of the meter box. (Separate payment, see bid item 1.05.B.14)
 - 9) Repair to damaged new and existing utilities.
 - 10) Cutting and removal of existing paved surfaces. Patching/repair of existing paved surfaces.
 - 11) Complete installation from new main to the meter, including sampling, flushing, disinfection, and testing.

C. Storm Drainage System Extensions

1. X" (Mat'l) Storm Pipe Replacement, Depth X' -X'

- a. Measurement: By linear foot, type, size, measured between the centerline of manholes (or catch basin, junction box, or other similar structure or fitting), as measured vertically from the finished grade or ground surface to the invert elevation of the pipe, installed, accepted, and approved. No deduction will be made for space occupied by storm drainage structures.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals required for furnishing and installing new storm sewer pipe including sheeting, bracing, excavation, pipe embedment, embedment material, compaction, dewatering, backfill, pipe laying, bell hole excavation, adapters, concrete collars, joint material and all else required for a complete storm pipe installation.
 - c. Payment Notice: *Cutting, removal, patching and/or replacement of asphalt or concrete pavement will be paid separately.*
2. (X)" by (X)" Masonry Catch Basin, Depth X' – X', Standard
 - a. Measurement: By each structure provided, as shown on the Drawings and counted during construction.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to drainage and dewatering; trench shoring; location, protection, and support of all known and unknown utilities; structure materials; excavation; placement and compaction of suitable foundation and backfill material to subgrade or finished grade elevations; temporary stockpiling of materials; temporary stabilization of stockpiles; onsite hauling; bypass pumping of stormwater flows as necessary; placement of steel plates and beams for temporary access over excavation; grouted water tight connections; castings, grate, steps, and frame; repair/restoration of existing utilities, and installation of structure and castings to the elevations and grades as shown on the Drawings or coordinated in the field with Town of Wake Forest staff.
 3. (X)" by (X)" Pre-Cast Concrete Junction Box, Depth X' – X', Standard
 - a. Measurement: By each structure provided, as shown on the Drawings and counted during construction.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to drainage and dewatering; trench shoring; location, protection, and support of all known and unknown utilities; structure materials; excavation; placement and compaction of suitable foundation and backfill material to subgrade or finished grade elevations; temporary stockpiling of materials; temporary stabilization of stockpiles; onsite hauling; bypass pumping of stormwater flows as necessary; placement of steel plates and beams for temporary access over excavation; grouted water tight connections of proposed and existing pipes; castings; manhole adjusting rings and rim adjustment (for manholes), repair/restoration of existing utilities, and installation of structure and castings to the elevations and grades as shown on the Drawings or coordinated in the field with Town of Wake Forest staff.
 4. Precast Endwall/Headwall Removal and Replacement
 - a. Measurement: By each structure provided, as shown on the Drawings and counted during construction.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, removal, and lawful disposal of existing structure. New structure materials; placement and compaction of

suitable foundation and backfilling to finished grade elevations; bypass pumping of stormwater flows as necessary; grouted water tight connections.

5. (X)" by (X)" Masonry Curb & Gutter Inlet, Depth X' – X', Standard
 - a. Measurement: By each structure provided, as shown on the Drawings and counted during construction.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to drainage and dewatering; trench shoring; location, protection, and support of all known and unknown utilities; structure materials; excavation; placement and compaction of suitable foundation and backfill material to subgrade or finished grade elevations; temporary stockpiling of materials; temporary stabilization of stockpiles; onsite hauling; bypass pumping of stormwater flows as necessary; placement of steel plates and beams for temporary access over excavation; grouted water tight connections; castings, steps, frame, cover, and hood; repair/restoration of existing utilities, and installation of structure and castings to the elevations and grades as shown on the Drawings or coordinated in the field with Town of Wake Forest staff.
6. NCDOT Pipe Collar
 - a. Measurement: By Each.
 - b. Work: Field measurements, construction staking, protection of existing utilities, furnishing, laying, bedding, testing, excavation, sheeting and shoring for trenches of all depths, backfill and compaction, mechanical joint/thrust restraint; concrete, reinforcement, connection to gravity storm drainage piping plus all incidental work including all labor, materials, tools and equipment.
7. X" (Mat'l) Storm Pipe Removal and Disposal, Depth X' -X'
 - a. Measurement: Measure pipe from center to center of drainage structures. No deduction will be made for space occupied by manholes. Measure depth of pipe vertically from pipe invert to original grade.
 - b. Work: Payment shall include but not be limited to (unless specifically noted otherwise on the Bid Form and this specification Section), the following:
 - 1) The length of existing storm pipe to be removed at any one location can vary from one pipe section to several hundred feet.
 - 2) Clearing and grubbing where necessary.
 - 3) Temporary by-passing of storm drainage around the work area.
 - 4) Temporary removal and restoration or temporary support of, but not limited to, existing mail boxes, signs, fences, shrubs, plants (under 6 feet in height), guard rails, power and telephone poles.
 - 5) Excavating, shoring and bracing where required, dewatering as required, removal, and backfill.
 - 6) Temporary support and protection of existing underground facilities.
 - 7) Cutting and removal of existing paved surfaces. Patching of existing paved surfaces shall be paid as indicated in the paragraph, "Patching of Asphalt and Concrete Pavement."
 - 8) Grade disturbed areas to original surface profile prior to seeding.
 - 9) Clean up and seeding.
 - 10) Removal and lawful disposal of existing materials.
8. X' ID Storm Structure Removal and Disposal, Depth X' – X'
 - a. Measurement: By the number of various sizes and at the depth installed. Measure depths from structure grate or manhole cover to lowest pipe invert

- b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavating, removal, and lawful disposal of existing structure, backfilling.
9. Connect to Existing Storm Structure
- a. Measurement: Measure by each connection as identified on the Bid Form. Payment shall include all labor, material, equipment and accessories necessary to connect the proposed utility pipe or service to the existing structure and create a watertight seal.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, backfilling, coring, fittings, pipe boots/connections, seals, grout, and cleanup.

D. Miscellaneous

1. Mobilization (max 3% of total base bid for base bid and max 3% of total bid alternate #1 for bid alternate #1)
 - a. Measurement shall not be made for this item.
 - b. Work: To include administrative cost including, but not limited to, mobilization, bonds, insurance, video inspections, shop drawing submittal, as-built documentation/surveys, and construction trailers. This shall also include mobilization of construction equipment onto the project site prior to commencing construction. General office administration for the Project construction shall be included in the individual unit price items.
 - c. Bid Price for Mobilization shall not exceed 3 percent of the total base bid for the base bid and not exceed 3 percent of the total bid alternate #1 for bid alternate #1. Half of the mobilization may be requested on the first pay request and the remainder on the second.
2. X" Asphalt Roadway Milling and Overlay
 - a. Measurement: By the square yard furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals for asphalt milling and complete asphalt overlay including the required pavement clean up, primer, and asphalt. Thermoplastic pavement marking lines, symbols, and characters are included.
3. Full Depth Asphalt Pavement Repair
 - a. Measurement: By the square yard furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals for compacted base course and complete asphalt surface course including the required pavement clean up, primer, and asphalt. Thermoplastic pavement marking lines, symbols, and characters are included.
4. Removal & Replacement of Asphalt Pavement
 - a. Measurement: Measure by the square yard along the centerline of the roadway cut times the pipe bell OD plus four (4) feet. Payment shall not be made for pavement repair required due to excessive open cut caused by Contractor.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals required to remove and replace asphalt paved roads disturbed by construction including the base course (and maintaining and installing temporary CABC surface), removal of temporary CABC course prior to paving the final surface course, permanent surface course and removal and disposal of the existing paved surface and backfilling with ABC stone or

flowable fill from the crown of the pipe to the bottom of the lower pavement course, adherence to NCDOT provisions, and trimming and sawing a neat edge along the pavement to be retained and testing. Thermoplastic pavement marking lines, symbols, and characters are included. Payment width includes a minimum cutback of six (6) inches on each side of the trench prior to placing pavement patch. Any pavement removed or damaged beyond the limits specified, shall be replaced by the Contractor at his own cost unless directed otherwise by the Owner or Engineer. No payment for overage beyond the quantity shown in the Bid Form will be made.

5. Removal & Replacement of Asphalt Pavement (Private Streets & Parking Lots)
 - a. Measurement: Measure by the square yard along the centerline of the roadway cut times the pipe bell OD plus four (4) feet. Payment shall not be made for pavement repair required due to excessive open cut caused by Contractor.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals required to remove and replace asphalt paved roads disturbed by construction including the base course (and maintaining and installing temporary CABC surface), removal of temporary CABC course prior to paving the final surface course, permanent surface course and removal and disposal of the existing paved surface and trimming and sawing a neat edge along the pavement to be retained and tested. Thermoplastic pavement marking lines, symbols, and characters are included. Asphalt depth shall match existing depth, but in no case shall it be less than 2-inches. Payment widths shown include a minimum cutback of six (6) inches on each side of the trench prior to placing pavement patch. Any pavement removed or damaged beyond the limits specified, shall be replaced by the Contractor at his own cost unless directed otherwise by the Owner or Engineer. No payment for overage beyond the quantity shown in the Bid Form will be made.
6. Asphalt Driveway Repair
 - a. Measurement: Measure by the square yard along centerline of roadway cut times the pipe OD plus four (4) feet. Payment shall not be made for pavement repair required due to excessive open cut caused by Contractor.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals required to perform asphalt driveway patching; backfilling, compacting, stone sub-base, asphalt at the depths as specified.
7. Concrete Driveway Repair
 - a. Measurement: Measure by the square yard along centerline of roadway cut times the pipe OD plus four (4) feet. Payment shall not be made for pavement repair required due to excessive open cut caused by Contractor.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals required to perform patching to concrete driveway; backfilling, compacting, stone sub-base, concrete at the depths specified.
8. Concrete Driveway Apron Replacement
 - a. Measurement: By Each
 - b. Work: Includes all labor materials, tools, equipment, accessories and incidentals required to remove and replace or install new concrete driveway apron; backfilling, compacting, stone sub-base, concrete at the depths specified.

9. Gravel Driveway Repair
 - a. Measurement: Measure by the square yard along centerline times the pipe OD plus four (4) feet of stone placed and compacted to a depth of 6 inches. Loss of material due to inadequate backfill compaction shall be replaced at no additional cost. Engineer shall approve location and dimension of repair area to be used prior to placement. Payment shall not be made for pavement repair required due to excessive open cut caused by Contractor.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals required to perform gravel driveway repair; stone, hauling, placement, and compacting.
10. Tree Protection Fencing
 - a. Measurement: By the price per linear foot along the base of the tree protection fencing furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to posts, fabric, signs, maintenance during construction, removal and cleanup.
11. Stone Construction Entrance
 - a. Measurement: By number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, washed stone, maintenance, during construction, and final removal and cleanup.
12. Silt Fence w/ Stone Outlets
 - a. Measurement: by the price per linear foot along the base of the silt fence installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to posts, wire mesh, fabric, base trench, stone, and maintenance during construction, removal and clean up.
13. Temporary Stone (Rock Silt) Check Dam
 - a. Measurement: By number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals to install and maintain silt check dam; excavation, riprap, #5 washed stone; removal of silt check dam upon completion of the work and clean-up of the area.
14. Temporary Stone Inlet or Outlet Protection
 - a. Measurement: By number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals to install and maintain the stone inlet or outlet protection device on drainage pipes in accordance with the detail indicated on the drawings and the removal of all items at completion of the work.
15. Temporary Inlet Protection of Drainage Structure
 - a. Measurement: By number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals to install and maintain the various erosion and sedimentation control devices to protect curb inlets, grated inlets, and other entries into storm drainage structures. Various devices include silt socks, inlet filters, silt sacks, silt bags, etc. Removal of the device, clean-up of the area and drainage structure upon completion of the work is included. Temporary removal/re-installation for construction activities, as necessary, is included.

16. NCDOT Class (X) Rip-Rap
 - a. Measurement: By cubic yard as indicated by the Engineer within the drawings.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to providing rip rap and geotextile, including but not limited to: fine grading and providing, transporting, and placing rip rap, bedding stone, geotextile underlay, wire staples, and anchor pins.
17. NCDOT #67 Stone
 - a. Measurement: By cubic yard of NCDOT #67 stone indicated by the Engineer within the drawings.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to providing NCDOT #67 stone as shown on the Drawings or as directed by the Engineer, stone; filter fabric; placement and compaction; and finish grading.
18. Topsoil
 - a. Measurement: By the price per square yard of topsoil placed, using a depth of 4" per square yard.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals to haul and place topsoil used for ground cover to help establish seed, brought from borrow site.
19. Remove & Replace X' (Mat'l) Fence
 - a. Measurement: By linear foot, along the top of newly installed fencing from center to center.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals for existing fence removal and disposal, furnishing new fencing and gates (of a style and material similar to existing fence), installation, dressage of the area upon work completion, and all other incidental work necessary.
20. Removal & Replacement of Concrete Curb & Gutter
 - a. Measurement: By the linear foot removed, replaced, accepted, and approved.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals for removal, disposal, aggregate base course, compaction, forming, joint material, concrete, & testing.
21. Removal & Replacement of Granite Curb to Historic District Standard
 - a. Measurement: By the linear foot removed, replaced, accepted, and approved.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals for removal, disposal, locating granite meeting historic district requirements, coordination with Owner's project coordinator and TOWF, aggregate base course, compaction, forming, joint material, granite, and testing.
22. Removal & Replacement of Concrete Sidewalks
 - a. Measurement: By the square yard measured, removed, replaced, accepted, and approved.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to removal, disposal, aggregate base course, compaction, forming, contraction/expansion joints, concrete, broom finishing, and testing.

23. Removal & Replacement of Concrete Curb Ramps
 - a. Measurement: By each installed, accepted, and approved.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to removal, disposal, aggregate base course, compaction, forming, contraction/expansion joints, concrete, ADA compliant ramp, broom finishing, and testing.
24. Concrete Curb Ramps
 - a. Measurement: By each installed, accepted, and approved.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to excavation, aggregate base course, compaction, forming, contraction/expansion joints, concrete, ADA compliant ramp, broom finishing, and testing.
25. X' x X' Concrete Washout Pit
 - a. Measurement: By the number furnished and installed.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to property owner notification, excavation, lining, cover, signage, cleanup and removal when use of the washout pit is no longer required.
26. Undercut of Unstable Pipe Foundation
 - a. Measurement: By the price per cubic yard along the centerline of the trench times the undercut depth below the pipe bedding as approved by Engineer times the pipe bell OD plus four (4) feet. Measure unstable soils at manholes on the maximum basis of 1-foot greater diameter than the outside diameter of the manhole (excluding extended base) and a depth as approved by the Engineer. Measurement shall be based on the actual quantities removed but not exceeding the maximum specified trench dimensions. Take measurements in the presence of the Engineer. Maintain daily log sheets of measured quantities. Log sheets must be signed by Engineer and submitted with payment request. Payment shall not be made for quantities that have not been field verified by the Engineer.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to complete removal and disposal of unstable soil, excavating, loading, hauling, properly disposing of excavated material, and providing stone for backfill. Providing stone material for backfilling shall include, but not be limited to, material, loading, hauling, placing and compacting.
27. Select Backfill
 - a. Measurement: By the price per cubic yard along the centerline of the trench times the trench depth times the pipe bell OD plus four (4) feet. Take measurements in the presence of the Engineer. Maintain daily log sheets of measured quantities. Log sheets must be signed by Engineer and submitted with payment request. Payment shall not be made for quantities that have not been field verified by the Engineer.
 - b. Work: Complete removal and disposal of unstable soil including, but not limited to, excavating, loading, hauling, properly disposing of excavated material, and providing material for backfill. Providing select fill material for backfilling shall include, but not be limited to, material, loading, hauling, placing and compacting.
28. Rock Excavation by Mechanical Methods

- a. Measurement: By the price per cubic yard as follows:
 - 1) Pipe: Measure along the centerline of the trench, times the depth from the top of rock profile to the specified depth below the pipe, times the pipe bell OD plus four (4) feet.
 - 2) Structure: Measure two (2) feet beyond the outside wall of the structure (excluding extended base) and to a depth of one foot greater than the bottom of the structure.
 - 3) Tunneling and Boring Launch/Receive Pits: Maximum pit dimensions of 40' x 20' or as noted on the plans.
 - 4) General: Take measurements in the presence of the Engineer. Maintain daily log sheets of measured quantities. Log sheets must be signed by the Engineer and submitted with payment request. Payment shall not be made for quantities that have not been field verified by the Engineer.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to mechanical removal of rock as described above for Excavation with the exception of blasting.
29. Clean Up and Seeding/Sodding
- a. Measurement: By the square yard.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to the full width of the disturbed area for the cleanup and seeding along pipeline construction. Work shall include, but not be limited to, removal and proper disposal of debris and excess material, grading disturbed areas to original surface profile prior to trench excavation, cleaning of paved surfaces, proper seeding or sodding of disturbed areas including mulching, obtaining approval of cleanup from owner of right-of-way, and soil amendments (fertilizer/lime).
30. Bypass Pumping
- a. Measurement: By Lump Sum
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to all operations required to bypass pump sewage around a manhole, replacement and/or rehabilitation of sewer section, or any other work where sewer flow must be maintained and has not been specifically included into the sewer related work that is to be performed. The Contractor shall provide all pumps, piping, temporary electric and/or fuel, temporary connections, monitoring, and other equipment necessary to accomplish bypass pumping; perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to conditions equal to or better than pre-construction conditions and to the satisfaction of the Owner or Engineer. Monthly payments will be based on a percentage of line installation accomplished.
31. Right-of-Entry (ROE) Acquisition with the City of Raleigh and Property Owners
- a. Measurement: By each property where ROE is determined to be necessary for the contractor to complete installation.
 - b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to coordination with TOWF personnel, Owner's project coordinator, and property owners; filling out and executing the City of Raleigh's standard Right-of-Entry Agreement Template completely, and all else required to coordinate and obtain ROE with the OWNER, TOWF, and property owner.

- c. Payment under this item will be made monthly, based on the number of ROE agreements completed. However, final payment will not be made until the Contract is completed.
- d. Note: A fully executed ROE agreement must be obtained from the property owner before any work may be performed on the property.

32. Temporary Traffic Control

- a. Measurement: By Lump Sum
- b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to cost of providing temporary traffic control and shall include all necessary labor, material, tools, equipment, coordination, and all incidentals necessary to maintain adequate traffic control for the project work area, including furnishing and installing signing, barricades, lighting, and traffic control devices complete, in place and in accordance with the Traffic Control Plan and/or the Manual on Uniform Traffic Control Devices (MUTCD). Up to twenty-five percent (25%) of the temporary traffic control item may be requested under the first payment application submitted and the balance shall be evenly distributed over the remaining payment applications. Establishing detours with the City, Town, and NCDOT is included. Establishing temporary bus routes, shelters/stops, and the cleanup of temporary bus shelters/stops is included.

33. NCDOT Temporary Excavation Shoring Plan

- a. Measurement: By Lump Sum.
- b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to producing the shoring system designed and sealed by a licensed N.C. Professional Engineer so that project utilities may be installed within NCDOT ROW; accounting for the design requirements as outlined by the NCDOT encroachment permit for the project and the current NCDOT Standard Temporary Shoring Provisions; producing the design and calculations; submitting the shoring plans and design calculations to the NCDOT Division Engineer for review and approval prior to construction within NCDOT ROW.

34. Surveyor Allowance

- a. Measurement: By Allowance.
- b. An allowance has been established for engaging a licensed N.C. surveyor to prepare exhibits and agreements during the Right-of-Entry process, if necessary. This allowance may also be used to cover supplemental survey investigations prior to construction and installation to address insufficient existing condition information, if required for construction and installation. The Contractor shall not initiate work under this allowance unless expressly authorized from the City of Raleigh project coordinator and/or Engineer prior to performing the work.
- c. Payment for allowance shall be for actual invoices from a N.C. licensed surveyor plus up to 5 percent of cost of the services as compensation for coordination of the work.

35. Gas Main Relocation Allowance

- a. Measurement: By Allowance.
- b. An allowance has been established for the gas main relocation as required in these contract documents. Allowance has also been established to defer selection of this service to a later date when additional information is

available for evaluation. This allowance shall only be utilized upon request by the City of Raleigh project coordinator for gas main relocation.

- c. It is understood that PSNC energy (Dominion Energy) owns the gas mains within the project area and that they, not the contractor, will perform any vertical or horizontal gas main relocation that is required. This allowance has been established for the contractor to pay PSNC energy (Dominion Energy) for the relocation work. If this allowance necessitates use, Contractor shall allow a minimum of 90 days for gas main relocation.
- d. Payment for allowance shall be for actual invoices for PSNC energy (Dominion Energy) relocation services plus up to 5 percent of cost of the services as compensation for coordination of the work.

36. Discovery Allowance

- a. Measurement: By Allowance.
- b. An allowance has been established for discovery excavation as required in these contract documents. This allowance includes performing additional site investigations through discovery excavation as necessary and specified herein and/or as shown on the Contract Drawings; proper clean-up of the discovery excavation sites to pre-existing conditions or better is also included.
- c. Work: Contractor shall utilize a certified land surveyor to conduct topographic survey of the underground utility in accordance with NC Administrative Code, Title 21 Chapter 56, Section .1065. Contractor shall document discovery excavation with a test hole report that contains project information, test hole information, coordinate information, field condition pictures, and field condition sketches. Contractor shall share results with Owner's Project Coordinator and/or engineer. A test hole report template for contractor's use can be found within the project manual appendices.
- d. Payment for allowance shall be for actual discovery excavation performed and will only be made after discovery excavation clean up and complete test hole reports are delivered to and reviewed by Owner's Project Coordinator and/or engineer.

37. TOWF FD Fire Watch & Fire Truck Services Allowance

- a. Measurement: By Allowance.
- b. An allowance has been established for the Town of Wake Forest Fire Department (TOWF FD) to mobilize and provide fire watch and stand-by fire truck services during any interruption of the Ledford Student Center fire line service. The contractor is responsible for coordinating with the TOWF FD to access the necessity of fire watch and stand-by fire truck services in the event of a fire line interruption at the Ledford Student Center. This allowance should only be utilized upon the determination of the TOWF FD that fire watch and stand-by fire truck services are indeed required.
- c. Payment for allowance shall be for actual invoices for TOWF FD services plus up to 5 percent of cost of the services as compensation for coordination of the work.

38. Allowance for 3rd Party Vibration Monitoring and Soil Compaction Testing.

- a. Measurement: By Allowance.
- b. An allowance has been established for testing (i.e., soil compaction testing and vibration monitoring above normal monitoring by Contractor) as required in these contract documents. Allowance has also been established to defer selection of actual services to a later date when additional information is

available for evaluation. This allowance shall only be utilized upon request by the Owner for these testing/monitoring services.

- c. Prior to testing, Contractor shall submit the contract between the testing firm and Contractor to the Owner for approval. Where services are requested by Owner, Contractor shall submit invoices to show actual cost of services for use in fulfillment of allowance.
- d. Payment for allowance shall be for actual invoices for third party services plus up to 5 percent of cost of the services as compensation for coordination of the work.

39. Allowance for Miscellaneous Restoration

- a. Measurement: By Allowance.
- b. Work: Includes all labor, materials, tools, equipment, accessories, and incidentals, but not limited to performing additional, miscellaneous site restoration work and cleanup specified herein and/or as shown on the Contract Drawings, including but not limited to, miscellaneous landscape and hardscape improvements, miscellaneous improvements associated with drive and roadway restoration, roadway shoulders and ditch slopes associated with project improvements, miscellaneous property restoration required due to project site access and other miscellaneous restoration work within the project work limits not specifically identified for payment under any other items in the Bid Schedule but obviously necessary to complete the Contract and fulfill all requirements of these Specifications and Contract Documents.
- c. Payment under this item will be made monthly, based on the percentage of work completed. However, final payment will not be made until the Contract is completed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 22 00

**SECTION 00410:
BID FORM**

BID FORM

PROJECT: Wake Forest Water Main Replacement & Repair

CITY BID NO.: WS-2014-117

BID FROM: _____

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ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to:
Ed Stempien, PE
City of Raleigh, Public Utilities Department
One Exchange Plaza, P.O. Box 620
Raleigh, North Carolina 27601
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for **120 days** after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this bid, bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

No. _____, dated _____

No. _____, dated _____

No. _____, dated _____

No. _____, dated _____

No. _____, dated _____

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Supplemental Conditions - 5.02 as containing reliable Technical Data, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in SC-5.06 as containing reliable Technical Data.
- E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific sequences of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
1. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
 2. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
 3. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.A:
 - a. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - b. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - c. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - d. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):
- A. All specified cash allowances are included in the price(s) set forth within the Unit Price Bid Schedule and have been computed in accordance with Paragraph 13.02 of the General Conditions.
 - B. For the following Alternates in priority order as selected by the Owner for inclusion in the Project as follows:
 1. Alternate #1
 - a. Abandon approximately 470 LF 1.5" Galvanized water main along N. White Street between E. Cedar Avenue and Lee Street and replace with approximately 500 LF of 6-inch ductile iron water main, appurtenances, and fittings.
 - 1) If Alternate #1 is approved for Contract incorporation, the 2" saddle tap w/ corporation stop, copper tubing, and di-electric reducing union for tie-in to the 1.5" galvanized main at the intersection of N. White St. and E. Cedar Ave. can be removed from the construction contract.
 - 2) If Alternate #1 is approved for Contract incorporation, the 2" saddle tap w/ corporation stop, copper tubing, tee, two (2) 2" curb stops, and di-electric reducing union for tie-in into the 1.5" galvanized main as well as the 2" blow off assembly at the intersection of N. White St. and Lee St. will be removed from the construction contract.
 - C. For Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the Bid Schedule below:

Document 00410 - Bid Form
Wake Forest Water Main Replacement & Repair Project
(Unit Price Bid Schedule)

Item No.	Payment No.	Description	Unit	Quantity	Unit Price	Bid Price
Sanitary Sewer System Rehabilitation - Section A						
1	1.05.A.1	8" (DIP) Sanitary Sewer Replacement, Depth 0' - 6'	LF	1,050	\$	\$
2	1.05.A.1	8" (DIP) Sanitary Sewer Replacement, Depth 6' - 8'	LF	1,480	\$	\$
3	1.05.A.1	8" (DIP) Sanitary Sewer Replacement, Depth 8' - 10'	LF	964	\$	\$
4	1.05.A.1	8" (DIP) Sanitary Sewer Replacement, Depth 10' - 12'	LF	217	\$	\$
5	1.05.A.2	4' ID (Standard) Manhole, Depth 0' - 6'	EA	5	\$	\$
6	1.05.A.2	4' ID (Standard) Manhole, Depth 6' - 8'	EA	6	\$	\$
7	1.05.A.2	4' ID (Standard) Manhole, Depth 8' - 10'	EA	3	\$	\$
8	1.05.A.2	4' ID (Standard) Manhole, Depth 10' - 12'	EA	1	\$	\$
9	1.05.A.2	4' ID (Standard Doghouse) Manhole, Depth 6' - 8'	EA	1	\$	\$
10	1.05.A.2	6' ID (Standard) Manhole, Depth 8' - 10'	EA	1	\$	\$
11	1.05.A.2	6' ID (Standard) Manhole, Depth 10' - 12'	EA	1	\$	\$
12	1.05.A.3	Connect to Existing Manhole	EA	16	\$	\$
13	1.05.A.4	4" (DIP) Replace Sanitary Sewer Service (same side)	EA	23	\$	\$
14	1.05.A.4	4" (PVC) Replace Sanitary Sewer Service (same side)	EA	23	\$	\$
15	1.05.A.5	4" (DIP) Replace Sanitary Sewer Service (opposite side)	EA	46	\$	\$
16	1.05.A.5	4" (PVC) Replace Sanitary Sewer Service (opposite side)	EA	10	\$	\$
17	1.05.A.6	4" Replace (via Trenchless method) Sanitary Sewer Service (opposite side)	EA	3	\$	\$
18	1.05.A.7	4" Ductile Iron Gravity Sewer Service Lateral Adjustment Adjacent to CSXT ROW	LF	195	\$	\$
19	1.05.A.8	4" (DIP) Gravity Sewer Service Lateral Reroute	LF	533	\$	\$
20	1.05.A.9	4" (DIP) Sanitary Sewer Service Cleanout Assembly	EA	89	\$	\$
21	1.05.A.9	4" (PVC) Sanitary Sewer Service Cleanout Assembly	EA	36	\$	\$
22	1.05.A.10	Sanitary Sewer Service Cleanout Assembly, Installed by Vacuum Excavation	EA	51	\$	\$
23	1.05.A.11	Sewer Lateral CIPP Lining	LF	2,226	\$	\$
24	1.05.A.12	NASSCO Pre-Installation Lateral Inspections	LF	2,226	\$	\$
25	1.05.A.13	Light Lateral Cleaning	LF	2,226	\$	\$
26	1.05.A.14	Heavy Lateral Cleaning	LF	1,113	\$	\$
27	1.05.A.15	Specialty Lateral Cleaning	LF	557	\$	\$
28	1.05.A.16	6" (VCP) Gravity Sewer Pipe Removal and Disposal, Depth 0' - 6'	LF	151	\$	\$
29	1.05.A.16	6" (VCP) Gravity Sewer Pipe Removal and Disposal, Depth 6' - 8'	LF	135	\$	\$
30	1.05.A.16	8" (TCP) Gravity Sewer Pipe Removal and Disposal, Depth 0' - 6'	LF	1,117	\$	\$
31	1.05.A.16	8" (TCP) Gravity Sewer Pipe Removal and Disposal, Depth 6' - 8'	LF	585	\$	\$
32	1.05.A.16	8" (TCP) Gravity Sewer Pipe Removal and Disposal, Depth 8' - 10'	LF	38	\$	\$
33	1.05.A.16	8" (VCP) Gravity Sewer Pipe Removal and Disposal, Depth 0' - 6'	LF	802	\$	\$
34	1.05.A.16	8" (VCP) Gravity Sewer Pipe Removal and Disposal, Depth 6' - 8'	LF	376	\$	\$
35	1.05.A.16	8" (Mat'l Unknown) Gravity Sewer Pipe Removal and Disposal, Depth 0' - 6'	LF	25	\$	\$
36	1.05.A.16	8" (Mat'l Unknown) Gravity Sewer Pipe Removal and Disposal, Depth 6' - 8'	LF	38	\$	\$
37	1.05.A.17	4' ID Manhole Removal and Disposal, Depth 0' - 6'	EA	7	\$	\$
38	1.05.A.17	4' ID Manhole Removal and Disposal, Depth 6' - 8'	EA	4	\$	\$
39	1.05.A.18	Cleanout Assembly Removal and Disposal	EA	117	\$	\$
40	1.05.A.19	Size Unknown ID Manhole Abandonment, Depth Unknown, Standard	EA	1	\$	\$
41	1.05.A.20	4" Gravity Sewer Abandonment/Plugging	LF	375	\$	\$
42	1.05.A.20	6" Gravity Sewer Abandonment/ Plugging	LF	209	\$	\$
43	1.05.A.20	8" Gravity Sewer Abandonment/ Plugging	LF	188	\$	\$
Water System Extensions - Section B						
44	1.05.B.1	4" (RJDIP) Water Main	LF	40	\$	\$
45	1.05.B.1	6" (DIP) Water Main	LF	1,506	\$	\$
46	1.05.B.1	6" (RJDIP) Water Main	LF	2,329	\$	\$
47	1.05.B.1	8" (DIP) Water Main	LF	1,865	\$	\$
48	1.05.B.1	8" (RJDIP) Water Main	LF	3,953	\$	\$
49	1.05.B.1	12" (RJDIP) Water Main	LF	205	\$	\$
50	1.05.B.2	Abandon Existing 1-1/2" Water Main	LF	1,228	\$	\$
51	1.05.B.2	Abandon Existing 2" Water Main	LF	1,979	\$	\$
52	1.05.B.2	Abandon Existing 6" Water Main	LF	12,357	\$	\$
53	1.05.B.2	Abandon Existing 8" Water Main	LF	3,824	\$	\$
54	1.05.B.3	1" Water Main Removal and Disposal	LF	20	\$	\$
55	1.05.B.3	1-1/2" Water Main Removal and Disposal	LF	857	\$	\$
56	1.05.B.3	6" Water Main Removal and Disposal	LF	763	\$	\$
57	1.05.B.3	8" Water Main Removal and Disposal	LF	20	\$	\$
58	1.05.B.4	6" Gate Valve and Box	EA	16	\$	\$
59	1.05.B.4	8" Gate Valve and Box	EA	16	\$	\$
60	1.05.B.4	12" Gate Valve and Box	EA	1	\$	\$
61	1.05.B.5	Fire Hydrant Assembly	EA	34	\$	\$
62	1.05.B.6	Re-connect Existing Fire Hydrant	EA	2	\$	\$
63	1.05.B.7	Existing Fire Hydrant Assembly Removal	EA	21	\$	\$
64	1.05.B.8	Fittings	LB	25,770	\$	\$
65	1.05.B.9	6" X 6" Tapping Sleeve & Valve with Valve Box	EA	9	\$	\$
66	1.05.B.9	8" X 8" Tapping Sleeve & Valve with Valve Box	EA	3	\$	\$
67	1.05.B.9	12" X 4" Tapping Sleeve & Valve with Valve Box	EA	1	\$	\$
68	1.05.B.9	12" X 6" Tapping Sleeve & Valve with Valve Box	EA	8	\$	\$
69	1.05.B.9	12" X 8" Tapping Sleeve & Valve with Valve Box	EA	4	\$	\$
70	1.05.B.9	12" X 12" Tapping Sleeve & Valve with Valve Box	EA	1	\$	\$
71	1.05.B.10	3/4" Water Service (same side) Changeover	EA	122	\$	\$
72	1.05.B.10	1" Water Service (same side) Changeover	EA	2	\$	\$

Document 00410 - Bid Form
Wake Forest Water Main Replacement & Repair Project
(Unit Price Bid Schedule)

Item No.	Payment No.	Description	Unit	Quantity	Unit Price	Bid Price
73	1.05.B.11	3/4" Water Service (same side) Changeover (Via Trenchless Method)	EA	2	\$	\$
74	1.05.B.12	3/4" Water Service (opposite side) Changeover	EA	56	\$	\$
75	1.05.B.13	3/4" Water Service (opposite side) Changeover (Via Trenchless Method)	EA	77	\$	\$
76	1.05.B.13	2" Water Service (opposite side) Changeover (Via Trenchless Method)	EA	1	\$	\$
77	1.05.B.14	Identification / Verification of Existing Service Line on Private Side of Meter Box	EA	294	\$	\$
78	1.05.B.15	Remove & Replace 3/4" Meter	EA	7	\$	\$
79	1.05.B.16	3/4" Meter Assembly	EA	284	\$	\$
80	1.05.B.16	1" Meter Assembly	EA	1	\$	\$
81	1.05.B.17	2" Blow-off Assembly	EA	11	\$	\$
82	1.05.B.18	2" Blow-off Assembly Removal and Disposal	EA	2	\$	\$
83	1.05.B.18	6" Blow-off Assembly Removal and Disposal	EA	1	\$	\$
84	1.05.B.19	1-1/2" Water Valve Abandonment	EA	3	\$	\$
85	1.05.B.19	2" Water Valve Abandonment	EA	10	\$	\$
86	1.05.B.19	3" Water Valve Abandonment	EA	1	\$	\$
87	1.05.B.19	6" Water Valve Abandonment	EA	31	\$	\$
88	1.05.B.19	8" Water Valve Abandonment	EA	9	\$	\$
89	1.05.B.20	6" Insertion Water Valve & Valve Box	EA	14	\$	\$
90	1.05.B.20	8" Insertion Water Valve & Valve Box	EA	5	\$	\$
91	1.05.B.20	12" Insertion Water Valve & Valve Box	EA	2	\$	\$
92	1.05.B.21	2" Tap w/ Corporation Stop w/ tapping machine for Small Diameter WM tie-over	EA	7	\$	\$
93	1.05.B.22	2" Saddle Tap	EA	15	\$	\$
94	1.05.B.23	1" Copper Tubing for small Diameter WM tie-over	LF	621	\$	\$
95	1.05.B.23	2" Copper Tubing for small Diameter WM tie-over	LF	176	\$	\$
96	1.05.B.24	1" Curb Stop & Valve Box	EA	12	\$	\$
97	1.05.B.24	2" Curb Stop & Valve Box	EA	19	\$	\$
98	1.05.B.25	2" Temporary Water Main	LF	915	\$	\$
99	1.05.B.26	Water Service Changeover Contingency	EA	26	\$	\$
Storm Drainage System Extensions - Section C						
100	1.05.C.1	8" (ABS) Storm Pipe Replacement, Depth 0' -6'	LF	8	\$	\$
101	1.05.C.1	12" (CLASS III RCP) Storm Pipe Replacement, Depth 0' -6'	LF	34	\$	\$
102	1.05.C.1	12" (CLASS IV RCP) Storm Pipe Replacement, Depth 0' -6'	LF	231	\$	\$
103	1.05.C.1	15" (CLASS III RCP) Storm Pipe Replacement, Depth 0' -6'	LF	82	\$	\$
104	1.05.C.1	15" (CLASS IV RCP) Storm Pipe Replacement, Depth 0' -6'	LF	210	\$	\$
105	1.05.C.1	15" (CLASS IV RCP) Storm Pipe Replacement, Depth 6' -8'	LF	40	\$	\$
106	1.05.C.1	18" (CLASS IV RCP) Storm Pipe Replacement, Depth 0' -6'	LF	89	\$	\$
107	1.05.C.1	24" (CLASS IV RCP) Storm Pipe Replacement, Depth 0' -6'	LF	28	\$	\$
108	1.05.C.2	24" by 36" Masonry Catch Basin, Depth X' - X', Standard	EA	1	\$	\$
109	1.05.C.3	4' Dia Pre-Cast Concrete Manhole Junction Box, Depth 0' - 6', Standard	EA	2	\$	\$
110	1.05.C.3	4' Dia Pre-Cast Concrete Manhole Junction Box, Depth 6' - 8', Standard	EA	3	\$	\$
111	1.05.C.4	Precast Endwall/Headwall Removal and Replacement	EA	1	\$	\$
112	1.05.C.5	28" by 36" Masonry Curb & Gutter Inlet, Depth 0' - 6', Standard	EA	10	\$	\$
113	1.05.C.7	12" (CMP) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	82	\$	\$
114	1.05.C.7	12" (RCP) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	201	\$	\$
115	1.05.C.7	12" (Unknown Material) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	64	\$	\$
116	1.05.C.7	15" (RCP) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	182	\$	\$
117	1.05.C.7	15" (Unknown Material) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	28	\$	\$
118	1.05.C.7	15" (RCP) Storm Pipe Removal and Disposal, Depth 6' -8'	LF	40	\$	\$
119	1.05.C.7	18" (CMP) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	73	\$	\$
120	1.05.C.7	18" (RCP) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	16	\$	\$
121	1.05.C.7	24" (ABS) Storm Pipe Removal and Disposal, Depth 0' -6'	LF	28	\$	\$
122	1.05.C.8	Size Unknown ID Storm Structure Removal and Disposal, Depth 0' - 6'	EA	14	\$	\$
123	1.05.C.8	Size Unknown ID Storm Structure Removal and Disposal, Depth 6' - 8'	EA	3	\$	\$
124	1.05.C.9	Connect to Existing Storm Structure	EA	8	\$	\$
Miscellaneous - Section D						
125	1.05.D.1	Mobilization (max 3% of total base bid)	LS	1	\$	\$
126	1.05.D.2	2" Asphalt Roadway Milling and Overlay	SY	43,350	\$	\$
127	1.05.D.3	Full Depth Asphalt Pavement Repair (from EOP to EOP, North & South Allen Rd)	SY	9,992	\$	\$
128	1.05.D.4	Removal & Replacement of Asphalt Pavement	SY	11,864	\$	\$
129	1.05.D.5	Removal & Replacement of Asphalt Pavement (Private Streets & Parking Lots)	SY	6	\$	\$
130	1.05.D.6	Asphalt Driveway Repair	SY	89	\$	\$
131	1.05.D.7	Concrete Driveway Repair	SY	90	\$	\$
132	1.05.D.8	Concrete Driveway Apron Replacement	EA	20	\$	\$
133	1.05.D.9	Gravel Driveway Repair	SY	212	\$	\$
134	1.05.D.10	Tree Protection Fencing	LF	121	\$	\$
135	1.05.D.11	Stone Construction Entrance	EA	2	\$	\$
136	1.05.D.12	Silt Fence w/ Stone Outlet	LF	473	\$	\$
137	1.05.D.13	Temporary Stone (Rock Silt) Check Dam	EA	28	\$	\$
138	1.05.D.14	Temporary Stone Inlet or Outlet Protection	EA	11	\$	\$
139	1.05.D.15	Temporary Inlet Protection of Drainage Structure	EA	68	\$	\$
140	1.05.D.16	NCDOT Class B Rip-Rap	CY	13	\$	\$
141	1.05.D.17	NCDOT #67 Stone	CY	6	\$	\$
142	1.05.D.18	Topsoil	SY	4,997	\$	\$
143	1.05.D.19	Remove & Replace 4' (Chain Link) Fence	LF	76	\$	\$
144	1.05.D.19	Remove & Replace 6' (Wood Retaining Wall) Fence	LF	24	\$	\$

Document 00410 - Bid Form
Wake Forest Water Main Replacement & Repair Project
(Unit Price Bid Schedule)

<i>Item No.</i>	<i>Payment No.</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Bid Price</i>
145	1.05.D.20	Removal & Replacement of 24" Concrete Curb & Gutter	LF	148	\$	\$
146	1.05.D.20	Removal & Replacement of 30" Concrete Curb & Gutter	LF	464	\$	\$
147	1.05.D.20	Removal & Replacement of 30" Concrete Valley Gutter	LF	685	\$	\$
148	1.05.D.21	Removal & Replacement of Granite Curb to Historic District Standard	LF	195	\$	\$
149	1.05.D.22	Removal & Replacement of Concrete Sidewalks	SY	762	\$	\$
150	1.05.D.22	Removal & Replacement of Brick Sidewalks	SY	14	\$	\$
151	1.05.D.23	Removal & Replacement of Concrete Curb Ramps	EA	86	\$	\$
152	1.05.D.24	Concrete Curb Ramps	EA	45	\$	\$
153	1.05.D.25	20' x 20' Concrete Washout Pit	EA	6	\$	\$
154	1.05.D.26	Undercut of Unstable Pipe Foundation	CY	1,991	\$	\$
155	1.05.D.27	Select Backfill	CY	2,435	\$	\$
156	1.05.D.28	Rock Excavation by Mechanical Methods	CY	444	\$	\$
157	1.05.D.29	Clean Up and Seeding/Sodding	SY	4,997	\$	\$
158	1.05.D.30	Bypass Pumping	LS	1	\$	\$
159	1.05.D.31	Right-of-Entry (ROE) Acquisition with the City of Raleigh and Property Owners	EA	225	\$	\$
160	1.05.D.32	Temporary Traffic Control	LS	1	\$	\$
161	1.05.D.33	NCDOT Temporary Shoring Plan	LS	1	\$	\$
162	1.05.D.34	Surveyor Allowance	Allowance	1	\$ 50,000.00	\$ 50,000.00
163	1.05.D.35	Gas Main Relocation Allowance	Allowance	1	\$ 35,000.00	\$ 35,000.00
164	1.05.D.36	Discovery Allowance	Allowance	1	\$ 45,000.00	\$ 45,000.00
165	1.05.D.37	TOWF FD Fire Watch & Fire Truck Services Allowance	Allowance	1	\$ 17,500.00	\$ 17,500.00
166	1.05.D.38	Allowance for 3rd Party Vibration Monitoring and Soil Compaction Testing	Allowance	1	\$ 42,500.00	\$ 42,500.00
167	1.05.D.39	Allowance for Miscellaneous Restoration	Allowance	1	\$ 75,000.00	\$ 75,000.00
TOTAL BASE BID PRICE						\$

<i>Item No.</i>	<i>Payment No.</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Bid Price</i>
BID ALTERNATE #1						
168	1.05.B.1	6" (RJDIP) Water Main	LF	520	\$	\$
169	1.05.B.2	Abandon Existing 1-1/2" Water Main	LF	400	\$	\$
170	1.05.B.3	1-1/2" Water Main Removal and Disposal	LF	100	\$	\$
171	1.05.B.9	Fittings	LB	500	\$	\$
172	1.05.D.1	Mobilization (max 3% of total bid alternate #1)	LS	1	\$	\$
173	1.05.D.2	2" Asphalt Roadway Milling and Overlay	SY	2,072	\$	\$
174	1.05.D.4	Removal & Replacement of Asphalt Pavement	SY	87	\$	\$
175	1.05.D.26	Undercut of Unstable Pipe Foundation	CY	73	\$	\$
176	1.05.D.27	Select Backfill	CY	92	\$	\$
177	1.05.D.28	Rock Excavation by Mechanical Methods	CY	19	\$	\$
178	1.05.D.32	Temporary Traffic Control	LS	1	\$	\$
TOTAL BID ALTERNATE #1 PRICE						\$

TOTAL BID PRICE (TOTAL BASE BID PRICE + TOTAL BID ALTERNATE #1 PRICE) \$

TOTAL BASE BID PRICE (Sum of Items 1 through 165):

_____ Dollars (\$) _____
(Words) (Numbers)

TOTAL BID ALTERNATIVE #1 PRICE (Sum of Items 166 through 176):

_____ Dollars (\$) _____
(Words) (Numbers)

TOTAL BID PRICE (Sum of Total Base Bid Price + Total Bid Alternate #1 Price):

_____ Dollars (\$) _____
(Words) (Numbers)

5.02 Bidders are hereby notified that GS 143-128(d), requires all bidders on single prime projects to identify on their Bid form the contractors they have selected for the subdivisions for branches of work for (1) HVAC, (2) Plumbing, (3) Electrical, and (4) General. Accordingly, bidder shall list below applicable selected contractors for the following branches of work (write "N/A" if not applicable or self-performed).

HVAC	_____ N/A _____	_____
	Name	License No.
Plumbing	_____ N/A _____	_____
	Name	License No.
Electrical	_____ N/A _____	_____
	Name	License No.
General	_____	_____
	Name	License No.

- A. Unit Prices have been computed in accordance with Paragraph 13.03.B of the General Conditions.
- B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.
- C. Bidder acknowledges that the rights of the Owner and the recommendations of the Engineer are not to be questioned in the Award of Contracts.
- D. Bidder acknowledges that it is the intention of the Mayor and City Council to let contracts on a basis of the Bids received in accordance with GS 143-129 and in such manner as they deem to be for the best interests of the Owner.
- E. Bidder acknowledges that the Owner reserves the right to accept or reject any or all bids and to waive any informalities in the bidding.

- F. Bidder acknowledges that should the total bid exceed the funds available to construct the project, the Owner reserves the right to reduce the scope of work from the project by deleting certain lump sum or unit price bid items prior to awarding the contract to bring the project within the funds available.
- G. Bidder acknowledges that if this contract is awarded, Bidder must, with every pay request, furnish to the Public Utilities Director of the City of Raleigh an accurate itemized statement of North Carolina Sales Taxes paid on materials, supplies, equipment, and other items charged to this contract, and otherwise fully comply with the "Procedure for Reporting North Carolina Sales Tax Expenditures.". A sales tax form must be submitted even if there is no sales tax incurred.
- H. Bidder agrees to begin work within 10 days from the date of the Notice to Proceed.
- I. Bidder agrees that should the Owner reduce the scope of work by 25% or less of the Total Bid price prior to award of the contract, the lump sum and the unit price on all bid items shall remain unchanged.
- J. Bidder agrees that in the case of failure on his part to execute the said Contract and the Bonds within 15 consecutive calendar days after written notice being given of the award of the Contract, the check, cash or Bid Bond accompanying this Bid shall be paid into the funds of the Owner's Account set aside for this Project, as liquidated damages for such failure; otherwise the check, cash or Bid Bond accompanying this Bid shall be returned to the Bidder.
- K. Bidder agrees to provide all necessary tools, machinery, equipment, apparatus, and all other means necessary to do all the work and will furnish all labor, materials and all else required to complete such Contract as may be entered into, in the manner prescribed in and in accordance with the terms of the Specifications and Contract and in accordance with the true intent and meaning thereof, and in accordance with the Plans and/or Drawings and the requirements of the Engineers under them, in a first class manner.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the **Base Bid** Work will be substantially complete within **five-hundred and forty (540) consecutive calendar days** after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06.B of the General Conditions within **six-hundred (600) consecutive calendar days** after the date when the Contract Times commence to run. **If the Owner awards the Add Alternate Bid, an additional sixty (60) consecutive calendar days will be added to the Base Bid substantial and final completion periods for a total of six-hundred (600) consecutive calendar days for substantial completion and six-hundred and sixty (660) consecutive calendar days for final completion.**
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times. This amount is agreed upon as the proper measure of liquidated damages the Owner will sustain, per day, by the failure of the undersigned to complete the work, within the stipulated time, and it is not to be construed, in any sense, as a penalty.
- 6.03 Milestone Dates
 - A. The following principal events shall be completed and ready for final payment in accordance with paragraph 15.06 of the General Conditions within days indicated below after the date when the Contract Time commences to run. In accordance with paragraph 6.02 above as liquidated damages for delay (but not as penalty) Contractor shall pay Owner the amounts indicated below for each day that expires after the time specified below for completion and readiness for final payment.

Milestone Event	Consecutive Calendar Days	Liquidated Damages
Substantial Completion	540	\$500/day
Final Completion	600	\$1,000/day

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security in the form of a Bid Bond or Certified Check (Section 00430);
 - B. In accordance with GS 143-128.2(c), Bidder shall identify on its bid the minority businesses that it will use on the project and the total dollar value of the bid that will be performed by the minority businesses and list the good faith efforts (Affidavit A) made to solicit participation. A Bidder that will perform all of the work with its own workforce may submit an Affidavit B to that effect in lieu of the affidavit A required above.
 - 1. Nondiscrimination Agreement (Section 00440);
 - 2. Use of MWBE Businesses (Section 00440);
 - 3. Identification of Minority Business Participation (Section 00440), and;
 - 4. Affidavit A, Listing of Good Faith Effort, or Affidavit B, Intent to Perform Contract with Own Workforce (Section 00440).
 - C. Contractor's Certificates, Affidavit of Organization and Authority of Sworn Statement (Section 00441);
 - D. City of Raleigh – Contractor's Poor Performance Policy (Section 00442);
 - E. Non-Collusive Affidavit (Section 00443);
 - F. Notice to Contractor Regarding Intrusions Beyond Project Limits (Section 00444);
 - G. Evidence of authority to do business in the state of the Project (i.e., copy of contractor's license);
- 7.02 Submit the Bidder's Checklist as provided in the bidding documents with the bid submittal. The Checklist shall be completed and included as the first page of the submittal.
- 7.03 After the bid opening the Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low Bidder, the Bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:
- A. An Affidavit (C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the goal established by the Owner and indicated in the Instruction to Bidders, paragraph Minority Participation Goals. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort; or,
 - B. Affidavit (D) of its good faith effort to meet the goal. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.
- 7.04 Bidder understands that if this Bid is accepted by the Owner, Bidder shall not substitute for the subcontractors named in the Bid Documents except as allowed in the Supplementary Conditions.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 Bidder's License

- A. Number: _____
- B. Classification: _____
- C. Limitation: _____
- D. Employer's Tax ID No.: _____
- E. Business Address: _____
- F. Phone No.: _____ Fax No.: _____
- G. Contact Person: _____ E-mail Address: _____
- H. Phone No. w/ Ext.: _____

9.02 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____

(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

The Organization and Internal Affairs of the Partnership are governed by the laws of the State of: _____

By: _____

(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title (typed or printed): _____

Attest: _____

(Signature of Corporate Secretary)

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____

(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title (typed or printed): _____
(CORPORATE SEAL)

Attest: _____

(Signature of Corporate Secretary)

Date of Qualification to do business in North Carolina is ____/____/____.

Limited Liability Company - LLC

Name of LLC: _____

Name of State under whose Laws the Limited Liability Company was formed:

By: _____

(Signature of Manager)

Name (typed or printed): _____

Title (typed or printed): _____