



FAYETTEVILLE PUBLIC WORKS COMMISSION

PROCUREMENT DEPARTMENT

<https://www.faypwc.com/bids/>

Bid Addendum

PWC Number: PWC2425064

Bid Title: Jasper to Langdon Sanitary Sewer Replacement

Bid Opening Date and Time: Thursday, June 12, 2025, 2:00 p.m.

Addendum Number: 2

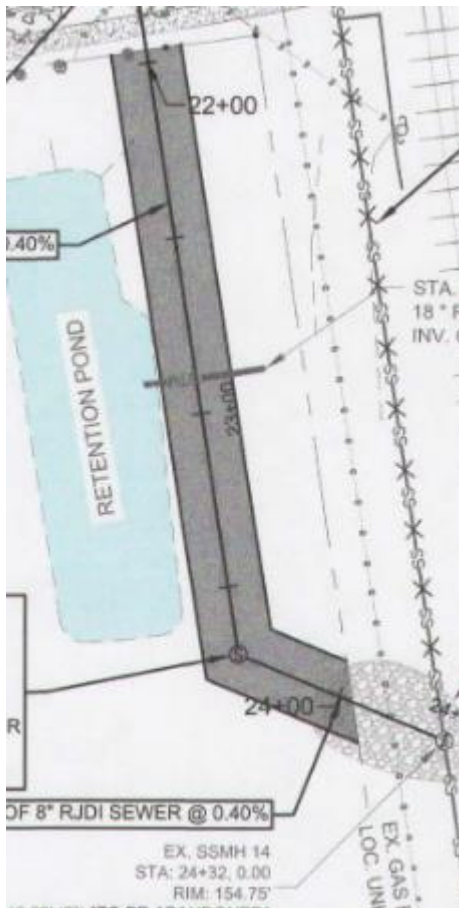
Addendum Date: Thursday, June 5, 2025

Procurement Advisor: Leticia B. Gilmore

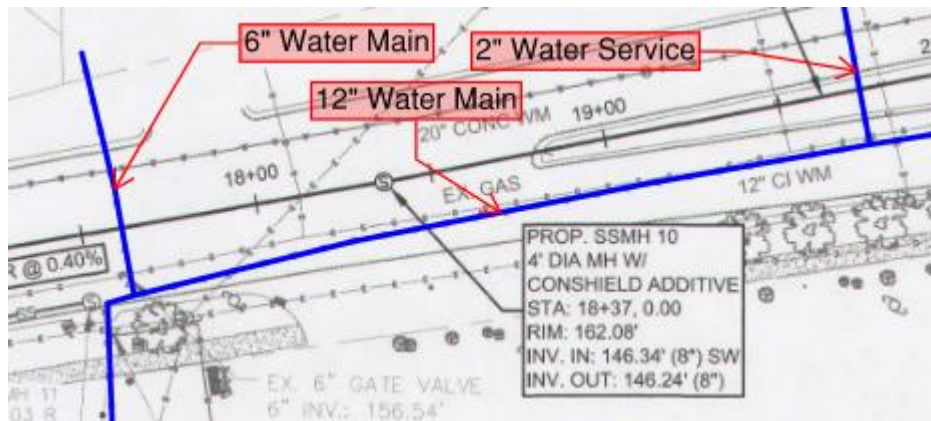
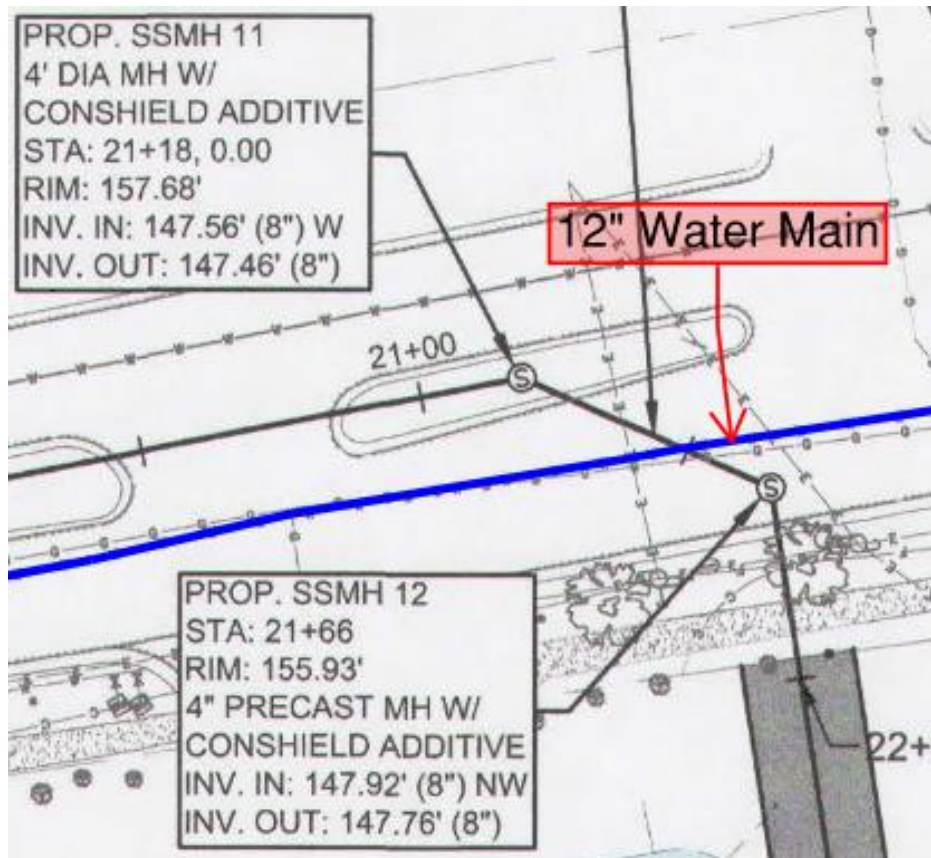
procurement@faypwc.com

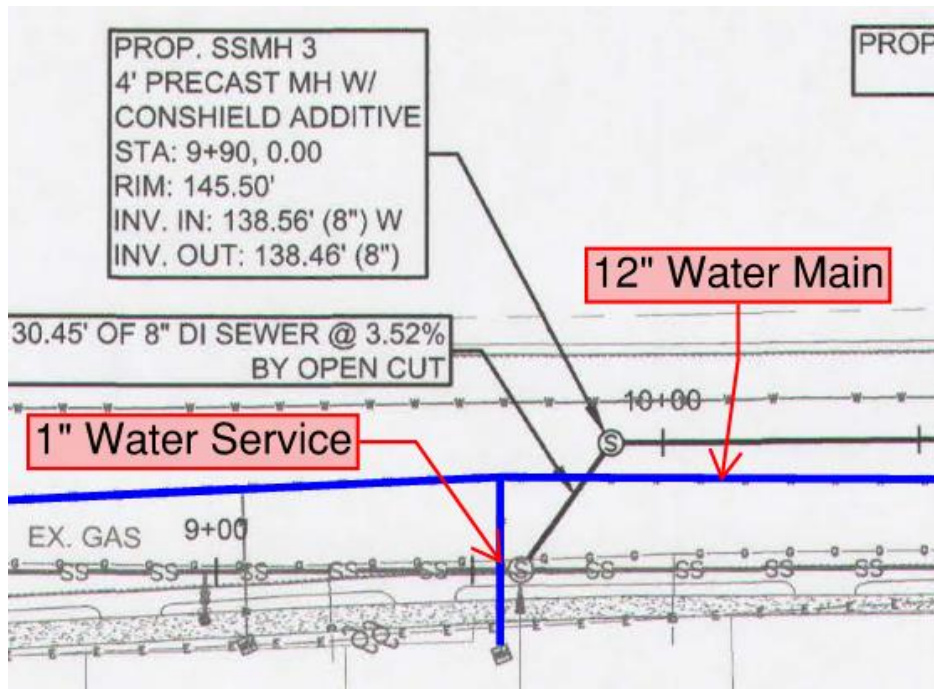


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1. Return one properly executed copy of this addendum with a bid response or prior to the Bid Opening Date/Time listed above.
 2. The solicitation is hereby modified as follows:
 - M1. Section A – Bid Pricing Form has been updated and replaced as attached to this addendum.
 - M2. Section C – Administrative Provisions – Division 1 – General Requirements – 01025 Measure and Payment has been updated and replaced attached to this addendum.
 - M3. Section D – Technical Specifications – Division 2 – Site Work
Section 02750 Wastewater Flow Control (Bypass Pumping) has been added attached to this addendum.
 3. Following are questions received about the solicitation and the SME's answers to the questions.
 - Q1. How will we address Tariffs?
 - A1. A clause addressing tariffs will be included in the final Construction Agreement. This clause is expected to address matters such as: the Contractor's eligibility to request a price adjustment due to tariff-related cost impacts; the procedure for submitting a request for such adjustment; and the methodology for calculating any resulting price increase or decrease. The final terms shall be acceptable to PWC and set forth in the executed Construction Agreement.
 - Q2. Are there any locations on site to store equipment daily?
 - A2. Equipment can be stored in the easement where the new sewer main is located. The grey area in the picture below:



- Q3.** Will road closures be allowed?
- A3.** Yes, road closures will be allowed during working hours only. No overnight road closures. A traffic control plan must be submitted. **Keep in mind the FD will need to be able to always enter and exit the fire station in case of an emergency.**
- Q4.** Is hydrostatic testing required?
- A4.** No, hydrostatic testing will not be required on this project.
- Q5.** Specs mention a NCDOT agreement, is this available?
- A5.** There is no agreement with NCDOT. All work will be completed within Langdon St. (City of Fay. Street), PWC Easement, and CSX ROW. We will provide the contractor with the CSX Encroachment when we receive it back from CSX.
- Q6.** How is the contractor to be paid for bypass pumping sewer?
- A6.** Bypass pumping will be added to the bid tab, along with the required spec and measurement and payment information. Reference M1 in this addendum.
- Q7.** How many water services cross the new sewer main?
- A7.** The new sewer main will cross the 12" CI WM between Prop SSMH11 and Prop SSMH12, it crosses a 2" water service around STA. 19+75, it crosses a 6" WM around STA. 17+60, and it crosses back over the 12" CI WM between Prop SSMH3 and Existing SSMH4. Those should be the only water crossings on this project. There is a 1" service close to Existing SSMH4 that the contractor will need to be careful around. All the crossings are showing in the pictures below:





Q8. What is the required depth for the class 2 rip rap?

A8. The required depth for the class 2 rip rap is 18"-24".

Q9. When is anticipated NTP?

A9. The NTP will be around the end of August 2025 or the beginning of September 2025. This is subject to change, depending on the bid process for the bid opening.

Failure to acknowledge receipt of this addendum may result in rejection of the response.

Check ONE of the following options:

- ☐ Bid has not been mailed. Any changes resulting from this addendum are included in our bid response.
- ☐ Bid has been mailed. No changes resulted from this addendum.
- ☐ Bid has been mailed. Changes resulting from this addendum are as follows:

Execute Addendum:

Offeror: _____

Authorized Signature: _____

Name and Titled (Typed): _____

Date: _____

**Jasper to Langdon 8-inch Sanitary Sewer Main Relocation Langdon Street Sewer Realignment
Fayetteville PWC**

M&P	Component	Quantity	Unit	Unit Price	Total Price
1.01	Mobilization	1	LS		
1.02	Traffic Plan and Traffic Control	1	LS		
1.03	Erosion and Sedimentation Control	1	LS		
1.04	Clearing & Grubbing	0.1	AC		
1.05	Borrow Excavation (Select Backfill)	1,100	CY		
1.06	Undercut Excavation	110	CY		
1.07	Sod	238	SY		
1.08	Seeding	525	SY		
1.09	Furnish and Install Rip-Rap	55	TON		
1.10	Remove and Replace Concrete Sidewalk	20	LF		
1.11	Remove and Replace Curb & Gutter (Concrete)	535	LF		
1.12	Asphalt Repair Patch - Permanent Paving	1,334	SY		
2.01	Furnish & Install 8" Ductile Iron Sewer Main 0'-6'	117	LF		
2.01	Furnish & Install 8" Ductile Iron Sewer Main 6'-8'	241	LF		
2.01	Furnish & Install 8" Ductile Iron Sewer Main 8'-10'	211	LF		
2.01	Furnish & Install 8" Ductile Iron Sewer Main 10'-12'	219	LF		
2.01	Furnish & Install 8" Ductile Iron Sewer Main 12'-14'	287	LF		
2.01	Furnish & Install 8" Ductile Iron Sewer Main 14'-16'	459	LF		
2.02	Furnish & Install 4' Sanitary Sewer Manhole 0'-6'	1	EA		
2.02	Furnish & Install 4' Sanitary Sewer Manhole 6'-8'	1	EA		
2.02	Furnish & Install 4' Sanitary Sewer Manhole 8'-10'	2	EA		
2.02	Furnish & Install 4' Sanitary Sewer Manhole 10'-12'	1	EA		
2.02	Furnish & Install 4' Sanitary Sewer Manhole 12'-14'	1	EA		
2.02	Furnish & Install 4' Sanitary Sewer Manhole 14'-16'	1	EA		
2.02	Furnish & Install 4' Sanitary Sewer Manhole 16'-18'	1	EA		
2.03	Furnish & Install 5' Sanitary Sewer Doghouse Manhole 10'-12'	1	EA		
2.04	Connect to Existing Sanitary Sewer Manhole (EX. SSMH4/EX. SSMH 12)	2	EA		
2.04	Connect to Proposed Sanitary Sewer Manhole (Prop SSMH 9)	1	EA		
2.05	Abandon Existing Sewer Manhole	4	EA		
2.05	Removal of Ex Sanitary Sewer Manhole	1	EA		
2.06	Abandon Existing Sanitary Sewer Main - Grout Fill 8 inch	1,000	LF		
2.07	Bypass Pumping	14	DAY		
2.08	Sanitary Sewer Testing	1,534	LF		
				Total	

DIVISION 1

01025 – MEASUREMENT AND PAYMENT

GENERAL

The purpose of this Section is to define the methods of measurement and payment for each of the unit prices and/or lump sum prices listed in the Bid Form, which are required to construct the Work.

The unit price and/or lump sum price bid shall be full compensation for the work required under each bid item, which shall include all incidental costs relative thereto. Certain items of work are specified and/or shown as a detail in the Contract Documents; bid prices shall include all items of work required to furnish and/or install each in accordance with the Project requirements, whether specifically stated or itemized in the Measure and Payment description.

INCIDENTAL ITEMS

1.01 Mobilization

- a. Mobilization shall be measured as a lump sum item, paid incrementally. The Bid price shall include all initial costs incurred prior to beginning work on this Project, including permits, licenses, fees, insurance, bonds, etc., as well as the cost to mobilize personnel and equipment.
- b. Payment for mobilization will be made in two (2) equal installments. 50% will be paid on the first payment application and 50% will be paid on the second payment application.

1.02 Traffic Plan and Traffic Control

- a. This item shall be measured as a lump sum item. Payment shall be at the applicable Bid price and shall be split among equal monthly payments.
- b. The Bid price shall include all costs for the preparation and implementation of required traffic management plans, furnishing, installing and maintaining traffic control signage and devices, relocating or removing signs or other traffic control devices, replacement of street signs, and all other incidental work throughout the project site, throughout the Project duration.

1.03 Erosion and Sedimentation Control

- a. This item shall be measured as a lump sum item. Payment shall be at the applicable Bid price and shall be split among equal monthly payments.
- b. Work shall include all costs for planning, installing, maintaining, and dismantling all erosion and sedimentation control measures shown on the approved or any supplemental erosion and sedimentation control plan, and any other measures required by the appropriate regulatory agencies throughout the project site.
- c. No additional payment shall be made for any other Work due to improperly installed or maintained measures.

1.04 Clearing and Grubbing

- a. This item shall be measured by acre (to the nearest one hundredth of an acre). Payment shall be made at the applicable unit price as listed in the Bid Form.
- b. Work shall include all costs necessary for felling trees, stump removal and disposal off-site, cutting trees in pulpwood length and stacking on or off easement areas if required, disposing of all trimmings, removing and disposing

off- site all logs, branches, trunks, root mats, brush, vegetation, debris from clearing and grubbing operations and all other incidental materials not to be re-used in the work. Grinding of trees (i.e., Shinn cutting) is not an acceptable means of clearing for this Project.

- c. Areas containing and requiring cutting and removal of weeds, grass, grain annual or perennial plants, or saplings less than one inch in diameter shall not be measured and paid for as Clearing and Grubbing.

1.05 Borrow Excavation (Select Backfill)

- a. This item shall be measured by cubic yard (CY) of select material as defined in PWC Specification Section 02222 – Excavation and Backfilling. The actual quantity considered for payment shall be 75% of the volume indicated on the submitted truck tickets. PWC reserves the right to verify the actual amount of material in place. Payment shall be made at the applicable unit price as listed in the Bid Form.
- b. Payment under this item shall include all costs necessary to furnish and install select material necessary to provide proper suitable backfill material compacted and in place as measured. The unit price shall include all costs to acquire, place, and compact select backfill material, removal and proper disposal of unusable material, and all labor, materials, equipment, and incidentals necessary to complete the work. The PWC Project Coordinator shall approve the use of select material within the limits of this project.
- c. Borrow excavation material shall be supplied by the Contractor from approved borrow areas located off-site. Materials utilized on-site within the Project limits or free haul limit (defined as a two-mile radius from the project site) will not be considered for payment as borrow excavation.
- d. Disposal of unsuitable and/or suitable excavated material will not be paid for as a separate bid item.

1.06 Undercut Excavation

- a. This item shall be measured by cubic yard (CY) of unsuitable material excavated below the bedding limit line of six (6) inches below the pipe. Payment under this item will not be made without prior authorization by the PWC Project Coordinator.
 - 1. Payment shall be based on the internal diameter of the pipe plus two (2) feet, and to the authorized additional depth required for proper support of the pipeline.
 - 2. Payment for structures shall be based on the external diameter/dimension of the structure plus two (2) feet, to the authorized depth required for proper support of the structure.
- b. Payment shall be made at the applicable unit price as listed in the Bid Form.
- c. The unit price shall include the costs for all labor, tools, materials and equipment including but not limited to the removal and disposal of unsuitable soil, furnishing and placing stone bedding material and all other incidentals necessary to complete the work. No payment for undercut will be made for over-excavation by error or where proper dewatering methods are not in place for trench and/or excavation stabilization.

1.07 Sod

- a. Measurement of this line item will be the actual square yard (SY) of sod installed, completed, and accepted. Payment shall be made at the applicable unit price bid per square yard as listed in the Bid Form.
- b. All sod shall be installed in accordance with PWC Standard Specification 02931 – Sod.
- c. Work shall include all costs to prepare the soil, anchoring, placing sod, providing topsoil as necessary, grading, raking, pest and disease control, soil amendments, fertilizing, maintaining, removal and replacement of dying sod, watering, resodding if required, tack, and all labor, materials, tools, equipment, and incidentals necessary to complete the work.
- d. No payment will be made for placing sod in areas outside of easements or rights-of-ways disturbed or otherwise damaged by the Contractor.

1.08 Seeding

- a. Measurement of this line item will be the actual area in square yard (SY) of seed installed, completed, and accepted. Payment shall be made at the applicable unit price bid per square yard as listed in the Bid Form.
- b. All seeding shall be installed in accordance with PWC Standard Specification 02933 – Seeding.
- c. Work shall include all costs for soil preparation, pest control, disease control, placing soil amendments, topsoil, grading, raking, seeding, fertilizing, mulching, crimping, watering, protection of turf areas, maintenance, reseeding if required, tack, and all other work incidentals necessary to complete the work.
- d. No payment will be made for any collateral damage areas outside of permanent and temporary easements and along rights-of-ways disturbed by the Contractor's operations.

1.09 Furnish and Install Rip-Rap (No Overage Allowed)

- a. This item shall be measured by Tons of Class 2 rip-rap stabilization, complete and accepted. The actual quantity considered for payment shall be measured by the submitted truck tickets. Payment shall be made at the applicable unit price as listed on the Bid Form.
- b. Work shall include all costs necessary to furnish and install rip rap where indicated on the Contract Drawings. The unit price shall include all costs for proper preparation of the surface – including select backfill and compaction as necessary, installation of geotextile fabric in accordance with manufacturer's specifications, placement of the stone rip-rap, removal and proper disposal of unusable material, and all labor, materials, equipment, and all other incidentals necessary to complete the work.

1.10 Remove and Replace Concrete Sidewalk

- a. Payment under this item shall be made at the unit price bid per linear foot. The concrete sidewalk shall be constructed in accordance with the Contract requirements.
- b. Payment shall be full compensation for saw cutting and removing the existing sidewalk, removing and disposing of excess or unsuitable materials off-site, grading, compaction, expansion joint material, form work, backfilling beside the

sidewalk with topsoil, curing compounds, and all equipment, tools, labor, and incidentals necessary to complete the work.

1.11 Remove and Replace Curb and Gutter (Concrete)

- a. This item shall be measured by linear feet (LF) of specified curb material. Measurement shall be along the bottom of the gutter near the face of the curb, excluding catch basin openings. Payment shall be made at the applicable unit price as listed on the Bid Form.
- b. Payment shall be full compensation for removing and disposal of existing curb and gutter, furnishing, hauling, and placing all materials, fine grading the subgrade, backfilling behind the curb with topsoil, adding soil amendments, expansion joints, forms, curing and all equipment, tools, labor, and incidentals necessary to complete the work.

1.12 Asphalt Repair Patch – Permanent or Temporary

- a. This item shall be measured by square yard (SY) of asphalt repair patch placed and accepted. The square yards will be calculated using the maximum trench widths. Payment shall be made at the applicable unit price as listed in the Bid Form.
- b. Pavement types and thicknesses
 1. Temporary patch shall utilize intermediate course (I19.0) and shall have a minimum compacted thickness of three (3) inches.
 2. Permanent patch shall utilize two (2) inches of asphalt surface course (SF9.5A) and eight (8) inches of aggregate base course (ABC)
- c. Maximum payment widths for trenches have been established as indicated in the following paragraph. Payment widths shown include a minimum cutback of six (6) inches each side of the trench prior to placing pavement trench patch. Any pavement removed or damaged beyond the limits specified shall be replaced by the Contractor at his own expense.
- d. Maximum Pay Widths for Pavement Patch
 1. Storm Drainage 6' (for pipe 24" in diameter and less)
 2. Storm Drainage 8' (for pipe 30" up to 42" in diameter)
 3. Storm Drainage 10' (for pipe 48" up to 54" in diameter)
 4. Sanitary Sewer 10' (0' to 10' depth, measured to the invert of pipe)
 5. Sanitary Sewer 12' (greater than 10' depth, measured to invert of pipe)
 6. Sanitary Sewer Laterals 6'
 7. Water Mains 4'
 8. Water Services 4'
- e. Installation of the asphalt pavement patch shall be completed in accordance with these Contract Documents. Payment for furnishing and placing asphalt pavement patch shall include saw cutting pavement to straight uniform widths parallel and

perpendicular to the road with no jagged edges, removal and disposal of re-cut asphalt, re-compaction of pavement subgrade, installation and maintenance of transitions to accommodate road travel and driveway access, adjusting structures as required, tack coat, placing and compacting of asphalt material, cleanup, and all costs for labor, materials, tools, equipment, and all other incidentals necessary to complete the Work.

SANITARY SEWER CONSTRUCTION ITEMS

2.01 Furnish and Install Ductile Iron Sanitary Sewer Main

- a. This item shall be measured by actual linear feet (LF), complete and in place. Payment shall be made at the applicable unit price for size and depth as listed on the Bid Form.
- b. Payment shall be full compensation for all costs to install the specified sanitary sewer main in accordance with PWC standards.
- c. Work shall include all costs for excavation, backfill, compaction, dewatering, cutting and removal of pavement, proper disposal of waste materials, installation of the pipe at the specified line and grade, stone bedding, linings, coatings and all labor, materials, equipment, and incidentals necessary to complete the work.

2.02 Furnish and Install New Sanitary Sewer Manhole

- a. This item shall be measured by actual count of new manholes installed, complete and in place. Payment shall be made at the applicable unit price for size and depth as listed in the Bid Form.
- b. Payment under this item shall include all necessary costs to install new manholes as indicated on the plans and in accordance with PWC Standards.
- c. Work shall include all costs for excavation, backfill, removal and disposal of unsuitable material off-site, linings, admixtures, installation of flexible boot connectors, inverts, pipe slides, dewatering, compaction, cutting and removal of pavement, proper disposal of waste, stone bedding, installation of the specified frame and cover, concrete collar, and all labor, materials, equipment, and incidentals necessary to complete the work.

2.03 Furnish and Install Sanitary Sewer Doghouse Manhole

- a. This item shall be measured by actual count of doghouse manholes installed, complete and in place. Payment shall be made at the applicable unit price for size and depth as listed in the Bid Form.
- b. Payment under this item shall include all necessary costs to install new manholes as indicated on the plans and in accordance with PWC Standards.
- c. Work shall include all costs for excavation, backfill, removal and disposal of unsuitable material off-site, linings, admixtures, reinforced concrete foundation, installation of flexible boot connectors, inverts, pipe slides, dewatering, compaction, cutting and removal of pavement, proper disposal of waste, stone bedding, installation of the specified frame and cover, concrete collar, and all labor, materials, equipment, and incidentals necessary to complete the work.

2.04 Connect to Sanitary Sewer Manhole

- a. This item shall be measured by actual count of connections to sanitary sewer manholes. Payment shall be made at the applicable Contract unit price as listed

on the Bid Form.

- b. Work shall include all costs for coring the manhole, installing flexible boot connectors, building or rebuilding inverts as applicable, sealing penetrations as required, and all labor, materials, equipment, and incidentals necessary to complete the work.

2.05 Abandon Existing Sanitary Sewer Manhole

- a. This item shall be measured by actual count of manholes abandoned. Payment shall be made at the applicable unit price as listed in the Bid Form.
- b. Payment under this item shall include all necessary costs to abandon the existing manhole as indicated on the plans and in accordance with PWC Standards.
- c. Work shall include all costs to remove the manhole cone, excavation, backfill of the manhole with select material or flowable fill, dewatering, removal and disposal of unsuitable material off site, proper disposal of the abandoned manhole sections, compaction, and all labor, materials, equipment, and incidentals necessary to complete the work.

2.06 Abandon Existing Sanitary Sewer Main

- a. This item shall be measured by linear feet (LF) of sanitary sewer main that is grout filled as specified on the Contract Drawings. Payment will be made at the applicable unit price for the specified size sanitary sewer main as listed on the Bid Form.
- b. Work shall include all costs for dewatering, grouting, plugging and capping the existing pipe and appurtenances, cutting and removal of pavement, removal and disposal of excess unsuitable material off site, excavation, backfill, compaction, and all labor, materials, equipment, and incidentals necessary to complete the work.

2.07 Bypass Pumping

- a. Payment for this item shall be measured by days of actual bypass pumping. Payment shall be made at the applicable unit price as listed in the Bid Form.
- b. Payment shall be for all activities related to bypass pumping, including, but not limited to: pump mobilization and demobilization, manhole plugs, bypass lines, testing the bypass lines, coordination with residents, cleaning the bypass lines, removal and installation of the bypass lines, continuous monitoring of the bypass system, appropriate air release valves, any necessary restoration, fuel, lubricants, labor, materials, equipment, and all other incidentals necessary to ensure that the pumping operation is accomplished in accordance with these Contract Documents.
- c. The cost for bypassing and/or maintaining sewer flows to the individual customer shall be included in this unit price.
- d. Bypass pumping shall be accomplished in accordance with PWC Standard Specification 02750 Wastewater Flow Control and as outlined in these Contract Documents.

2.08 Sanitary Sewer Testing

- a. This item shall be measured by actual linear feet (LF) of sanitary sewer main tested. Payment shall be made at the applicable unit price as listed in the Bid

Form.

- b. The unit price shall include all costs necessary to perform the required testing on the sanitary sewer mains, laterals, and manholes. The unit price shall include all costs for furnishing and connecting the test equipment, coordination with the PWC Project Coordinator, removal of all unnecessary taps and fittings upon completion of the work, and all labor, materials, equipment, and incidentals necessary to complete the testing and visual inspection (lamping) of the sanitary sewer lines.

*** END OF SECTION ***

DIVISION 2 SITE WORK

02750 WASTEWATER FLOW CONTROL (BYPASS PUMPING)

GENERAL

The intent and purpose of these specifications is to provide wastewater flow control, i.e., bypass pumping, of the sanitary sewer flows during the Contractor's operations. The Contractor shall furnish all labor, materials, accessories, equipment and tools for performing all operations required to bypass pump sewage around a manhole or sewer section in which work is to be performed.

The Contractor shall provide all pumps, piping, and other equipment to accomplish this task; perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to equal or better condition to the satisfaction of the Fayetteville Public Works Commission. The Contractor shall be responsible for the design, installation, operation, and maintenance of the temporary bypass pumping system. The Contractor shall provide sufficient documentation to the Fayetteville Public Works Commission to demonstrate that he, or his designated subcontractor, have the experience in the design, installation, and maintenance of temporary bypass pumping systems.

RELATED SECTIONS

- A. Section 02305 – Pipe Bursting
- B. Section 02500 – Traffic Control
- C. Section 02730 – Sanitary Sewer System
- D. Section 02760 – Television Inspection
- E. Section 02766 – Sewer Line Cleaning
- F. Section 02780 – Cured-in-Place Lining

REQUIREMENTS

The Contractor shall be responsible for all aspects of the bypass operation, including but not limited to: providing access to install, move, and maintain the pumps in the proper position, traffic control, installation and removal of bypass equipment, pump monitoring, testing of the bypass system, re-fueling, maintenance, notification of property owners (should access to private property be necessary), wastewater and fuel spill containment, and removal and replacement of manhole cones (if necessary). The bypass system (pumps and piping) shall be monitored by Contractor personnel at all times, when the bypass operation is in effect.

The Contractor shall have all materials and equipment on site to immediately respond to any emergencies or other event that could impact the bypass system (i.e., leak in the discharge piping, pump failure, flooding, etc.). The Contractor shall have sufficient support staff and equipment to mobilize to repair and/or service any equipment within one (1) hour of notification, 24 hours a day, seven (7) days a week. In the event of an emergency, the Contractor shall provide an immediate response and fully cooperate with the Fayetteville Public Works Commission.

The Contractor shall install the bypass pumps, equipment, and discharge lines to minimize impacts to the property owners, residents, and environment. The Contractor shall be responsible for determining the best

location for the bypass equipment, to include, but not limited to, the need for any special provisions to ensure access for the customers, preventing the pumps and manholes from flooding, etc. Such special provisions include, but are not limited to: installation of ramps, excavation and burial of the bypass lines, temporary fencing, sandbagging, construction of berms, raising the pumps, etc. The Contractor bears all responsibility for the maintenance and restoration of any trenches, ramps, access, etc. necessary for the temporary bypass pumping operation.

The Contractor shall take appropriate steps to ensure that all pumps, piping and hoses that carry raw sewage are protected from traffic. The Contractor shall identify the proposed methods to protect the temporary bypass pumping system from traffic as part of the detailed temporary bypass pumping plan. Traffic control shall be performed in accordance with these Contract Documents.

The bypass pumping system shall be monitored by Contractor personnel at all times (24 hours a day, 7 days a week), when the bypass operation is in effect. The Contractor's personnel shall be on-site at all times (24 hours a day, 7 days a week), and stationed at the primary bypass pumps. Depending on the location and system set-up, it may be necessary for the Contractor to station personnel at each of the various bypass pump locations. Unless otherwise approved by the Fayetteville Public Works Commission, one (1) person cannot monitor multiple bypass pump locations. All bypass pumps, regardless of their location (primary or on secondary lines), shall be equipped with an automatic dialer (or other similar device). The Contractor personnel shall immediately respond to any issue regarding the temporary bypass pumping system. All temporary bypass piping shall be periodically monitored (patrolled from pumps to discharge), but no less frequently than once every 12 hours. The bypass pumping equipment shall be automated and capable of functioning without the assistance of an operator.

SUBMITTALS

All submittals shall be provided in accordance with these Contract Documents, and the requirements outlined herein. The Contractor shall submit a detailed bypass pumping plan to the Fayetteville Public Works Commission for approval, prior to initiating the bypass operation. The Contractor shall submit this information far enough in advance to allow sufficient time to complete the necessary coordination, including but not limited to obtaining permits (i.e., encroachments), getting permission from property owners to cross and/or utilize their property, and gaining any necessary regulatory approvals. Failure to submit a complete and comprehensive bypass pumping plan in a timely manner shall not be cause for any extension of the Contract Time.

The detailed temporary bypass pumping plan shall include the following information:

- Method of monitoring the pumps to ensure proper operation, to include method of notifying personnel (Fayetteville Public Works Commission and Contractor) in the event of an emergency, activation of back-up pumps, etc.
- Method of monitoring upstream system levels to ensure surcharging does not result in back-ups into buildings, overflows, etc.
- The amount, if any, of any required surcharging.
- Method to initiate back-up pumps.
- Map showing general location of the pumps and bypass lines. This shall include means to maintain access to driveways, etc.
- Measures to secure the bypass system (lines, pumps, etc.) from traffic, vandalism, high stream flows, etc.

- Method of plugging (and securing the plug(s)) and type of plugs.
- Size and location of manholes or other access points for suction and discharge piping.
- Size of pipeline(s) or conveyance system(s) to be bypassed.
- Number, size, material, location, and method of installation of suction piping.
- Number, size, material, location, and method of installation of discharge piping.
- Bypass pump sizes, capacities, and number of each size to be provided on-site, including all primary, secondary, and spare pumping units.
- Calculations of static lift, friction losses, minimum inlet submergence, and flow velocity (pump curves showing pump operating range shall be submitted). Calculations shall be signed and sealed by a licensed Professional Engineer registered in the State of North Carolina. Calculations shall be provided for both the peak flow rate and a normal daily rate (see PUMPING AND BYPASSING section for sizing requirements).
- Measures to protect discharge manhole(s) or structure(s) from erosion and damage due to the bypass operation.
- Erosion control measures.
- Emergency contact information for the personnel responsible for the pump operation.
- Emergency contact information for Contractor personnel to respond in the event of an emergency.
- List of available resources (equipment, materials, personnel) and contact information for emergency response.
- Method to contain potential releases of sewer flow from air release valves.
- Contingency plan for responding to potential sewer spills caused by weather, vandalism, acts of God, etc. The plan shall include communication protocols, available resources, and the steps to be taken in the event of an emergency.

No bypass operations shall proceed until all bypass submittals have been reviewed and approved by the Fayetteville Public Works Commission.

COORDINATION

The Contractor shall fully coordinate their temporary bypass pumping operations with the Fayetteville Public Works Commission. It is the Contractor's responsibility to fully determine the scope and location of the temporary bypass pumping system. As outlined in these Contract Documents, the Fayetteville Public Works Commission may provide assistance with the building and maintenance of access roads, clearing of easements, etc. All coordination (to include location of the pumps and discharge lines) shall be fully discussed and agreed to prior to commencement of bypass operations.

The Contractor shall schedule a coordination meeting with the Fayetteville Public Works Commission and other personnel (Contractor, bypass sub-contractor, etc.) a minimum of three (3) business days prior to starting the temporary bypass pumping system. The purpose of this coordination meeting is to ensure that the Contractor and their sub-contractors have a good understanding of the requirements and expectations of operating the temporary bypass pumping system, discuss contingency plans (to include protocols for emergency contacts), identify location(s) of pumps, verify necessary materials (repair sleeves, containment devices, etc.) are on-site and available, and any other items necessary to ensure that the Fayetteville Public Works Commission has confidence that the appropriate personnel can operate and maintain the temporary bypass pumping system. Should, for any reason, the Fayetteville Public Works Commission deem that the Contractor and/or their sub-contractor is not prepared to operate and maintain the temporary bypass pumping system, the temporary bypass pumping system shall not be started. The Contractor shall take all necessary steps to address any concerns to the satisfaction of the Fayetteville Public Works Commission. Upon

completion of those actions, another coordination meeting shall be held, in order for the Fayetteville Public Works Commission to confirm that the Contractor and their sub-contractor is prepared to operate and maintain the temporary bypass pumping system. This process will be repeated until the Fayetteville Public Works Commission is satisfied that the Contractor and their sub-contractor are prepared to operate and maintain the temporary bypass pumping system. No additional contract time will be granted for this delay.

The temporary bypass pumping system shall run for a minimum of 24 hours, or longer as deemed by the Fayetteville Public Works Commission, prior to any activity occurring (cleaning, closed circuit television {CCTV}, etc.) within the main(s) being bypassed.

FLOW CONTROL PRECAUTIONS

Where the raw sewage flow will be blocked during the Work as a result of the temporary bypass pumping operation, the Contractor shall take all necessary precautions to protect the public health. No septic conditions shall be allowed due to Contractor's operations. The sewer system (mains, manholes, laterals, etc.) shall also be protected from damage. The following occurrences shall not be allowed:

1. No sewage shall be allowed to back up into any homes or buildings.
2. No sewage shall overflow any manholes, cleanouts or any other access to the sewers.
3. Users upstream of the project area shall be able to use all their water and sewer utilities without interruption or limitations.

If any of the above occur or are expected to occur, the Contractor shall take immediate action to alleviate one or all of the conditions. Additionally, the Contractor is required to observe the conditions upstream of the plug and be prepared to immediately increase bypass pumping or release the flows, as required. Any damage claims resulting from the Contractor's failure to properly maintain sewer flows shall be the Contractor's responsibility.

All sump pumps, bypass pumps, trash pumps or any other type pump which pulls sewage or any type of material out of the sanitary sewer system shall discharge into another sanitary sewer manhole, or appropriate vehicle or container acceptable to the Fayetteville Public Works Commission. Under no circumstances shall untreated sanitary sewer be discharged, stored or deposited on the ground, swale, road or open environment. The Contractor shall not allow any flow of sewage onto private property, streets, or into creeks and drainage systems. Damage due to negligence of the Contractor, including, but not limited to, flooded dwellings, damaged property, damaged driveways, etc., shall be corrected immediately by the Contractor at no additional cost to the Fayetteville Public Works Commission.

PLUGGING AND BLOCKING

In some applications, the wastewater flow may be plugged and contained within the capacity of the collection system. This shall only be done when it has been determined the system can accommodate the surcharging without any adverse impact. The Contractor has the sole responsibility for determining whether the system can accommodate surcharging. If this option is selected, the Contractor shall be responsible for continuously monitoring the system to ensure no sewer spills or overflows occur.

A sewer line plug shall be inserted into the line at a manhole upstream from the section being surveyed or repaired. The plug shall be so designed that all or any portion of the operation flows can be released. The Contractor shall secure the plug, to prevent it from being dislodged and moving downstream. Flows shall be bypassed for the initial CCTV inspection and shall be bypassed throughout the duration of the work, to

include the final CCTV inspection. Flows shall be bypassed in accordance with the approved temporary bypass pumping plan. Upon acceptance of the work by the Fayetteville Public Works Commission, the temporary bypass pumping system shall be removed and flows restored.

PUMPING AND BYPASSING

The Contractor, when and where required, shall divert sewer flows for the sewer pipe rehabilitation process, cleaning, television inspection, pipe repairs, manhole replacement and/or rehabilitation, obstruction removals, or other related as required to complete the Work. The pumps and bypass lines shall be of adequate capacity and size to handle and prevent backup or overflow for all flows.

The temporary bypass pumping system shall be designed to maintain the flows necessary to meet the requirements of each particular location. The temporary sewer bypass system shall have the capacity to handle the flows outlined in these Contract Documents. The temporary sewer bypass system shall be sized to handle 2.5 times the average daily flow rate, or the specified peak flow – whichever is greater.

The Contractor shall be responsible for furnishing the necessary labor and supervision to set up, operate, and maintain the temporary bypass pumping system. A “set up” consists of the necessary pumps, conduits and other equipment to divert the flow of sewage, from the start to finish of work performed. Each “set-up”, regardless of location, shall have Contractor personnel on-site at all times (24 hours a day, 7 days a week) and stationed at the pumps, unless otherwise approved by the Fayetteville Public Works Commission. The temporary bypass pumping system shall include:

- A minimum of one (1) redundant pump so that the temporary bypass pumping system is capable of transmitting the peak flow with the largest duty pump out of service.
- Pumps shall be provided with a means of automatic control via level sensing. Systems requiring manual starting and/or stopping shall not be allowed.
- All equipment (primary and secondary pumps) shall be equipped in a manner to keep noise to a maximum of 65 dBA at 30 feet.
- An automatic dialer (or similar) to immediately notify (in a sequential operation) Contractor and Fayetteville Public Works Commission personnel in the event of equipment failure. The automatic dialer shall be set to issue notifications prior to flow level reaching critical elevations and having a spill occur. All bypass pumps (regardless of location) shall be equipped with an automatic dialer (or similar).

The temporary bypass pumping system shall be provided in such a way as to maintain access for businesses and residences. The Contractor shall be responsible for determining the best location for the bypass equipment, and the need for any special provisions to ensure access for the residents and businesses. Such special provisions include, but are not limited to: installation of ramps, excavation and burial of the bypass lines, etc. The Contractor shall use bridges over the bypass lines, temporary lines under driveways, alternate routes, or other means to accomplish this item. The bypass plan submittal shall indicate the means of maintaining access. The Contractor bears all responsibility for the maintenance of any trenches, ramps, etc. necessary for the bypass operation.

Pumps, equipment, and bypass lines shall be continuously (24 hours a day, 7 days a week) monitored by on site Contractor personnel capable of starting, stopping, refueling and maintaining these pumps during the Work. The temporary bypass pumping system shall be provided with an automatic dialer (or other similar device) that will immediately notify (in a sequential operation) the Contractor and the Fayetteville Public Works Commission in the event of equipment failure. All bypass pumps (regardless of location) shall be

equipped with an automatic dialer. This automatic dialer (or similar) shall be set to issue notifications prior to flow levels reaching critical elevations and having a spill occur.

The automatic dialer shall be set to issue notifications through a sequential operation. Automatic dialers that are not set up for sequential notifications shall not be acceptable. The Contractor's personnel shall be the first to receive any notifications from the automatic dialer. The automatic dialer shall only notify the PWC personnel after all Contractor notifications have been ignored and/or not responded to. The Contractor shall properly adjust the level at which the automatic dialer initiates notification to provide adequate time for the sequential notification to occur. If the PWC personnel are notified by the automatic dialer, the PWC personnel shall assume that a spill is occurring or is imminent, and respond accordingly. The Contractor shall be responsible for all costs for the PWC to mobilize and respond to the notification, regardless if a spill occurred or not.

In some applications, it may be necessary to surcharge the system in order to ensure proper pump operation. This shall only be done when it has been determined the system can accommodate the surcharging without any adverse impact. The Contractor has the sole responsibility for determining whether the system can accommodate surcharging. In the event surcharging is necessary, the Contractor shall be responsible for continuously monitoring the system to ensure no sewer spills occur.

All bypass piping shall successfully pass a hydrostatic test prior to bypassing the sewer flows. The hydrostatic test pressure shall be no less than the expected discharge pressures, and shall be held for a minimum of one (1) hour. All testing shall be observed by the Fayetteville Public Works Commission. Testing shall be coordinated with the Fayetteville Public Works Commission a minimum of 24 hours in advance.

SPILL RESPONSE

The Contractor shall not discharge or pump any sewage, solids, or debris on the ground, streets, storm water system, ditches, or streams. Any sewage spills shall be immediately reported to the Fayetteville Public Works Commission Water Resources Construction Department, (910) 223-4716. After normal business hours, the Contractor shall contact the Fayetteville Public Works Commission Dispatch Center, (910) 678-7400 or (910) 323-0178. The Contractor shall take complete responsibility for all costs related to the clean-up of the spill, including any fines issued by the North Carolina Department of Environmental Quality (NC DEQ).

In the event that raw sewage (in any quantity) is spilled, discharged, leaked or otherwise deposited in the open environment, due to the Contractor's work, the Contractor is responsible for any cleanup of solids and disinfection of the area affected. This work will be performed at the Contractor's expense with no additional cost to the Fayetteville Public Works Commission. The Contractor is also responsible for complying with any and all regulatory requirements in regards to the size spill with no additional cost to the Fayetteville Public Works Commission. The Contractor shall cooperate fully with the Fayetteville Public Works Commission and the applicable State agencies in responding to and cleaning up the spill. Any work completed by the Fayetteville Public Works Commission in responding to a spill caused by the Contractor's operations shall be billed to the Contractor.

Where sewage has backed up into a property due to any aspect of the Contractor's operation, the Contractor shall immediately notify the Fayetteville Public Works Commission, inspect the property with the Fayetteville Public Works Commission and agree on remedial measures. The Contractor shall be responsible for all cleaning, repair and/or replacement of damaged property, temporary relocation of all occupants of the affected properties, if required, all to the satisfaction of the property owner. These actions shall be undertaken

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immediately upon learning of the backup. Cleaning shall be performed by firms specializing in this type of work. All costs associated with the cleaning, repair, replacement of damages, occupant accommodations, insurance and spill remediation shall be borne by the Contractor. All remediation measures required as part of a spill response are part of acceptance of the project, and final payment shall not be made until such time all required measures are addressed and approved by the appropriate regulatory agency.

*** END OF SECTION ***