



CITY OF SUFFOLK

P.O. BOX 1858, SUFFOLK, VA, 23439-1858, T: (757) 514-7520; FAX (757) 514-7524

ADDENDUM NO. 2

City of Suffolk
IFB #16047-JS
April 12, 2016

Purchasing Division
442 Market Street, Room 1086
Suffolk, VA 23434-5237
Phone: (757) 514-7520 / Fax: (757) 514-7524
<http://www.suffolkva.us/purchasing>

Pump Station # 5 and Force Main Replacements

Bidders on the above-named Project are hereby notified that the documents have been revised as indicated below. All bid submittals shall conform to this Addendum. Bidders are responsible for familiarizing themselves with the modifications and the effect they may have on the scope of work.

The following changes are incorporated into the Bid Documents. Refer to the original contract documents for the complete specifications and Terms and Conditions.

The following questions and answers are incorporated in the bid:

Q1. C-004: What is the diameter of wet well vent pipe and fittings?

A1: 4-inch

Q2. C-004 shows 6" clear opening handhole. C-007 calls out in detail DPU452 8" clear opening handhole. Which is correct?

A2: Detail DPU542 shows 8-inch opening for stilling well/level transducer access. Sheet C-004 does not call out size for stilling well/level transducer access; callout states "STILLING WELL ACCESS HANDHOLE". Sheet C-004 callout for "6-INCH CLEAR OPENING..." corresponds to the float control system, and is correct.

Q3. C-004: Is an 8" blind flange required on the open end of the 8" gate valve attached to the end of the gravity sewer, inside the wet well?

A3: The open end of the valve should be flanged. A blind flange appurtenance is not required.

- Q4. C-007 detail DPU for the emergency pump connection is not sized for 3". Please provide list of fittings and appropriate sizes.
- A4: The detail calls out the size of the 4" threaded camlock coupling with cap. Contractor responsible for fitting the conceptual pieces together at the correct size called out on the plans.
- Q5. Please confirm the Special lining – interior coating is only required in the wet well and not required inside the adjacent valve vault.
- A5: No interior lining is required inside of valve vault.
- Q6. C-007: Pipe nipples for the pressure gauge/pressure transducer to be brass or stainless steel?
- A6: Brass.
- Q7: Is it the intent of the City to rebuild the existing roadway with the existing curb/gutter as is?
- A7: All Curbs shall be removed and new curbs installed. Bid form has been modified to reflect this change. New bid form attached.
- Q8: Please confirm the section of curb/gutter noted to be replaced is to be included in bid item 14. Existing curb/gutter does not appear to be current standard. Does the City want replacement to match existing or replace according to a desired detail?
- A8: Curbs shall be removed and new curbs installed. Bid form has been modified to reflect this change
- Q9: Edit note: C-003 Proposed Site Plan; Emergency Pump Connection see Sheet C-005 ... should reference C-007.
- A9: Note will be corrected to reference Sheet C-007 on conformed documents.
- Q10: Is the Curb & Gutter to be replaced where damaged and now wooden.
- A10: All Curbs shall be removed and new curbs installed. Bid form has been modified to reflect this change.
- Q11. Are we to assume two Manholes outside the Pump Stat?
- A11: Yes, there are two new manholes; one straddle manhole and one standard manhole. The straddle manhole is included in Bid Item 3 - Sanitary Sewer Pump Station. The standard manhole shall be paid for under Bid Item 4.
- Q12: Can you tell me how many inches of asphalt in existing roadway?
- A12: Asphalt pavement thickness ranged from approximately 2.5 to 6.5 inches in depth based on four pavement cores collected. Therefore, pavement could exceed 6.5 inches in some locations. See Appendix A- Geotechnical Report.

Q13: Please provide GPM flow for the bypass pump operation. Need to know flow capacity to get proper size of pump system in place.

A13: Provide by-pass capability of 120 gpm.

Q14: The plans indicate that the proposed sewer force main is to be installed between the curb and an existing Verizon duct bank. Based on markings by Miss Utility, the duct bank is less than 3' from the face of curb. State law prohibits mechanical excavation within 2' of an existing utility. A trench that is 3' deep would need to be at least 2-3' in width. This would not only put the trench within 2' of the Verizon duct bank, it would also require the removal of the curb.

A14: Excavation method is responsibility of Contractor's means and method. Payment width for trench is pipe O.D. plus 12-inches each side of pipe. Contract documents have been modified to include removal of curb.

Q15: Additionally, it appears as if the asphalt is overlaying much of the existing curb. It will be very difficult to remove the asphalt and excavate to subgrade without damaging or losing the curb.

A15: Bid schedule has been modified to include replacing and installing new curbs.

Q16. Section no. 33 30 00-10/3.02 Preparation/B. manhole/The City does not require the exterior surface of sanitary sewer manholes to be sealed.

A16: No exterior coating will be required on sanitary manholes.

Q17: Section 16231-1/Par. 1.03 scope/The City will provide the diesel fueled engine generator set.

A17: Yes, the City will provide the generator set. The contractor will be responsible for properly installing generator set and successful test per City's Standby Power Generator Start-up Checklist.

Q18: The City of Suffolk does not normally coat the exterior of precast sanitary manholes. Specification 33 33 00, 3.02 B. requires an exterior coating of coal tar. I have attached that specification. Is this requirement in the specifications by mistake?

A18: No exterior coating will be required on sanitary manholes.

Q19. The bid sheet calls for one precast manhole but, it appears two are required.

A19: There are two new manholes; one straddle manhole and one standard manhole. The straddle manhole is included in Bid Item 3 Sanitary Sewer Pump Station. The standard manhole shall be paid for under Bid Item 4.

Q20: The M&P for the pump station includes 48" straddle and standard manholes. However, there is a bid item, #4, for Sanitary Sewer Manhole. Please clarify M&P.

- A20: The standard manhole (~Sta. 40+39.00) shall be paid under on Bid Item #4. The straddle manhole (~Sta. 40+16.00) shall be included in Bid Item #3 – Sanitary Sewer Pump Station.
- Q21: The M&P for Bid Item #5, 4" Force Main and Bid Item #6, 8" Water Main includes select backfill (#10). However, there is a bid item, #13, for Select Material. Please clarify M&P.
- A21: Previous Bid Item #13 (select fill has been removed from the Bid Form. Select material should be included with the other bid items. A New payment and measurement specification section reflects this.
- Q22: The M&P for Bid Item #5, 4" Force Main and Bid Item #6, 8" Water Main includes 21A pavement base. However, the quantity for Bid Item #14, Roadway Reconstruction includes 21A pavement base for the entire width of the road. Will the quantity of 21A for the pavement patching of the water and force main be deducted from the Roadway Reconstruction item?
- A22: 21A is required above proposed force main and water main trenches to provide permanent pavement base and temporary drivable surface, prior to roadway reconstruction, and should be included in Bid Items 5 and 6. During roadway reconstruction, Contractor may use excess 21A from trenches towards the required amount of 21A necessary to provide pavement base as required by pavement replacement detail. Additional 21A required for pavement replacement shall be included in Contractor's bid price for Bid Item 14 excluding the 21A used for temporary backfill.
- Q23: Is there any information available on the size, material, & elevations on the UGT raceway?
- A23: Specific information is unknown. It is suspected of being four (2x2) - 4" terra-cotta ducts that may be 10" x 10" (or larger) in total size and have a concrete cap.
- Q24: In the Demolition specifications (02 41 00-3) Paragraph H States cap or plug with concrete or flowable fill, demolition plan sheet states abandon existing waterline & force main in place, are we to assume each line is capped or plugged and abandoned as shown or does each line get completely filled with flowable fill.
- A24: Cut and cap ends of line and abandon in-situ. Flowable fill not required.
- Q25. The proposed 4" force main line is to be installed approximately 1' off of the existing curb line, with the depth of installation over 5' there is no way to shore & be OSHA compliant without removing & replacing the existing curb & driveway aprons, Also the first 75' from the pumping station driveway west down Highland Ave there is no curb and the next 180' west up to 424 & 423 Highland Avenue is some type of deteriorated wood curb, considering the street is to be completely removed and replaced can there be a line item added to account for new curb & aprons from the pumping station driveway west to the end of the road reconstruction.
- A25: Bid schedule has been modified to include replacing all curbs within the limits of the roadway reconstruction on both sides of the road, and driveways, aprons and sidewalks disturbed by force main installation.

END OF QUESTIONS/CLARIFICATIONS

REVISIONS TO CONTRACT SPECIFICATIONS

1. **Section 16231-1, paragraph 1.03 – DELETE existing paragraph B. ADD new Paragraph B:**

B. No. 2 diesel fueled engine-generator set shall be provided by owner and equipped with sound attenuated weatherproof housing for exterior mounting, complete with fuel supply system. Starting battery and charger, starting and control panels, automatic exercise controller, exhaust silencer and piping, and remote alarm contacts.

2. **Revise the following to the IFB:**

- a. **Page 2, Liquidated Damages:**

ADD:

If 8" water main and corresponding appurtenances and service lines (Bid Item Nos. 6 thru 11- See Bid Form) are not completed by the Milestone Completion date of **August 15, 2016** as stated in the Notice to Proceed, the Contractor shall be liable and hereby agrees to pay to the Owner as liquidated damages, and not as a penalty, the amount of **Seven Hundred Fifty Dollars (\$750.00)** per calendar day for each and every part of a day thereafter that said work remains substantially incomplete.

- b. **BID FORM:**

DELETE: pages 19 thru 22 in their entirety

REPLACE WITH: Attached New Bid Form, Pages 19 thru 22.

- c. **Page 46, Contract, Part C:**

ADD:

If 8" water main and corresponding appurtenances and service lines (Bid Item Nos. 6 thru 11- See Bid Form) are not completed by the Milestone Completion date of **August 15, 2016** as stated in the Notice to Proceed, the Contractor shall be liable and hereby agrees to pay to the Owner as liquidated damages, and not as a penalty, the amount of **Seven Hundred Fifty Dollars (\$750.00)** per calendar day for each and every part of a day thereafter that said work remains substantially incomplete.

3. **Specification Section No. 01 29 01, MEASUREMENT AND PAYMENT (UNIT PRICES):**

DELETE: Specification Section in its entirety.

REPLACE WITH: New Specification Section 01 29 01, attached

END OF REVISIONS TO CONTRACT SPECIFICATIONS

REVISIONS TO CONTRACT DRAWINGS

1. Sheet G-002, General Notes and Legend

- a. **ADD** the attached "Highland Avenue Clean-out Location" map.
- b. **ADD** the attached "LATERAL CLEAN-OUT LOCATION, HIGHLAND AVENUE" table and notes.

2. Sheet C-002, Force Main and Water Main Plan and Profiles:

- a. **ADD the following NOTE 9:**
9. CONTRACTOR MAY MODIFY THE FORCE MAIN AND WATER MAIN ALIGNMENT OR DEPTH, WITH APPROVAL FROM THE CITY, AND AT NO ADDITIONAL COST TO THE CITY.
- b. **ADD The flowing NOTE 10:**
10. SEWER LATERALS OR CLEAN-OUTS DAMAGED BY CONTRACTOR DURING INSTALLATION OF THE FORCE MAIN OR WATER MAIN SHALL BE REPLACED FROM THE GRAVITY SEWER MAIN CONNECTION TO THE RIGHT-OF-WAY, INCLUDING THE CLEAN-OUT PER THE ATTACHED CITY DETAIL 262.
- c. **ADD the following NOTE 11:**

11. IF AN EXISTING LEAD WATER SERVICE LINE IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP IMMEDIATELY AND REPLACE THE COMPLETE WATER SERVICE LINE FROM THE CORPORATION STOP TO THE METER AT THE CONTRACTORS EXPENSE. THE REPLACEMENT SHALL INLCUDE THE CORPORATION STOP AND THE METER SETTING.

3. Sheet C-003, Proposed Site Plan,

- a. **MODIFY** the call-out that reads "Emergency Pump Connection See Sheet C-005" to "Emergency Pump Connection See Sheet C-007".
- b. **ADD** the attached City Detail 261, Force Main Connection to Sanitary Manhole.

4. Sheet C-008, City Details:

DELETE: Detail 153.

REPLACE WITH: Attached updated Detail 153

5. **Sheet C-009, Roadway Restoration:**

- a. **REPLACE NOTE 5 with the following:**
5. ALL EXISTING DRIVEWAYS, APRONS, AND SIDEWALKS DISTURBED OR DAMAGED SHALL BE REPLACED TO THE NEAREST CONSTRUCTION JOINT, SAWCUT SQUARE, OR RIGHT-OF-WAY AS DIRECTED BY THE CITY.
- b. **ADD the following NOTE 6:**
6. ALL CURBS WITHIN THE LIMITS OF THE ROADWAY RESTORATION SHALL BE REMOVED AND REPLACED WITH VDOT TYPE 2 CURBS.
- c. **ADD the attached VDOT Type 2 curb, Concrete Driveway and Apron, Asphalt Driveway and Apron, Gravel Driveway and Apron, and Concrete Sidewalk details.**

END OF REVISIONS TO CONTRACT DRAWINGS

Attachments

Revised Bid Form
Revised Section 01 29 01
Clean Out Locations
Clean Out GPS
Driveway Sections
VDOT Type 2
Water Meter 153
Force Main Connection to MH 261
Sanitary lateral detail 262

Contract Officer:



Jay Smigielski, Purchasing Agent.

All other specifications, provisions, terms and conditions are unchanged.

If you have any questions regarding this Addendum, please contact Jay Smigielski, Purchasing Agent at jsmigielski@suffolkva.us

BID FORM

TO: Purchasing Division
 442 W. Washington Street,
 Room 1086
 Suffolk, VA 23434-5237

BID: PUMP STATION 005 AND FORCE MAIN
 REPLACEMENTS
 IFB # 16047-JS

DUE: April 20, 2016
TIME: 3:00 PM, Local

_____ (Company) quotes firm price(s) below; to furnish all labor, materials, equipment, transportation, licenses, permits, and fees required to provide the **Pump Station 005 and Force Main Replacements** to the limits shown on the drawings in accordance with all specifications, terms, conditions, and drawings herein.

It is the intent of the City to award the bid in total. Should total costs exceed that budgeted for the projects, the City reserves the right to negotiate price with the lowest responsive and responsible bidder.

Bidder agrees to begin the work within ten (10) days of Notice to Proceed and that the following schedule will be complied with after Notice to Proceed date:

Schedule Item	Date	Completion Items
Milestone Completion	August 15, 2016	Operational 8" water main and corresponding appurtenances and service lines.
Substantial Completion	300 days from Notice to Proceed Date	Operational pump station, force main and roadway replacement (i.e. all scope items outside of water main replacement)
Final Completion	30 days from Substantial Completion	Entire project tested and operational and site restored and cleaned to owner's satisfaction.

Pump Station 005 and Force Main Replacements					
Bid Item Number	Item	Unit	Quantity	Unit Cost	Total Cost
1	<i>Mobilization/Demobilization (5% of total bid)</i>	LS	1	\$	\$
2	<i>Existing Pump Station Demolition and Bypass System</i>	LS	1	\$	\$
3	<i>Sanitary Sewer Pump Station</i>	LS	1	\$	\$
4	<i>Sanitary Sewer Manhole</i>	EA	1	\$	\$

5	<i>4-inch DIP Force Main (ROW to Discharge Manhole)</i>	<i>LF</i>	<i>928</i>	<i>\$</i>	<i>\$</i>
6	<i>8-inch DIP Water Main</i>	<i>LF</i>	<i>690</i>	<i>\$</i>	<i>\$</i>
7	<i>Fire Hydrant Assembly</i>	<i>EA</i>	<i>1</i>	<i>\$</i>	<i>\$</i>
8	<i>3/4-Inch Water Service Lines and Meters replacements</i>	<i>EA</i>	<i>18</i>	<i>\$</i>	<i>\$</i>
9	<i>3/4-Inch Water Service Lines and Cut-Off Valve (Private Property Side)</i>	<i>LF</i>	<i>180</i>	<i>\$</i>	<i>\$</i>
10	<i>8-Inch Tapping Sleeve and Valve</i>	<i>EA</i>	<i>1</i>	<i>\$</i>	<i>\$</i>
11	<i>2-Inch Manual Air Release Assembly</i>	<i>EA</i>	<i>1</i>	<i>\$</i>	<i>\$</i>
12	<i>Undercut Excavation and Fill (VDOT No. 57 Stone)</i>	<i>CY</i>	<i>40</i>	<i>\$</i>	<i>\$</i>
13	<i>Concrete Curb (VDOT Type 2)</i>	<i>LF</i>	<i>2,000</i>	<i>\$</i>	<i>\$</i>
14	<i>Roadway Reconstruction</i>	<i>SY</i>	<i>2,800</i>	<i>\$</i>	<i>\$</i>
15	<i>Concrete Driveway and Aprons</i>	<i>SY</i>	<i>200</i>	<i>\$</i>	<i>\$</i>
16	<i>Asphalt Driveway and Apron</i>	<i>SY</i>	<i>50</i>	<i>\$</i>	<i>\$</i>
17	<i>Gravel Driveway and Apron</i>	<i>SY</i>	<i>30</i>	<i>\$</i>	<i>\$</i>
18	<i>Concrete Sidewalk</i>	<i>SY</i>	<i>40</i>	<i>\$</i>	<i>\$</i>
TOTAL BID AMOUNT (Bid Item Nos. 1 through 18, inclusive)				\$	

Determination of low bidder shall be based on the TOTAL BID AMOUNT

REFERENCES

Indicate below a listing of at least three (3) recent references for which you have provided similar services. Include the date that services were furnished and the name, address, and phone number of the person we have your permission to contact.

	<u>Client/Address</u>	<u>Date</u>	<u>Contact Person</u>	<u>Phone No.</u>
1)	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
2)	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
3)	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Bidder has included the following with his BID FORM (please check):

- "Anti-collusion/Nondiscrimination/Drug Free Workplace" clause
- Proof of Authority to Transact Business in Virginia form

Company Name: _____
 Address: _____
 City / State / Zip: _____
 Person Quoting: _____ Title: _____
 Telephone: _____ FAX No.: _____
 E-mail: _____ Mobile No.: _____
 Social Security Number or FIN Number: _____

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same equipment/materials/ service and is in all respects fair and without collusion or fraud. I understand that collusive bidding is a violation of State and Federal law and can result in fines, prison sentences and civil damage awards. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.

Bidder agrees to begin the Work within ten (10) days of Notice to Proceed; and that Milestone Completion shall be on or before August 15, 2016, and that Substantial Completion shall be on or before 300 consecutive calendar days after Notice to Proceed date; and that Final Completion shall be on or before 30 consecutive calendar days after Substantial Completion.

Bidder has examined copies of all the Bid Documents including the following Addenda:

<u>Date</u>	<u>Number</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

I certify by my signature below that I have received the documents associated with this bid and understand that the review for completeness of these bid documents and the understanding and comprehension of the bid specifications is solely my responsibility; based on this, by my signature below I waive all rights to further claims against the City of Suffolk that the document were incomplete or not understandable.

I certify that the bidder represented herein is eligible to bid with respect to all applicable sections of State and Local Government Conflict of Interest Act, Code of Virginia, Section 2.1-639.1 et. seq.

Signature: _____

Date: _____

(Person signing bid should show title or authority to bind the firm in a contract.)

SECTION 01 29 01

MEASUREMENT AND PAYMENT (UNIT PRICES)

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Summary:

1. Section includes administrative and procedural requirements for unit prices.
2. Related Requirements:
 - a. Division 01 43 00 Section - Quality Requirements for general testing and inspecting requirements.

1.02 DEFINITIONS:

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.03 MEASUREMENT AND PAYMENT – GENERAL:

- A. The following subsections describe the measurement of and payment for the work to be done under the items listed in the BID FORM.
- B. Each unit or lump sum price stated in the BID shall constitute full compensation as herein specified for each item of work completed in accordance with the drawings and specifications.
- C. The prices for those items which involve excavation shall include compensation for disposal of surplus excavated material, handling water, and installation of all necessary sheeting and bracing.
- D. In all items involving excavation, the price shall be based on doing the entire excavation in earth. Where rock is excavated, the price therefor, shall be in addition to the cost of excavating earth, and no deduction will be made in the amount for earth excavation.
- E. The prices for all pipe items shall constitute full compensation for furnishing, laying, jointing, and testing pipe; earth excavation and backfill; cleaning up; and screened gravel.

1.04 INCIDENTAL WORK:

A. Items considered incidental work shall not be measured for payment or paid for as such unless specified as unit price items on the bid form. These items and their costs shall be included in the unit prices or lump sum bid for the pay items unless bid separately. Incidental items include but are not limited to the following:

1. Labor
2. Equipment
3. Materials
4. Transportation
5. Tools
6. Bonds and insurance
7. Worker's compensation
8. Taxes
9. General overhead and profit
10. Material royalties
11. Permits, unless provided by owner
12. Licenses
13. Contract administration, shop drawings, and submittals
14. Site security
15. Allaying dust and mud
16. Excavation and dewatering
17. Excavation support including, but not limited to, temporary sheeting, shoring, bracing, or use of a trench box
18. Furnishing, hauling, placing, manipulating, and compacting material
19. Offsite disposal of excess excavated, surplus and remnant excavated materials
20. Removal and replacement of existing signs, mail boxes, and similar existing improvements not otherwise noted on the contract documents
21. Daily cleanup
22. Site restoration and cleanup
23. Stakeout and surveying
24. Location and protection of existing utilities and other facilities
25. Test pits
26. Pavement markings
27. Final restoration
28. Top soil, seeding, and mulching
29. Erosion and sediment control
30. Construction entrances
31. Restoration of landscaping
32. All excavation and backfill outside of trench pay limits required to complete the work of any other bid items
33. Replacement or corrugated metal pipe storm drain pipe with reinforced concrete pipe
34. Replacement in like and kind or as otherwise specified of trees, shrubs, ornamentals, private water systems, mailboxes, and repair/treatment of any such damage
35. Replacement of damaged laterals or water service lines

36. Material and equipment testing
37. Laboratory and shop tests
38. Hydrostatic and/or leakage testing
39. Soil testing
40. Coating testing
41. Concrete testing
42. Traffic control and maintenance
43. Clearing and grubbing
44. Successful completion of City's Public Facilities Manual, Latest Edition, Factory Acceptance Test (Appendix B-8), Site Acceptance Test (Appendix B-9), Start-Up Checklist (Appendix B-10), and Standby Power Generator Start-Up Checklist (Appendix B-11).

1.05 MOBILIZATION/DEMobilIZATION (BID ITEM 1):

- A. This pay item will include payment for mobilization and demobilization will be on a lump sum basis for mobilization of the project. Mobilization and demobilization shall include, but is not limited to.
 1. Transporting tools, equipment, personnel and materials to the work site; construction offices, temporary facilities and,
 2. Pre-construction photographs and videotaping the project site and pipelines corridor.
 3. Bonds and Insurance.
 4. Payment for this item shall not exceed 5% of total contract amount. Payment will be made as follows: 75% payable on the first monthly estimate subsequent to contractor's moving in and setting up all necessary facilities and installation or completion of the items in this section; the remaining to be paid upon completion of demobilization and cleanup.

1.06 EXISTING PUMP STATION DEMOLITION AND BYPASS SYSTEM (BID ITEM 2):

- A. The demolition of the existing pump station and driveway measured and paid as a lump sum. Item includes furnishing materials, equipment, labor, and incidentals required for the following:
 1. The unit price for this item shall include the demolition, disposal and/or delivery of salvageable materials to the City.
 2. Dewatering of gravity main and wet well.
 3. The unit price for this item shall also include the bypass pump, temporary connection to proposed force main and related equipment to provide a working bypass system as required for the duration of the project, including all fuel, rental and contingency costs.

1.07 SANITARY SEWER PUMP STATION (BID ITEM 3):

- A. This pay item will be paid as lump sum for construction of a working sanitary sewer pump station.
- B. Pump station construction shall include, but is not limited to, the following list to complete the pump station:
 - 1. Excavating and fill; excavation support systems; sheeting and shoring;
 - 2. Maintaining the excavation, including dewatering, sheeting and bracing, as required by OSHA;
 - 3. Sheeting left in place;
 - 4. Vibration monitoring, if required;
 - 5. Disposal of unsuitable materials;
 - 6. Bedding;
 - 7. Select fill;
 - 8. 48-inch straddle and standard manholes and connections
 - 9. 8-inch ductile iron gravity sewer;
 - 10. Pre-cast concrete wet well and valve vault;
 - 11. Cast-in-place concrete slab foundations (wet well, building and generator pad);
 - 12. Above-ground building;
 - 13. Submersible pumps (4), piping (force main – from pumps to Right-of-Way line), valves, appurtenances, gaskets and all other items required for a working pump system;
 - 14. All monitoring devices, including (but not limited to) pressure sensor, level transducer, floats; check valve proximity switch; all
 - 15. Electrical conduit, conductor and equipment, lighting;
 - 16. Instrumentation and controls, SCADA system;
 - 17. Heating and ventilation equipment;
 - 18. Installation and connections to Owner-supplied standby generator
 - 19. Coordination with Dominion Virginia Power;
 - 20. Provisions and connection to Owner supplied emergency generator;
 - 21. Driveway;
 - 22. Final grading and landscaping;

1.08 SANITARY SEWER MANHOLE (BID ITEM 4)

- A. Payment will be made at the unit price bid for each sanitary sewer manhole installed and satisfactorily tested and will include the cost of the following:
 - 1. Construction of manhole and related appurtenances as shown in City DPU Detail No. 250.

1.09 4-INCH DUCTILE IRON FORCE MAIN – R.O.W. TO DISCHARGE MANHOLE (BID ITEM 5):

- A. The length of force main, from Right-of-Way line to discharge manhole, to be paid for under this item shall be measured by the linear foot along a horizontal projection of the centerline of the completed force main.
- B. The unit price for this item shall constitute full compensation for constructing the force main, complete, as indicated on the drawings and as specified including all work incidental thereto and not specifically included for payment under other items.
- C. The unit price of the force main shall include, but is not limited to, the following to complete the installation of the force main:
 - 1. Pavement demolition, removal and disposal of;
 - 2. Excavating the trench; excavation support systems;
 - 3. Maintaining the trench, including dewatering, disposal of dewatering, sheeting and bracing, as required by OSHA;
 - 4. Cleaning dirt and foreign material from within the pipe and bell;
 - 5. Beveling field-cut joints and pipe shorts;
 - 6. Installing pipe and any pipe shorts as part of the pipeline in a trench;
 - 7. Setting and removing all temporary appurtenances;
 - 8. Installing the marking tape;
 - 9. Backfilling and compacting the trench, including regrading the terrain;
 - 10. Select fill
 - 11. Bedding (VDOT No. 57 Stone) and Select Material backfill as shown in trench detail;
 - 12. Pressure testing the pipe;
 - 13. Disposal of surplus material;
 - 14. Maintaining access to residential driveways;
 - 15. Landscape and private or public property restoration as damaged during construction. Conditions shall be restored to those existing conditions prior to work;
 - 16. All other materials, labor, and necessary equipment for construction that are not specifically mentioned;
 - 17. Force main and appurtenances, including fittings;
 - 18. Restrained pipe;
 - 19. Connection to existing manhole;
 - 20. Temporary pavement patching (as shown in trench detail);

1.10 8-INCH DUCTILE IRON WATER MAIN INSTALLATION (BID ITEM 6):

- A. The length of water main to be paid for under this item shall be measured by the linear foot along a horizontal projection of the centerline of the completed water main.
- B. The unit price for this item shall constitute full compensation for constructing the water main, complete, as indicated on the drawings and as specified including all work incidental thereto and not specifically included for payment under other items.

C. The unit price of water main shall include, but is not limited to, the following to complete the installation of the water main:

1. Pavement demolition, removal and disposal of;
2. Excavating the trench; excavation support systems;
3. Maintaining the trench, including dewatering, sheeting and bracing, as required by OSHA;
4. Cleaning dirt and foreign material from within the pipe and bell;
5. Beveling field-cut joints and pipe shorts;
6. Installing pipe and any pipe shorts as part of the pipeline in a trench;
7. Setting and removing all temporary appurtenances;
8. Installing the locating wire and marking tape;
9. Backfilling and compacting the trench, including regrading the terrain;
10. Select fill,
11. Bedding (VDOT No. 57 Stone) and Select Material backfill as shown in trench detail;
12. Cleaning up and removing excess dirt, pipe and appurtenances;
13. Pressure testing the pipe;
14. Disinfection, dechlorination, and flushing;
15. Disposal of surplus material;
16. Maintaining access to residential driveways;
17. Landscape and private or public property restoration as damaged during construction. Conditions shall be restored to those existing conditions prior to work;
18. All other materials, labor, and necessary equipment for construction that are not specifically mentioned;
19. Water main and appurtenances, including ductile iron fittings;
20. Interconnections to existing 2-inch water main;
21. Restrained pipe;
22. Temporary pavement patching (as shown in trench detail)

1.11 FIRE HYDRANT ASSEMBLY (BID ITEM 7):

- A. Payment will be made at the unit price bid for each fire hydrant assembly installed and satisfactorily tested
- B. The unit price of the fire hydrant assembly will include, but is not limited to, the following:
 1. All appurtenances required for satisfactory operation;
 2. Excavation, backfill, compacting and compaction testing;
 3. Bedding material (VDOT No. 57 Stone);
 4. Blocking;
 5. Burlap bag;
 6. Disposal of surplus material;
 7. Culvert pipe;
 8. Dewatering;
 9. Extension spools;

10. Bedding (VDOT No. 57 Stone), Select Material and pavement base (VDOT 21A) as shown in trench detail;
11. Fire hydrant assembly, including gate valve, valve box, pipe from main to hydrant, and fittings as indicated on the details;
12. Painting;
13. Right-of-way/Easement restoration;
14. Select fill
15. Stone;
16. Temporary seeding and stabilization;
17. Temporary sheeting and bracing;
18. Testing;
19. Pipe restraint.

1.12 ¾-INCH WATER SERVICE LINES AND METERS (BID ITEM 8):

- A. Payment will be made at the unit price bid for each water service line and meter assembly installed and satisfactorily tested
- B. The unit price Bid will include the cost of , but not limited to, the following
 1. Water service piping and appurtenances, from water main to ROW line/water meter;
 2. Water meter;
 3. Shut-off valve and box assembly;
 4. Pressure testing and disinfection;
 5. Excavation, backfill, compacting and compaction testing;
 6. Select fill,
 7. Bedding material (VDOT No. 57 Stone);
 8. Disposal of surplus material;
 9. Dewatering;
 10. Right-of-way/Easement restoration;
 11. Landscape and private or public property restoration as damaged during construction. Conditions shall be restored to those existing conditions prior to work;
 12. Stone (VDOT 21A) for temporary roadway restoration.

1.13 ¾-INCH WATER SERVICE LINES AND CUT-OFF VALVE – PRIVATE PROPERTY SIDE (BID ITEM 9):

- A. The length of water service line to be paid for under this item shall be measured by the linear foot along a horizontal projection of the centerline for the private side installation of the service lines.
- B. All work for this item to be completed by plumber, licensed in the state of Virginia. Although plans call for 5 feet of new service line on private side, quantity for this item assumes 10 feet of service line, per residence, in the event the Plumber has to chase the existing line for connection. Contractor shall take this into account for submitted bid prices. Payment shall include the following:
 1. Water service piping, fittings and connectin on private side past ROW line;

2. Pressure testing and disinfection;
3. Excavation, backfill, compacting;
4. Select fill,
5. Bedding material (VDOT No. 57 Stone);
6. Disposal of surplus material;
7. Dewatering;
8. Landscape and private-property restoration as damaged during construction. Conditions shall be restored to those of existing conditions prior to work, or better.

1.14 8-INCH TAPPING SLEEVE AND VALVE (BID ITEM 10):

- A. Payment will be at the unit price bid for each successful tapping sleeve and valve assembly installed including all labor, earthwork, materials, and incidentals required for a complete installation including all restoration items listed under water main bid item.

1.15 2-INCH MANUAL AIR RELEASE ASSEMBLY (BID ITEM 11):

- A. Payment will be at the unit price bid for each manual air release assembly installed including all labor, materials, and incidentals required for a complete installation including the following:
 1. Each manual air release assembly conforming to contract drawings, details, and specifications
 2. Excavating, bedding, backfilling, compacting
 3. Installation including tapping the main, installing piping, valves, corporation stops, ball valves, miscellaneous fittings, valve box frame and cover, and all other items required for complete, working assembly as shown on the contract drawings.

1.16 UNDERCUT EXCAVATION AND FILL (BID ITEM 12):

- A. Measurement will be made by cross-sectioning the undercut area. The number of cubic yards will be computed by the average end-area method. When it is impractical to measure material by the average end-area method because of erratic location of isolated deposits, a mutually acceptable method of measurement may be used. Unit price shall include the cost for excavating, stockpiling, hauling and disposal of unsuitable material removed and replacement of undercut excavation using VDOT No. 57 Stone, meeting earthwork requirements in other sections.
- B. When unsuitable material must be removed from an area of the project where undercut is not shown on the drawings, it shall be measured per cubic yard from the bottom of the plan excavation.
- C. Payment will be made at the unit price bid per cubic yard.

1.17 CONCRETE CURB (BID ITEM 13):

- A. The unit price for this item shall constitute full compensation for furnishing VDOT Type 2 concrete curb where indicated and as specified.

- B. The unit price Bid will include the cost of , but not limited to, the following
 - 1. Demolition and proper disposal of existing curb(s),
 - 2. Saw cutting of existing driveway aprons to achieve a neat and level interface,
 - 3. Excavations,
 - 4. Installation of type 2 VDOT curb per the detail,
 - 5. VDOT 21A subbase,
 - 6. Curing,
 - 7. Topsoil, grading, seeding and mulching backside of curb in grass areas,
 - C. Payment will be made at the unit price bid lineal foot of concrete curb installed and accepted by the City.
- 1.18 ROADWAY RECONSTRUCTION (BID ITEM 14):
- A. Roadway restoration will be paid at the unit price bid per square yard at the specified depth, including the costs associated with the demolition, removal and disposal of cut material, placement of new asphalt and any other incidental work.
 - B. Restoration of driveways, landscaping, sidewalks and other residential surfaces disturbed or damaged by roadway reconstruction shall be considered incidental to this bid item.
- 1.19 CONCRETE DRIVEWAY AND APRONS (BID ITEM 15)
- A. Concrete driveway and apron restoration will be paid at the unit price bid per square yard at the specified depth, including the costs associated with the demolition, removal and disposal of cut material, placement of new base material and concrete and any other incidental work.
 - B. Restoration of landscaping, and other residential surfaces disturbed or damaged by driveway and apron installation shall be considered incidental to this bid item.
- 1.20 ASPHALT DRIVEWAY AND APRONS (BID ITEM 16)
- A. Asphalt driveway and apron restoration will be paid at the unit price bid per square yard at the specified depth, including the costs associated with the demolition, removal and disposal of cut material, placement of new base material and asphalt and any other incidental work.
 - B. Restoration of landscaping, and other residential surfaces disturbed or damaged by driveway and apron installation shall be considered incidental to this bid item.
- 1.21 GRAVEL DRIVEWAY AND APRONS (BID ITEM 17)
- A. Gravel driveway and apron restoration will be paid at the unit price bid per square yard at the specified depth, including the costs associated with the demolition, removal and disposal of cut material, placement of new gravel and any other incidental work.

- B. Restoration of landscaping, and other residential surfaces disturbed or damaged by driveway and apron installation shall be considered incidental to this bid item.

1.22 CONCRETE SIDEWALK (BID ITEM 18)

- A. Concrete sidewalk restoration will be paid at the unit price bid per square yard at the specified depth, including the costs associated with the demolition, removal and disposal of cut material, placement of new asphalt and any other incidental work.
- B. Restoration of landscaping, and other residential surfaces disturbed or damaged by driveway and apron installation shall be considered incidental to this bid item.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

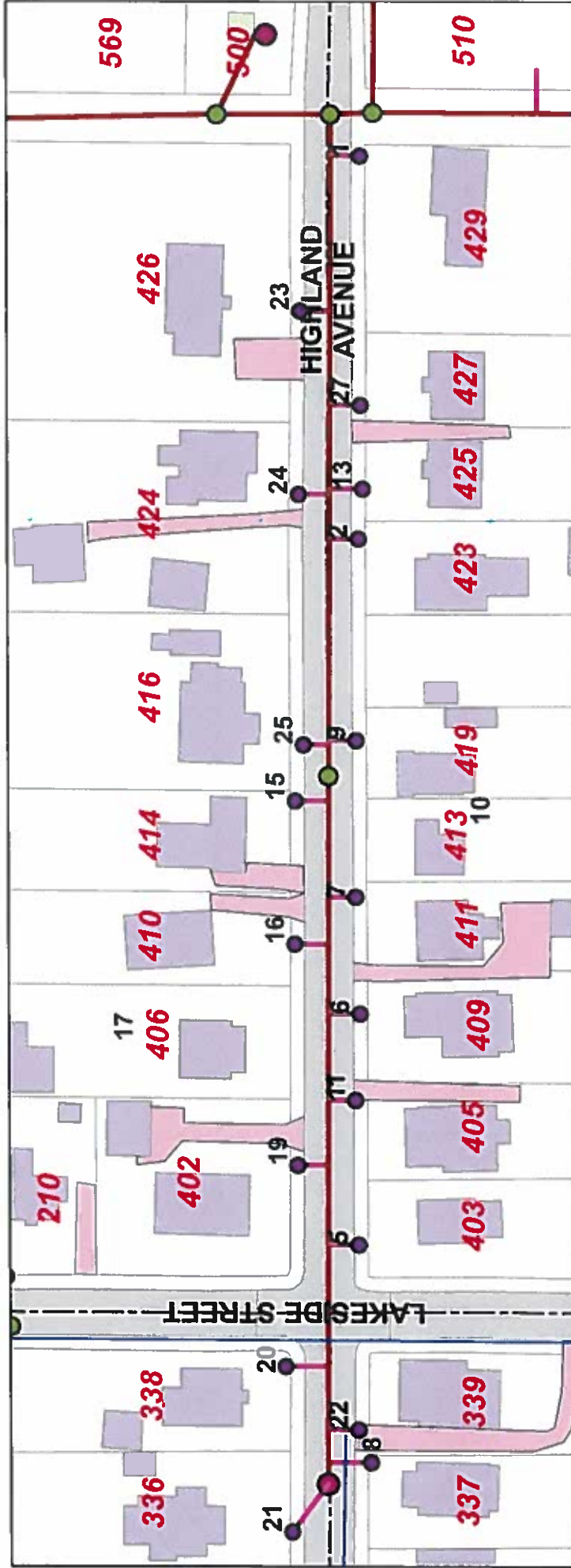
(Not Used)

END OF SECTION

**LATERAL CLEAN-OUT LOCATION
HIGHLAND AVENUE**

CLEAN-OUT ID #	CO CAP APPROX.ELEV	X Coord.	Y Coord.
1	17.49	12048382.01	3433878.07
2	21.67	12048192.97	3433799.12
5	31.75	12047845.29	3433653.04
6	28.33	12047959.23	3433700.07
7	25.73	12048015.95	3433726.38
8	38.98	12047740.52	3433602.04
9	24.09	12048093.15	3433758.56
10	999.00	UNKNOWN	
11	28.07	12047915.80	3433684.39
13	23.95	12048218.38	3433807.38
15	24.54	12048050.79	3433775.93
16	25.57	12047980.05	3433746.59
17	999.00	UNKNOWN	
19	29.86	12047871.88	3433699.39
20	33.02	12047770.17	3433664.05
21	34.31	12047689.93	3433626.37
22	31.59	12047754.24	3433614.86
23	19.18	12048293.03	3433875.21
24	20.90	12048202.35	3433837.78
25	23.83	12048080.14	3433783.64
26	33.09	12048388.50	3433567.17
27	20.56	12048259.25	3433825.97

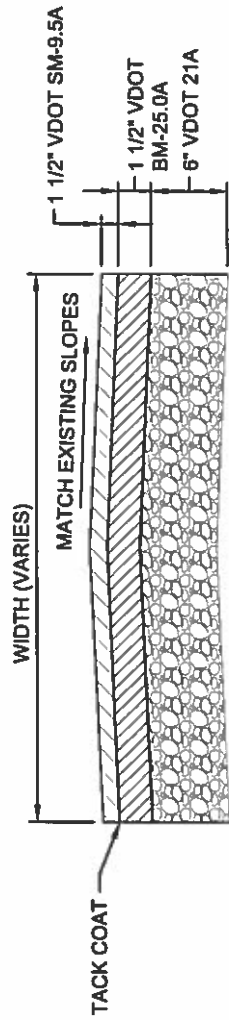
- NOTES:**
1. 999 INDICATES UNKNOWN.
 2. CONTRACTOR SHALL EXPECT LATERALS AT ALL BUILDINGS, WHETHER SHOWN OR NOT.
 3. X AND Y COORDINATES ARE BASED ON THE CITY'S GIS



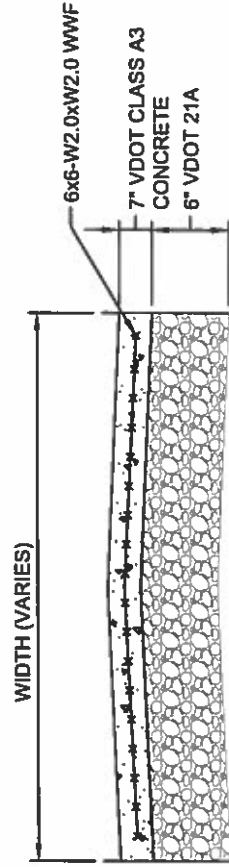
City of Suffolk, Virginia
 Department of Public Utilities
 Highland Avenue Clean-out Location



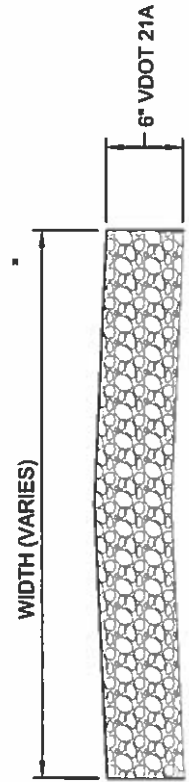
Legend
 SuffolkGIS_DBO_Cleanouts
 GPS
 ● No Cleanout Exists
 ● Yes
 — Sewer_Service_Laterals



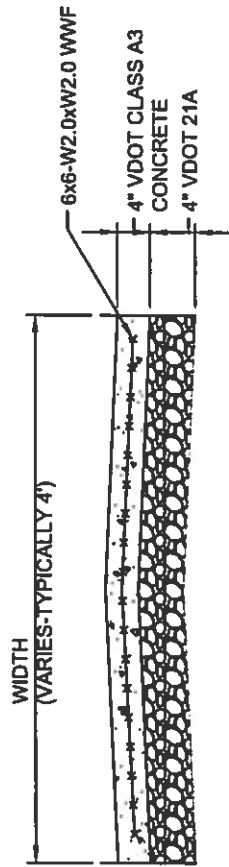
3 ASPHALT DRIVEWAY AND APRON
C-009 SCALE: NONE



4 CONCRETE DRIVEWAY AND APRON
C-009 SCALE: NONE



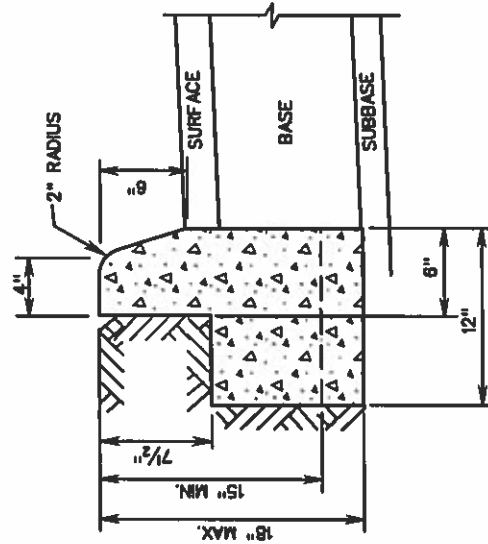
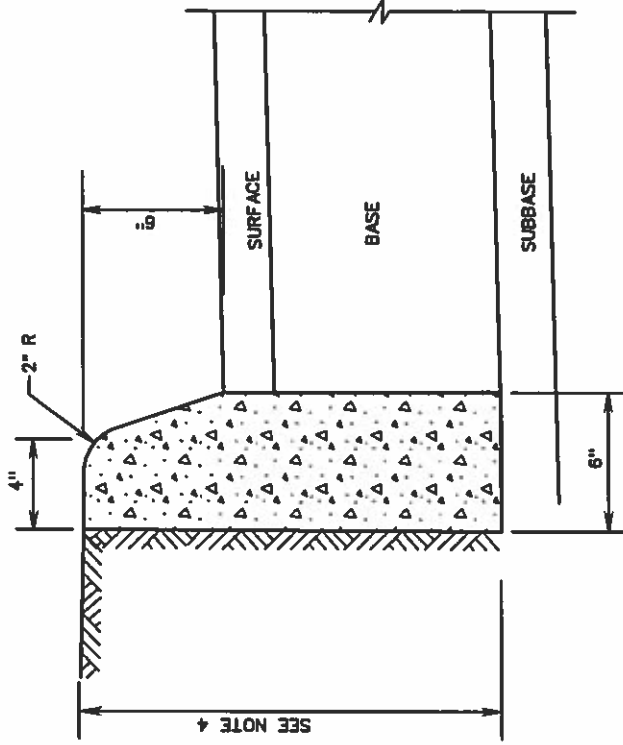
5 GRAVEL DRIVEWAY AND APRON
C-009 SCALE: NONE



6 CONCRETE SIDEWALK
C-009 SCALE: NONE

NOTES:

1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (15" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE, THE DEPTH IS TO BE 18" AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
5. CG-2 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-6 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL, IN THE SECTION ON GS URBAN STANDARDS.



**ACCEPTABLE ALTERNATIVE
IF CURB IS EXTRUDED**

SPECIFICATION
REFERENCE

105
502

STANDARD 6" CURB

VIRGINIA DEPARTMENT OF TRANSPORTATION

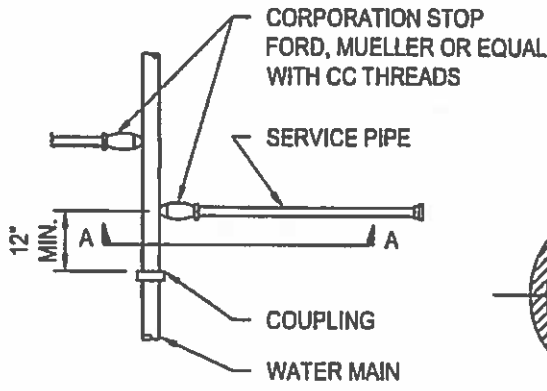


ROAD AND BRIDGE STANDARDS

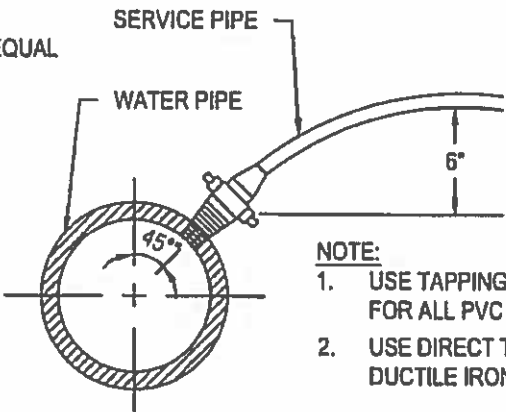
REVISION DATE

SHEET 1 OF 1

201.01

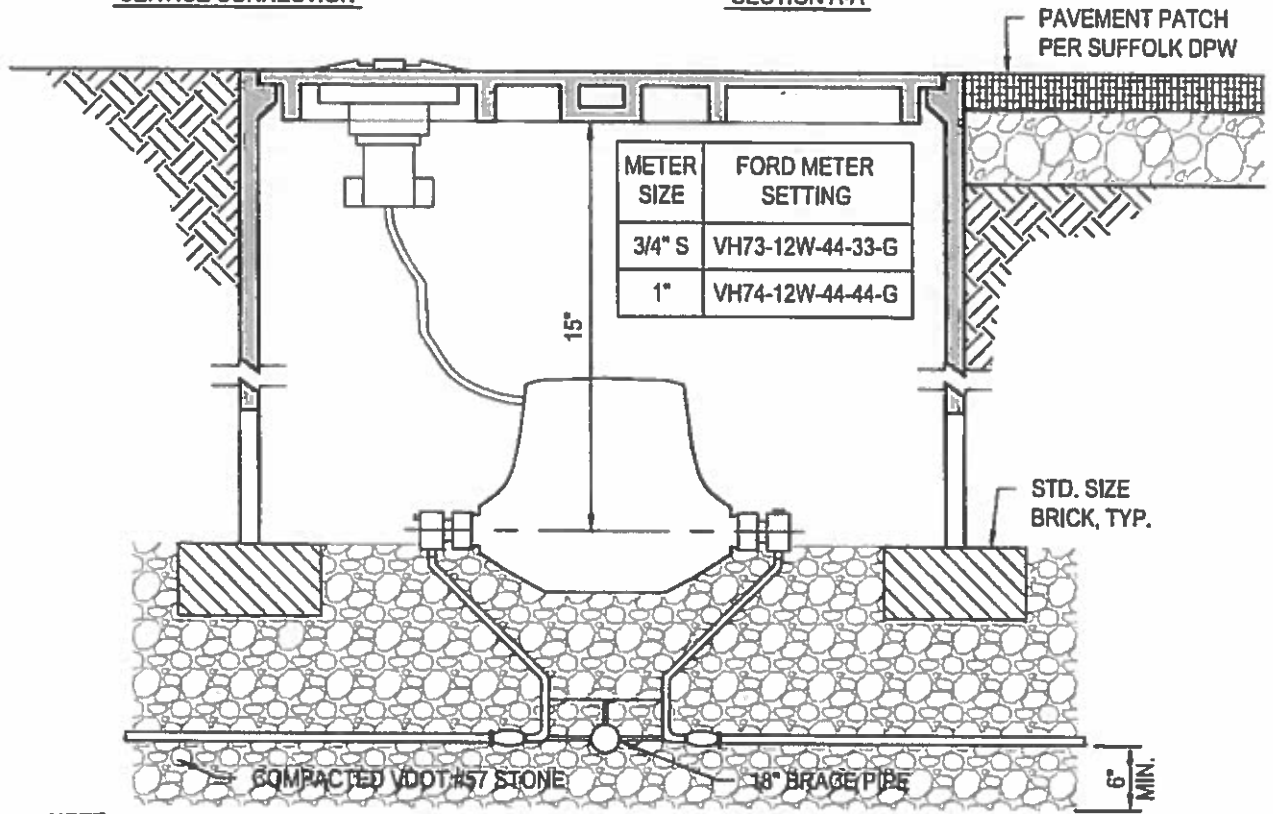


SERVICE CONNECTION



SECTION A-A

- NOTE:**
1. USE TAPPING SADDLE FOR ALL PVC PIPE.
 2. USE DIRECT TAP FOR DUCTILE IRON PIPE.

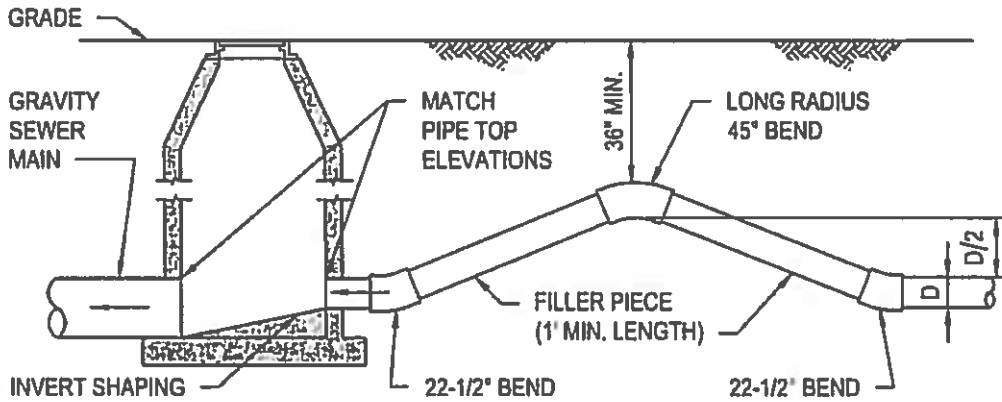


- NOTE:**
1. CAST IRON METER BOX AND LID SHALL BE CAPITOL FOUNDRY OF VA. INC MODEL MBX-1 WITH CUT OUT FOR SENSUS TOUCH READ SYSTEM PIT-LID MODULE. METER SHALL BE SENSUS iPERL TOUCH READ.
 2. PROVIDE MUELLER DR2S OR APPROVED EQUAL SADDLES FOR CORPORATION STOPS IN PVC PIPE.
 3. CAST IRON METER BOX AND LID NOT TO BE USED IN COMMERCIAL / INDUSTRIAL TRAFFIC AREAS.
 4. PROVIDE 1" DIAMETER BRACE PIPE 18" LONG.
 5. WHEN WATER METER IS LOCATED WITHIN DRIVEWAY, PROVIDE AN ISOLATION JOINT USING 1/2-INCH PREMOLDED JOINT FILLER 12" AROUND METER BOX TO FACILITATE FUTURE MAINTENANCE.
 6. WHEN WATER METER IS LOCATED IN PAVEMENT AND SUBJECTED TO HIGH DENSITY TRAFFIC, PROVIDE A METER BOX AND COVER SUITABLE FOR HS-20 (HS-20-44) LIVE LOADS.

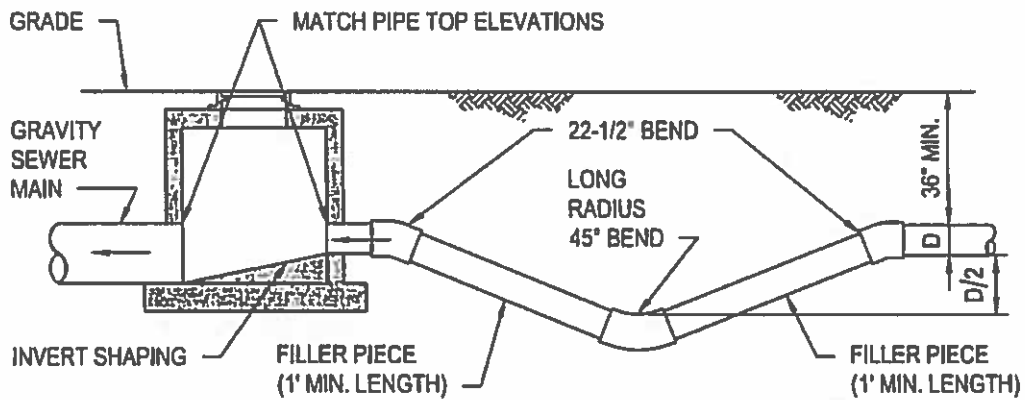
3/4"- 1" WATER METER INSTALLATION DETAIL

NOT TO SCALE

REFERENCE PFM Vol. II	RELEASE 1 2016	CATEGORY WATER	SHEET NO. 1 of 1	DPU DETAIL NO. 153
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DISCHARGE INTO MANHOLE



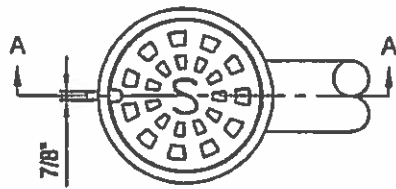
DISCHARGE INTO SHALLOW MANHOLE

NOTE: PROVIDE SPECIFIED PROTECTIVE LINING TO PROTECT AGAINST HYDROGEN SULFIDE ATTACK FOR MANHOLES AS SHOWN ON DRAWINGS.

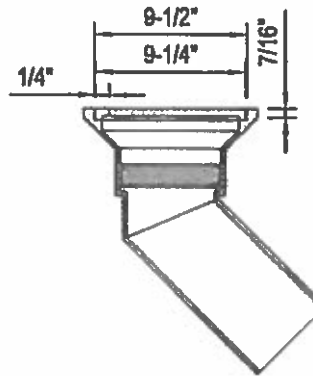
FORCE MAIN CONNECTION TO SANITARY MANHOLE

NOT TO SCALE

REFERENCE PFM Vol. II	RELEASE 1 2016	CATEGORY SANITARY	SHEET NO. 1 of 1	DPU DETAIL NO. 261
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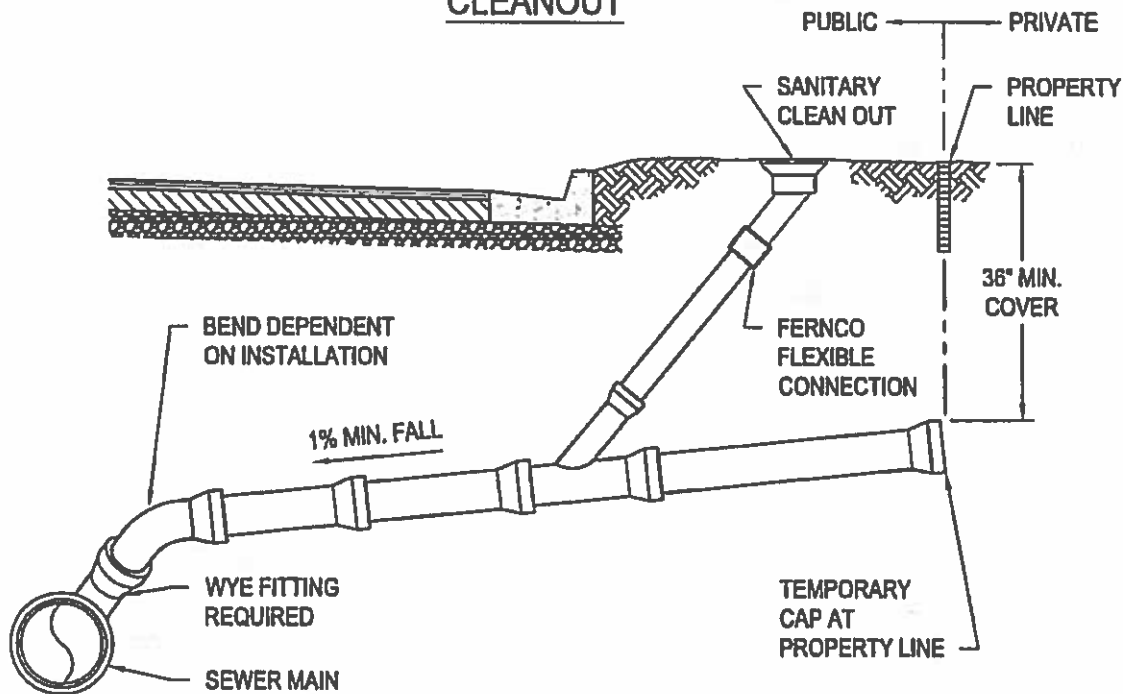


PLAN



SECTION A-A

CLEANOUT



NOTES:

1. SINGLE CLEAN OUT (CAPITOL FOUNDRY ITEM # 110T-CO OR EQUAL) WITH LID MARKED "S" AND PLASTIC THREADED PLUG. CLEAN OUT CASTING TO BE CONNECTED TO 4" RISER PIPE WITH FERNCO FLEXIBLE COUPLING OR APPROVED EQUAL.
2. LATERAL SHALL BE ORIENTED AT 90° TO THE SEWER MAIN.
3. PIPE SIZE FOR COMMERCIAL SERVICE LATERALS SHALL BE DETERMINED BY FLOW CALCULATIONS AND APPROVED BY DPU (TYPICALLY 6" DIAMETER).
4. CLEAN OUT SHALL BE LOCATED IN RIGHT-OF-WAY, 1'-0" FROM PROPERTY LINE. OBSTRUCTIONS OR CONFLICTS WILL BE EVALUATED BY CITY ON A CASE BY CASE BASIS.
5. LATERAL MATERIAL SHALL MATCH SEWER MAIN, UNLESS DIRECTED OTHERWISE BY DPU.
6. WHEN CLEANOUT IS LOCATED WITHIN DRIVEWAY, PROVIDE AN ISOLATION JOINT USING 1/2-INCH PREMOLDED JOINT FILLER 18" AROUND CLEANOUT TO FACILITATE FUTURE MAINTENANCE.

SANITARY LATERAL

NOT TO SCALE

REFERENCE PFM Vol. II	RELEASE 1 2016	CATEGORY SANITARY	SHEET NO. 1 of 1	DPU DETAIL NO. 262
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