



CITY OF TAMPA

Bob Buckhorn, Mayor

CONTRACT ADMINISTRATION DEPARTMENT

ADDENDUM NO. 3

DATE: July 24, 2015

Contract 15-C-00046; Furnish and Install Miscellaneous Water & Stormwater Mains 2"- 48" Diameter - FY16

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

- Item 1: The Bid Date for the above referenced project is hereby changed to August 4, 2015.
- Item 2: Replace Proposal pages P-3 thru P-27 with the revised attached Proposal pages P-3R thru P-28R.
- Item 3: Delete and replace the 1st and 2nd paragraphs under GENERAL, in SECTION 2 – PAVEMENT RESTORATION PROCEDURES with:
- “The Contractor shall contact the City’s Lab 24-hours in advance to coordinate specific testing services necessary to meet or satisfy the contract specifications, or as directed by the Department’s Engineer. “
- Item 4: At the end of the 3rd paragraph under GENERAL; in Section 2 – PAVEMENT RESTORATION PROCEDURES: delete “ – 2003 ” and replace it with “ (2012 or latest issuance of Permit) “
- Item 5: Page CP-50: Revised Item SW530 – Rip Rap (Rubble): Replace EA with CY.
- Item 6: Page CP-3, in Section 2, Revised heading from (**C2.10 DUCTILE IRON and PVC PIPE**) to **C2.10 DUCTILE IRON and PVC PIPE via OPEN-CUT**
- Item 7: Include directional drill installation of RJPVC to section C2.20 on page CP-6:
- i. Section C2.20 insert “and PVC” after “HDPE” in the heading
 - ii. Section C2.20, on pg. CP-6, the 1st paragraph: insert “and PVC “ after “HDPE”, twice
 - iii. Section C2.20, on pg. CP-6, Item 5: insert “HDPE” after “Joining”
 - iv. Section C2.20, on pg. CP-7, Item 10: insert “and PVC” after “tubing”

- v. in section C2.20, on pg. CP-7, in Item 11: replace with:
"Tracer wire for directional drill installations shall be approved insulated copper clad steel (CCS) wire such as Copperhead SoloShot Extra HS or Pro-Trace HD-CCS PE45. For directional drilled HDPE pipe, a 1" conduit may be pulled back with the locating wires to ease installation and to prevent the wires from breaking. Wire splices made must be with wire connectors suitable for buried service and be corrosion and moisture-proof, such as DBR Kit by 3M, Snakebite by Copperhead Industries or equal. "
- vi. Section C2.20, on pg. CP-7, in 3rd paragraph, delete "HDPE", from paragraph.
- vii. Section C2.20, on page CP-8, in Item 11:
 - a) delete "HDPE electrofusion";
 - b) delete "HDPE" in the next paragraph and in the last paragraph
- viii. Section C2.20, on page CP-8, add the following pay items and descriptions:
 - 2207 F&I 6" RJPVC Pipe by HDD at various depths
 - 2208 F&I 8" RJPVC Pipe by HDD at various depths
 - 2212 F&I 12" RJPVC Pipe by HDD at various depths
 - 2216 F&I 16" RJPVC Pipe by HDD at various depths

Item 8: In Specific Provision S-4.02 Basis of Award/Contract Price, 2nd paragraph, insert the following after the 1st sentence:

Major factors and primary concerns of the City when awarding this contract is Contractor capability and commitment to performing and maintaining the service levels defined in S-4.04 Time Provisions - For "Minor Projects" Work Orders. City expectation and intent is Contractor compliance with the service levels therein defined at least 98% of the time - for those six types of work orders.

Item 9: In TECHNICAL SPECIFICATIONS – WATER, section T1.06 Quality Control, replace 2nd paragraph with the following:

For tests required by the Technical Specifications regarding soil compaction, asphalt testing and concrete cylinder strength, the City shall appoint and perform inspection and testing. The Contractor shall cooperate; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested; notify Engineer a minimum of 24 hours prior to expected time for operations requiring services; make arrangements and pay for additional samples and tests required for Contractor's use. Retesting required due to non-conformance with specified requirements shall be performed by the City at the direction of the Engineer. Payment for retesting will be charged to the Contractor by deducting inspection or testing charges from the Contractor's payment.

Item 10: In Schedule A – Water Contract Pay Items for Major Projects, delete section C8.20 Raising Existing Meters in Existing Meter Boxes, and the associated pay items for section C8.20 from the Proposal Form – items 8200, 8201, 8202, and 8203.

Item 11: In Schedule B: Stormwater Contract Pay Items, after the 1st paragraph in C100 add the following 2nd paragraph:

The Contractor shall be compensated for restoration for stormwater construction projects per restoration pay items in the Major Projects sections of the Contract.

Item 12: In Schedule A – Water Contract Pay Items for Major Projects, in section C9.90 Exploratory Pits, above “Payment shall be made under:” insert:

Compensation for exploratory pits shall be provided at a fixed rate of \$600.00 per agreed and accepted pit.

Item 13: In Schedule A – Water Contract Pay Items for Major Projects, in section C9.92 Miscellaneous Incidentals, add “per Details 2.14 and 2.15” to the description for Item No. 9922.

Item 14: In Schedule B: Stormwater Contract Pay Items, in C350 Concrete Flume, 2nd paragraph: delete “Workmanship and Materials Section 345 – Portland Cement Concrete”, and replace with “FDOT Standard Specification 346”

Item 15: In Schedule A – Water Contract Pay Items for Major Projects, in section C9.96 Separate Mobilization, replace “\$5,000.00” with \$7,000.00.

Item 16: In Schedule A – Water Contract Pay Items for Major Projects, in section C10.00 Performance Bond Allowance, delete the 2nd paragraph in its entirety.

Item 17: In Schedule A – Water Contract Pay Items for Major Projects, in section C9.20 Pavement:

i. in #3, delete “ABC-3”;

ii. in the paragraph immediately above “...*Asphalt restoration quantities shall be paid per square-yard inch...*”, after “...*10% OH&P...*” insert:

, or by the applicable contract pay items.

iii. in the section “...Payments shall be made under:...revise the Pay Item Description for Item No. 9212 to: INSTALL BRICK PAVEMENT FURNISHED BY CITY, CONTRACTOR F&I BASE

Item 18: In Schedule A – Water Contract Pay Items for Major Projects, in section C8.10 Metered Services Two-Inch and Less with Pipe Work, in #4, replace “meter box” two times with “meter box and lid”.

Item 19: In Schedule A – Water Contract Pay Items for Major Projects, in section C6.10 Line Stops, in #6: delete “90%” and replace with “98%”.

Item 20: In Schedule A – Water Contract Pay Items for Major Projects, in section C6.20 Insertion Valves:

- i. delete Item # 6212.
- ii. in the 1st sentence, between “install” and “insertion”, insert “TEAM”.
- iii. delete Pay Items 6200, 6203, 6206, and 6209.

Item 21: Starting on page MS-32, delete the entire Insertion Valves specification, and replace with the attached updated insertion valve specification.

Item 22: In Schedule A – Water Contract Pay Items for Major Projects, section C6.00 Valves, remove Pay Item Description list in its entirety and replace with the following:

| <u>Item No.</u> | <u>Description</u> | <u>Unit</u> |
|-----------------|-------------------------------------------------------------------------|-------------|
| 6000 | Furnish and install 2" gate valve and box on DIP, CIP or PVC | EA |
| 6001 | Furnish and install 4" gate or tapping valve and box on DIP, CIP or PVC | EA |
| 6002 | Furnish and install 6" gate or tapping valve and box on DIP, CIP or PVC | EA |
| 6003 | Furnish and install 8" gate or tapping valve and box on DIP, CIP or PVC | EA |
| 6004 | Furnish and install 12" gate or tapping valve and box on DIP or CIP | EA |
| 6005 | Furnish and install 16" gate or tapping valve and box on DIP or CIP | EA |
| 6006 | Furnish and install 20" gate or tapping valve and box on DIP or CIP | EA |
| 6007 | Furnish and install 24" gate or tapping valve and box on DIP or CIP | EA |
| 6008 | Furnish and install 30" gate or tapping valve and box on DIP or CIP | EA |
| 6009 | Furnish and install 36" gate or tapping valve and box on DIP or CIP | EA |
| 6010 | Furnish and install 42" gate or tapping valve and box on DIP or CIP | EA |
| 6011 | Furnish and install 48" gate or tapping valve and box on DIP or CIP | EA |
| 6020 | Furnish and install 16" butterfly valve and box on DIP or CIP | EA |
| 6021 | Furnish and install 20" butterfly valve and box on DIP or CIP | EA |
| 6022 | Furnish and install 24" butterfly valve and box on DIP or CIP | EA |
| 6023 | Furnish and install 30" butterfly valve and box on DIP or CIP | EA |
| 6024 | Furnish and install 36" butterfly valve and box on DIP or CIP | EA |
| 6025 | Furnish and install 42" butterfly valve and box on DIP or CIP | EA |
| 6026 | Furnish and install 48" butterfly valve and box on DIP or CIP | EA |
| 6070 | Furnish and install 2" gate valve and Box on HDPE | EA |
| 6071 | Furnish and install 4" gate valve and box on HDPE | EA |
| 6072 | Furnish and install 6" gate valve and box on HDPE | EA |
| 6073 | Furnish and install 8" gate valve and box on HDPE | EA |
| 6074 | Furnish and install 12" gate valve and box on HDPE | EA |

Item 23: In Schedule A - Specific Provisions for Water, section S-4.02 Basis of Award/Contract Price, add after the 9th paragraph:

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A third category of construction work to be issued through the Contract is Emergency Construction – in response to water main breaks, emergency valve replacements, or other emergency work required of the Water Department by others, as directed by the Engineer. Compensation for Emergency Work shall be provided per Tampa Agreement Article 7.02 EXTRA WORK, subparagraph (c), with labor rates taken from RS Means, and equipment rates taken from the current Rental Rate Blue Book for Construction equipment. Contractor shall provide invoices for materials reimbursement, and certified payroll for labor.

Item 24: In Schedule A – Water Contract Pay Items for Major Projects, in section C9.80 Tree Removal, Planting and Protection, in the paragraph "...Tree protection shall include...", after the 6th item insert a new paragraph:

Root pruning shall be performed in accordance with City standards and requirements, and to the satisfaction and approval of the Engineer.

Item 25: In Schedule A – Water Contract Pay Items for Major Projects, in section C1.00 General, at the end of item 1.: delete "...Section 9.96..." and replace with "Section C9.96".

Item 26: In Schedule A - Specific Provisions for Water, section S-38.02 Permanent Fence Restoration, 2nd paragraph:

delete "...The fence restoration will be added to the project as a change order..."

replace with: The fence restoration will be added to the project through a Work Directive Change (WDC).

Item 27: In Schedule A – Water Material Specifications, page MS-11, delete the AIR RELEASE VALVES specification in its entirety and replace with the attached updated AIR VACUUM AIR RELEASE VALVES specification.

Item 28: On page CP-4, Section C2.10, Item 14:

i. delete "14-gauge", replace with "12-gauge CCS tracer"

ii. add to #14:

Tracer wire for direct bury installations shall be approved insulated copper clad steel (CCS) wire such as Copperhead High Strength Tracer Wire or Pro-Trace HF-CCS PE45 Tracer Wire. Wire splices must be with wire connectors suitable for buried service, and be corrosion and moisture-proof, such as DBR Kit by 3M, Snakebite by Copperhead Industries or equal.

Item 29: On page SP-11, in section S-17.01, after the 5th paragraph, insert the following new paragraph:

Limits of uncompleted restoration (and construction) shall not exceed 1,000 lf or 3 consecutive blocks – to include hydrants, structural pavement, sod, concrete and all other required incidentals to complete pipeline construction within those limits.

Item 30: On page SP-14, section S-25.01, at the end of the 3rd paragraph, add:

Installations shall not exceed 1,000 lf (or as directed by the Engineer) without complete restoration – to include completed fire hydrant and meter service transfers/installations.

Item 31: On page SP-3:

- i. in 5th & 7th lines from the top: delete “and a cost estimate for the project”
- ii. in 17th line from the top, after “Proceed”, insert “(for a given work order)”
- iii. in 20th line from the top, after “Proceed”, insert “(unless otherwise directed by the Engineer)”

Item 32: On pg SP-3, under section S-4.03, in 1st line, after “Proceed”, insert “for a given work order”

Item 33: On page CP-2, in item 28, after “received”, insert: “and accepted by the City”

Item 34: In Schedule A – Specific Provisions for Water, in sections S-4.02, S-4.03, S-6.01, S-11.01 <only in line 3 of S11.01>, insert “(work order authorization)” after “Notice to Proceed”.

Item 35: On Page TS-13, in Technical Specifications for Water, in 3rd paragraph, after the 1st sentence, insert:

Provide and maintain adequate dewatering equipment to remove and dispose of all surface and ground water entering trenches, excavations or other parts of the work. Each excavation shall be kept dry during subgrade preparation and continually thereafter until the pipe (or structure) to be installed or built therein is completed to the extent that no damage from hydrostatic pressure, flotation, or other cause will result. All trenches which extend down to or below groundwater shall be dewatered by lowering and keeping the groundwater level beneath such trench 2 feet or more below the bottom of the trench.

Item 36: Replace Detail 3.05 with the updated attached version.

Item 37: Page TS-37 , in T2.08 Valves, 2nd paragraph: delete 3rd sentence and replace with the following:

Valves shall be furnished with extension stems if operating nut is greater than 48-inches deep, to bring the operating nut to within 24-inches of the top of the valve box (see Detail 3.05, #3). Connection to the valve shall be with a wrench nut coupling and a set screw(s) to secure the coupling to the valve’s operating nut. The coupling and square nut wrench shall be welded to the extension stem. Rock guard and centering plate are required. Extension stems shall be equal to or better than ProSelect Gate Valve Extension – with Centering Plate, or Trumbull Gate Valve Extension Stems, Style B.

Item 38: In Schedule A – Water Contract Pay Items for Major Projects, in section C6.00 Valves, page CP-20:

- i. after “...*Payment shall be made for the number of each size valve and valve box installed and incorporated into the piping system complete, working and operating to the satisfaction of the Engineer...*”, add:

Separate compensation shall be provided for each valve nut extension required, installed and accepted by the Engineer, per length of extension required.

ii. Insert the following valve extension Pay Items:

| | | |
|------|--------------------------------------------|----|
| 6080 | Furnish and install 2' valve nut extension | EA |
| 6081 | Furnish and install 3' valve nut extension | EA |
| 6082 | Furnish and install 4' valve nut extension | EA |

Item 39: In Schedule A – Materials Specifications, BRASS FITTINGS, page MS-6, replace the entire 2. i. with the following updated specification (The change in this section is to notify that padlock wings are required on 1" and larger Curb Stops, but not on ¾" Curb Stops.):

Curb stops shall be of the ball valve design with a full-port opening ball no less than ¾-inch. 1-inch and larger curb stops shall be provided with padlock wings cast on stop body and operating tee cap to provide for locking the stop in closed position. ¾-inch curb stops shall be provided without padlock wings. Curb stops for use with copper or plastic service shall have an inlet connection with a pack joint compression nut (w/set screw) and an outlet connection with female iron pipe thread (FIP), as manufactured by Ford Meter Box Company (FMBC) [B41 for ¾-inch; B41W for ≥1-inch], Mueller [P-25170N], A.Y. McDonald [6102 for ¾-inch; 6102W-22 for ≥1-inch], or approved equal. Curb stops with Inside Iron Pipe Thread (FIP) inlet connections and an Inside Iron Pipe Thread outlet connections shall be FBMC [B11 for ¾-inch; B11W for ≥1-inch], Mueller [B-20200], A.Y. McDonald [6101W], or approved equal.

Item 40: In Schedule A – Water Contract Pay Items for Major Projects, in C5.00 FIRE HYDRANTS, page CP-17, replace the 2nd paragraph with the following, which allows use of a GRADELOK fitting:

The "standard hydrant assembly" to be furnished is 10 LF or less of 6" DIP, hydrant elbow, and hydrant barrel extension and hydrant barrel as shown in Standard Detail 4.01. When agreed by the Engineer, an "alternate hydrant assembly" to be furnished is 7 LF or less of 6" DIP and a Gradelok offset fitting, hydrant elbow, hydrant barrel extension, and hydrant barrel as generally shown in Standard Detail 4.01. (Note that whenever a Gradelok fitting is used with a fire hydrant installation, the standard 3' to 5' depth of bury required at the hydrant must be maintained.)

Item 41: In Schedule A – Water Contract Pay Items for "Major Projects", in C5.00 FIRE HYDRANTS, page CP-18, delete pay item 5000 and add the following pay items to include the alternate FH installations with GRADELOK fittings:

| | | |
|------|-------------------------------------------------------------------------------------------------------|------|
| 5000 | Furnish and install full std. fire hydrant assembly on new or existing mains | (EA) |
| 5001 | Furnish and install alt. fire hydrant assembly on new or existing mains w/6" Gradelok fitting | (EA) |
| 5002 | <i>Furnish and install alt. fire hydrant assembly on new or existing mains w/12" Gradelok fitting</i> | (EA) |
| 5003 | <i>Furnish and install alt. fire hydrant assembly on new or existing mains w/24" Gradelok fitting</i> | (EA) |

Item 42: In the attached updated Bid Proposal pages, in Schedule A – Water – Major Projects Pay Items, insert the new description for pay item 5000, and change the quantity to 140. Then add the 3 new Pay Items (5001, 5002, & 5003) with quantities of 10 each.

Item 43: In Schedule C – Water Contract Pay Items for “Minor Projects”, in CM5.00 Fire Hydrants: New Installation, or Replacement – Minor Projects, page CP-53, replace the 3rd paragraph with the following, which allows use of a GRADELOK fitting:

The “standard hydrant assembly” to be furnished is 10 LF or less of 6” DIP, hydrant elbow, and hydrant barrel extension and hydrant barrel as shown in Standard Detail 4.01. When agreed by the Engineer, an “alternate hydrant assembly” to be furnished is 7 LF or less of 6” DIP and a Gradelok offset fitting, hydrant elbow, hydrant barrel extension, and hydrant barrel as generally shown in Standard Detail 4.01. (Note that whenever a Gradelok fitting is used with a fire hydrant installation, the standard 3’ to 5’ depth of bury required at the hydrant must be maintained.)

Item 44: In Schedule C – Water Contract Pay Items for “Minor Projects”, in CM5.00 Fire Hydrants: New Installation, or Replacement – Minor Projects, page CP-55, add the following Pay Items to allow use of Gradelok fittings:

| | |
|----------------------------------------------------------------|----|
| DD5101 F&I 6” Gradelok fitting with DD5001, DD5002, or DD5003 | EA |
| DD5102 F&I 12” Gradelok fitting with DD5001, DD5002, or DD5003 | EA |
| DD5103 F&I 24” Gradelok fitting with DD5001, DD5002, or DD5003 | EA |

Item 45: Replace Detail 2.14 with updated Detail 2.14

Item 46: Replace Detail 3.05 with updated Detail 3.05

Item 47: Insert Detail 3.06

Item 48: Replace Detail 5.10A with updated Detail 5.10A

Item 49: Replace Detail 5.11A with updated Detail 5.11A

Item 50: Insert Detail 5.12A

Item 51: Page CP-4, add after Item 23, the following:

24: Furnishing and installing 10-gauge tracer wire on ductile iron water mains 16” and greater. Wire shall be double strand, with the ends of each wire terminating in curb stop boxes, per Detail 3.02.

Item 52: In Technical Specifications – WATER, page TS-37, Section T2.08, end of 3rd paragraph, add: Bronze valve identification disks (3” OD x 8” thick) are required for all valve installations, per Detail 3.06.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect. Questions are to be e-mailed to Contract Administration@tampagov.net.



Jim Greiner, P.E., Contract Management Supervisor

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|------------------------------------------------------|----------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| SCHEDULE A - WATER - MAJOR PROJECTS PAY ITEMS | | | | | | |
| 2100 | F&I 4" ductile iron pipe with 5' trench or less | LF | 1,000 | | \$ | \$ |
| 2101 | F&I 4" ductile iron pipe with more than 5' trench | LF | 1,000 | | \$ | \$ |
| 2102 | F&I 6" ductile iron pipe with 5' trench or less | LF | 40,000 | | \$ | \$ |
| 2103 | F&I 6" ductile iron pipe with more than 5' trench | LF | 2,000 | | \$ | \$ |
| 2104 | F&I 8" ductile iron pipe with 5' trench or less | LF | 6,000 | | \$ | \$ |
| 2105 | F&I 8" ductile iron pipe with more than 5' trench | LF | 2,000 | | \$ | \$ |
| 2106 | F&I 12" ductile iron pipe with 5' trench or less | LF | 4,000 | | \$ | \$ |
| 2107 | F&I 12" ductile iron pipe with more than 5' trench | LF | 2,000 | | \$ | \$ |
| 2108 | F&I 16" ductile iron with more than 5' trench | LF | 2,000 | | \$ | \$ |
| 2109 | F&I 20" ductile iron with more than 5' trench | LF | 500 | | \$ | \$ |
| 2110 | F&I 24" ductile iron with more than 5' trench | LF | 1,000 | | \$ | \$ |
| 2111 | F&I 30" ductile iron with more than 5' trench | LF | 500 | | \$ | \$ |
| 2112 | F&I 36" ductile iron with more than 5' trench | LF | 600 | | \$ | \$ |
| 2113 | F&I 42" ductile iron with more than 5' trench | LF | 200 | | \$ | \$ |
| 2114 | F&I 48" ductile iron with more than 5' trench | LF | 2,500 | | \$ | \$ |
| 2150 | F&I 2" PVC pipe and fittings at various depths | LF | 500 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 2151 | F&I 4" PVC pipe with 5' trench or less | LF | 500 | | \$ | \$ |
| 2152 | F&I 4" PVC pipe with more than 5' trench | LF | 100 | | \$ | \$ |
| 2153 | F&I 6" PVC pipe with 5' trench or less | LF | 500 | | \$ | \$ |
| 2154 | F&I 6" PVC pipe with more than 5' trench | LF | 100 | | \$ | \$ |
| 2155 | F&I 8" PVC pipe with 5' trench or less | LF | 300 | | \$ | \$ |
| 2156 | F&I 8" PVC pipe with more than 5' trench | LF | 100 | | \$ | \$ |
| 2157 | F&I 12" PVC pipe with more than 5' trench | LF | 200 | | \$ | \$ |
| 2158 | F&I 16" PVC pipe with more than 5' trench | LF | 200 | | \$ | \$ |
| 2159 | F&I 6" EagleLok or CertaLok restrained joint PVC pipe | LF | 200 | | \$ | \$ |
| 2160 | F&I 8" EagleLok or CertaLok restrained joint PVC pipe | LF | 200 | | \$ | \$ |
| 2161 | F&I 12" EagleLok or CertaLok restrained joint PVC pipe | LF | 300 | | \$ | \$ |
| 2162 | F&I 16" EagleLok or CertaLok restrained joint PVC pipe | LF | 200 | | \$ | \$ |
| 2200 | F&I 2" HDPE tubing by HDD w/HDPE adapters and HDPE fittings at various depths | LF | 200 | | \$ | \$ |
| 2201 | F&I 4" HDPE pipe by HDD w/HDPE adapters and HDPE fittings at various depths | LF | 300 | | \$ | \$ |
| 2202 | F&I 6" HDPE pipe by HDD w/HDPE adapters and HDPE fittings at various depths | LF | 800 | | \$ | \$ |
| 2203 | F&I 8" HDPE pipe by HDD w/HDPE adapters and HDPE fittings at various depths | LF | 800 | | \$ | \$ |
| 2204 | F&I 10" HDPE pipe by HDD w/HDPE adapters and HDPE fittings at various depths | LF | 300 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 2205 | F&I 12" HDPE pipe by HDD w/HDPE adapters and HDPE fittings at various depths | LF | 600 | | \$ | \$ |
| 2206 | F&I 14" HDPE pipe by HDD w/HDPE adapters and HDPE fittings at various depths | LF | 200 | | \$ | \$ |
| 2207 | F&I 6" RJPVC Pipe by HDD at various depths | LF | 200 | | \$ | \$ |
| 2208 | F&I 6" RJPVC Pipe by HDD at various depths | LF | 200 | | \$ | \$ |
| 2212 | F&I 6" RJPVC Pipe by HDD at various depths | LF | 200 | | \$ | \$ |
| 2216 | F&I 6" RJPVC Pipe by HDD at various depths | LF | 200 | | \$ | \$ |
| 2300 | Furnish install remove 2" temporary services lines | LF | 50 | | \$ | \$ |
| 2400 | Furnish & install 4" OD steel casing pipe | LF | 100 | | \$ | \$ |
| 2401 | Furnish & install 12" OD steel casing pipe | LF | 200 | | \$ | \$ |
| 2402 | Furnish & install 14" OD steel casing pipe | LF | 125 | | \$ | \$ |
| 2403 | Furnish & install 16" OD steel casing pipe | LF | 200 | | \$ | \$ |
| 2404 | Furnish & install 20" OD steel casing pipe | LF | 125 | | \$ | \$ |
| 2405 | Furnish & install 24" OD steel casing pipe | LF | 125 | | \$ | \$ |
| 2406 | Furnish & install 30" OD steel casing pipe | LF | 125 | | \$ | \$ |
| 2407 | Furnish & install 36" OD steel casing pipe | LF | 200 | | \$ | \$ |
| 2408 | Furnish & install 42" OD steel casing pipe | LF | 125 | | \$ | \$ |
| 2409 | Furnish & install 48" OD steel casing pipe | LF | 200 | | \$ | \$ |
| 2410 | Furnish & install 54" OD Steel casing pipe | LF | 50 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 2500 | Removal of abandoned pipe 3" and smaller in diameter | LF | 100 | | \$ | \$ |
| 2501 | Removal of abandoned pipe 4" - 10" in diameter | LF | 1,000 | | \$ | \$ |
| 2502 | Removal of abandoned pipe 12" and larger in diameter | LF | 1,000 | | \$ | \$ |
| 2600 | Cut and plug 3" and smaller in diameter pipe | EA | 50 | | \$ | \$ |
| 2601 | Cut and plug 4", 6" and 8" diameter pipe | EA | 25 | | \$ | \$ |
| 2602 | Cut and plug 10", 12" and 16" diameter pipe | EA | 25 | | \$ | \$ |
| 2700 | Furnish and push 4" to 8" ductile iron pipe under root system | LF | 500 | | \$ | \$ |
| 2800 | Make tap and furnish materials to connect 3" and smaller water mains to new/existing mains (0-15 ft. in length) | EA | 50 | | \$ | \$ |
| 2801 | Make tap and furnish materials to connect 3" and smaller water mains to new/existing mains (more than 15 ft. in length) | EA | 50 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 3000 | F&I 4" wedge-action or flange restraint | EA | 400 | | | |
| 3001 | F&I 6" wedge-action or flange restraint | EA | 3,000 | | \$ | \$ |
| 3002 | F&I 8" wedge-action or flange restraint | EA | 2,000 | | \$ | \$ |
| 3003 | F&I 12" wedge-action or flange restraint | EA | 400 | | \$ | \$ |
| 3004 | F&I 16" wedge-action or flange restraint | EA | 200 | | \$ | \$ |
| 3005 | F&I 20" wedge-action or flange restraint | EA | 100 | | \$ | \$ |
| 3006 | F&I 24" wedge-action or flange restraint | EA | 100 | | \$ | \$ |
| 3007 | F&I 30" wedge-action or flange restraint | EA | 50 | | \$ | \$ |
| 3008 | F&I 36" wedge-action or flange restraint | EA | 50 | | \$ | \$ |
| 3009 | F&I 42" wedge-action or flange restraint | EA | 50 | | \$ | \$ |
| 3010 | F&I 48" wedge-action or flange restraint | EA | 50 | | \$ | \$ |
| 3030 | F&I 20" manufactured restrained joints | EA | 10 | | \$ | \$ |
| 3031 | F&I 24" manufactured restrained joints | EA | 10 | | \$ | \$ |
| 3032 | F&I 30" manufactured restrained joints | EA | 10 | | \$ | \$ |
| 3033 | F&I 36" manufactured restrained joints | EA | 10 | | \$ | \$ |
| 3034 | F&I 42" Manufactured restrained joints | EA | 10 | | \$ | \$ |
| 3035 | F&I 48" Manufactured restrained joints | EA | 300 | | \$ | \$ |
| 3040 | Furnish & install 4" bell and MJ restraint on existing pipe | EA | 25 | | \$ | \$ |
| 3041 | Furnish & install 6" bell and MJ restraint on existing pipe | EA | 50 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|----------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 3042 | Furnish & install 8" bell and MJ restraint on existing pipe | EA | 50 | | \$ | \$ |
| 3043 | Furnish & install 12" bell and MJ restraint on existing pipe | EA | 50 | | \$ | \$ |
| 3044 | Furnish & install 16" bell and MJ restraint on existing pipe | EA | 50 | | \$ | \$ |
| 3050 | Furnish & install 4" wedge-action MJ restraints on new PVC pipe | EA | 20 | | \$ | \$ |
| 3051 | Furnish & install 6" wedge-action MJ restraints on new PVC pipe | EA | 20 | | \$ | \$ |
| 3052 | Furnish & install 8" wedge-action MJ restraints on new PVC pipe | EA | 20 | | \$ | \$ |
| 3053 | Furnish & install 12" wedge-action MJ restraints on new PVC pipe | EA | 20 | | \$ | \$ |
| 3054 | Furnish & install 16" wedge-action MJ restraints on new PVC pipe | EA | 20 | | \$ | \$ |
| 3070 | Furnish 4" push-on restraint gaskets | EA | 50 | | \$ | \$ |
| 3071 | Furnish 6" push-on restraint gaskets | EA | 600 | | \$ | \$ |
| 3072 | Furnish 8" push-on restrain gaskets | EA | 350 | | \$ | \$ |
| 3073 | Furnish 12" push-on restraint gaskets | EA | 300 | | \$ | \$ |
| 3074 | Furnish 16" push-on restraint gaskets | EA | 100 | | \$ | \$ |
| 3075 | Furnish 20" push-on restraint gaskets | EA | 25 | | \$ | \$ |
| 3076 | Furnish 24" push-on restraint gaskets | EA | 25 | | \$ | \$ |
| 3077 | Furnish 30" push-on restraint gaskets | EA | 30 | | \$ | \$ |
| 3078 | Furnish 36" push-on restrain gaskets | EA | 25 | | \$ | \$ |
| 4000 | F&I 4" ductile iron plug or cap w/DIP, CIP or PVCP | EA | 10 | | \$ | \$ |
| 4001 | F&I 4" ductile iron bends, offsets, sleeves or reducers w/DIP, CIP or PVCP | EA | 20 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 4002 | F&I 4" ductile iron tee w/DIP, CIP or PVCP | EA | 5 | | \$ | \$ |
| 4003 | F&I 4" ductile iron cross w/DIP, CIP or PVCP | EA | 2 | | \$ | \$ |
| 4004 | F&I 6" ductile iron plug or cap w/ DIP, CIP or PVCP | EA | 100 | | \$ | \$ |
| 4005 | F&I 6" ductile iron bends, offset, sleeves or reducers w/ DIP, CIP or PVCP | EA | 650 | | \$ | \$ |
| 4006 | F&I 6" ductile iron tee w/ DIP, CIP or PVC | EA | 500 | | \$ | \$ |
| 4007 | F&I 6" ductile iron cross w/ DIP, CIP or PVCP | EA | 5 | | \$ | \$ |
| 4008 | F&I 8" ductile iron plug or cap w/ DIP, CIP or PVCP | EA | 100 | | \$ | \$ |
| 4009 | F&I 8" ductile iron bends, offsets, sleeves or reducers w/ DIP, CIP or PVCP | EA | 300 | | \$ | \$ |
| 4010 | F&I 8" ductile iron tee w/ DIP, CIP or PVC | EA | 100 | | \$ | \$ |
| 4011 | F&I 8" ductile iron cross w/ DIP, CIP or PVCP | EA | 20 | | \$ | \$ |
| 4012 | F&I 12" ductile iron plug or cap w/ DIP, CI or PVCP | EA | 10 | | \$ | \$ |
| 4013 | F&I 12" bends, offsets, sleeves or reducers with DIP , CIP or PVCP | EA | 200 | | \$ | \$ |
| 4014 | F&I 12" ductile iron tee with DIP, CIP or PVCP | EA | 40 | | \$ | \$ |
| 4015 | F&I 12" ductile iron cross w/ DIP, CIP or PVCP | EA | 5 | | \$ | \$ |
| 4016 | F&I 16" ductile iron plug or cap w/ DIP, CIP or PVCP | EA | 5 | | \$ | \$ |
| 4017 | F&I 16" bends, offset, sleeves or reducers with DIP, CIP or PVCP | EA | 25 | | \$ | \$ |
| 4018 | F&I 16" ductile iron tee with DIP, CIP or PVCP | EA | 5 | | \$ | \$ |
| 4019 | F&I 16" ductile iron cross with DIP or CIP | EA | 6 | | \$ | \$ |
| 4020 | F&I 20" ductile iron plug or cap w/ DIP or CIP | EA | 10 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 4021 | F&I 20" bends, offsets, sleeves or reducers with DIP or CIP | EA | 10 | | \$ | \$ |
| 4022 | F&I 20" ductile iron tee with DIP or CIP | EA | 6 | | \$ | \$ |
| 4023 | F&I 20" ductile iron cross w/ DIP or CIP | EA | 4 | | \$ | \$ |
| 4024 | F&I 24" ductile iron plug or cap w/ DIP or CIP | EA | 4 | | \$ | \$ |
| 4025 | F&I 24" bends, offsets, sleeves or reducers with DIP or CIP | EA | 25 | | \$ | \$ |
| 4026 | F&I 24" ductile iron tee with DIP or CIP | EA | 5 | | \$ | \$ |
| 4027 | F&I 24" ductile iron cross w/ DIP or CIP | EA | 4 | | \$ | \$ |
| 4028 | F&I 30" ductile iron plug or cap w/ DIP or CIP | EA | 4 | | \$ | \$ |
| 4029 | F&I 30" bends, offsets, sleeves or reducers w/ DIP or CIP | EA | 25 | | \$ | \$ |
| 4030 | F&I 30" ductile iron tee w/ DIP or CIP | EA | 5 | | \$ | \$ |
| 4031 | F&I 30" ductile iron cross w/ DIP or CIP | EA | 5 | | \$ | \$ |
| 4032 | F&I 36" ductile iron plug or cap w/ DIP or CIP | EA | 4 | | \$ | \$ |
| 4033 | F&I 36" bends, offsets, sleeves or reducers w/ DIP or CIP | EA | 30 | | \$ | \$ |
| 4034 | F&I 36" ductile iron tee with DIP or CIP | EA | 5 | | \$ | \$ |
| 4035 | F&I 36" ductile iron cross w/ DIP or CIP | EA | 2 | | \$ | \$ |
| 4036 | F&I 42" ductile iron plug or cap w/DIP or CIP | EA | 4 | | \$ | \$ |
| 4037 | F&I 42" bends, offsets, sleeves or reducers w/ DIP or CIP | EA | 25 | | \$ | \$ |
| 4038 | F&I 42" ductile iron tee W/ DIP or CIP | EA | 4 | | \$ | \$ |
| 4039 | F&I 42" ductile iron cross w/ DIP or CIP | EA | 2 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 4040 | F&I 48" ductile iron plug or cap w/DIP or CIP | EA | 4 | | \$ | \$ |
| 4041 | F&I 48" bends, offsets, sleeves or reducers w/ DIP or CIP | EA | 40 | | \$ | \$ |
| 4042 | F&I 48" ductile iron tee W/ DIP or CIP | EA | 15 | | \$ | \$ |
| 4043 | F&I 48" ductile iron cross w/ DIP or CIP | EA | 2 | | \$ | \$ |
| 4050 | F&I 4" ductile iron plug or cap w/ HDPEP | EA | 4 | | \$ | \$ |
| 4051 | F&I 4" ductile iron bends, offsets, sleeves or reducers w/ HDPEP | EA | 10 | | \$ | \$ |
| 4052 | F&I 4" ductile iron tee w/ HDPEP | EA | 4 | | \$ | \$ |
| 4053 | F&I 4" ductile iron cross w/ HDPEP | EA | 2 | | \$ | \$ |
| 4054 | F&I 6" ductile iron plug or cap w/ HDPEP | EA | 4 | | \$ | \$ |
| 4055 | F&I 6" ductile iron bends, offsets, sleeves or reducers w/ HDPEP | EA | 20 | | \$ | \$ |
| 4056 | F&I 6" ductile iron tee w/ HDPEP | EA | 4 | | \$ | \$ |
| 4057 | F&I 6" ductile iron cross w/ HDPEP | EA | 2 | | \$ | \$ |
| 4058 | F&I 8" plug or cap w/ HDPEP | EA | 6 | | \$ | \$ |
| 4059 | F&I 8" ductile iron bends, offset, sleeves or reducers w/ HDPEP | EA | 10 | | \$ | \$ |
| 4060 | F&I 8" ductile iron tee w/ HDPEP | EA | 4 | | \$ | \$ |
| 4061 | F&I 8" ductile iron cross w/ HDPEP | EA | 2 | | \$ | \$ |
| 4062 | F&I 10" ductile iron bends, offsets, sleeves or reducers w/ HDPEP | EA | 4 | | \$ | \$ |
| 4063 | F&I 12" ductile iron plug or cap w/ HDPEP | EA | 4 | | \$ | \$ |
| 4064 | F&I 12" ductile iron bends, offsets, sleeves or reducers w/ HDPEP | EA | 25 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|--------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 4065 | F&I 12" ductile iron tee w/ HDPEP | EA | 10 | | \$ | \$ |
| 4066 | F&I 12" ductile iron cross w/ HDPEP | EA | 2 | | \$ | \$ |
| 4067 | F&I 14" ductile iron bends, offsets, sleeves or reducers w/ HDPEP | EA | 4 | | \$ | \$ |
| 5000 | F&I full fire hydrant assembly on new or existing mains | EA | 140 | | \$ | \$ |
| 5001 | F&I alt. fire hydrant assembly on new or existing mains w/6" Gradelok fitting | EA | 10 | | \$ | \$ |
| 5002 | F&I alt. fire hydrant assembly on new or existing mains w/12" Gradelok fitting | EA | 10 | | \$ | \$ |
| 5003 | F&I alt. fire hydrant assembly on new or existing mains w/24" Gradelok fitting | EA | 10 | | \$ | \$ |
| 5100 | F&I protection post | EA | 40 | | \$ | \$ |
| 5200 | Remove and salvage of fire hydrant | EA | 30 | | \$ | \$ |
| 6000 | F&I 2" gate valve with box on DIP, CIP or PVC | EA | 60 | | \$ | \$ |
| 6001 | F&I 4" gate or tapping valve with box on DIP, CIP or PVC | EA | 30 | | \$ | \$ |
| 6002 | F&I 6" gate or tapping valve with box on DIP, CIP or PVC | EA | 400 | | \$ | \$ |
| 6003 | F&I 8" gate or tapping valve with box on DIP, CIP or PVC | EA | 300 | | \$ | \$ |
| 6004 | F&I 12" gate or tapping valve with box on DIP, CIP or PVC | EA | 100 | | \$ | \$ |
| 6005 | F&I 16" gate or tapping valve with box on DIP, CIP or PVC | EA | 30 | | \$ | \$ |
| 6006 | F&I 20" gate valve with box on DIP or CIP | EA | 10 | | \$ | \$ |
| 6007 | F&I 24" gate valve with box on DIP or CIP | EA | 10 | | \$ | \$ |
| 6008 | F&I 30" gate valve with box on DIP or CIP | EA | 10 | | \$ | \$ |
| 6009 | F&I 36" gate valve with box on DIP or CIP | EA | 10 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 6010 | F&I 42" gate valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| 6011 | F&I 48" gate valve with box on DIP or CIP | EA | 8 | | \$ | \$ |
| 6020 | F&I 16" butterfly valve with box on DIP, CIP or PVC | EA | 10 | | \$ | \$ |
| 6021 | F&I 20" butterfly valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| 6022 | F&I 24" butterfly valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| 6023 | F&I 30" butterfly valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| 6024 | F&I 36" butterfly valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| 6025 | F&I 42" butterfly valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| 6026 | F&I 48" butterfly valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| 6070 | F&I 2" gate valve and box on HDPEP | EA | 10 | | \$ | \$ |
| 6071 | F&I 4" gate valve and box on HDPEP | EA | 10 | | \$ | \$ |
| 6072 | F&I 6" gate valve and box on HDPEP | EA | 10 | | \$ | \$ |
| 6073 | F&I 8" gate valve and box on HDPEP | EA | 10 | | \$ | \$ |
| 6074 | F&I 12" gate valve and box on HDPEP | EA | 10 | | \$ | \$ |
| 6080 | F&I 2-ft. Valve Nut Extension | EA | 5 | | \$ | \$ |
| 6081 | F&I 3-ft. Valve Nut Extension | EA | 5 | | \$ | \$ |
| 6082 | F&I 4-ft. Valve Nut Extension | EA | 5 | | \$ | \$ |
| 6100 | F&I 4" Linestop on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6101 | F&I 4" Linestop on Existing AC Water Main (0-5') | EA | 10 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 6102 | F&I 6" Linestop on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6103 | F&I 6" Linestop on Existing AC Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6104 | F&I 8" Linestop on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6105 | F&I 8" Linestop on Existing Water Main (+5') | EA | 10 | | \$ | \$ |
| 6106 | F&I 10" Linestop on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6107 | F&I 10" Linestop on Existing Water Main (+5') | EA | 10 | | \$ | \$ |
| 6108 | F&I 12" Linestop on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6109 | F&I 12" Linestop on Existing Water Main (+5') | EA | 10 | | \$ | \$ |
| 6110 | F&I 16" Linestop on Existing Water Main (+5') | EA | 10 | | \$ | \$ |
| 6111 | F&I 24" Linestop on Existing Water Main (+5') | EA | 6 | | \$ | \$ |
| 6112 | F&I 30" Linestop on Existing Water Main (+5') | EA | 5 | | \$ | \$ |
| 6113 | F&I 36" Linestop on Existing Water Main (+5') | EA | 5 | | \$ | \$ |
| 6201 | F&I 4" TEAM Insertion Valve on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6203 | F&I 6" TEAM Insertion Valves on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6205 | F&I 8" TEAM Insertion Valves on Existing Water Main (0-5') | EA | 10 | | \$ | \$ |
| 6207 | F&I 12" TEAM Insertion Valves on Existing Water Main (0-5') | EA | 5 | | \$ | \$ |
| 7000 | F&I 4" tapping sleeve and make tap | EA | 2 | | \$ | \$ |
| 7001 | F&I 6" tapping sleeve and make tap | EA | 100 | | \$ | \$ |
| 7002 | F&I 8" tapping sleeve and make tap | EA | 100 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 7003 | F&I 12" tapping sleeve and make tap | EA | 100 | | \$ | \$ |
| 7004 | F&I 16" tapping sleeve and make tap | EA | 25 | | \$ | \$ |
| 7005 | F&I 20" tapping sleeve and make tap | EA | 10 | | \$ | \$ |
| 7006 | F&I 24" tapping sleeve and make tap | EA | 10 | | \$ | \$ |
| 7007 | F&I 30" tapping sleeve and make tap | EA | 10 | | \$ | \$ |
| 7008 | F&I 36" tapping sleeve and make tap | EA | 10 | | \$ | \$ |
| 7009 | F&I 42" tapping sleeve and make tap | EA | 10 | | \$ | \$ |
| 7010 | F&I 48" tapping sleeve and make tap | EA | 10 | | \$ | \$ |
| 8100 | Furnish tap and install 3/4" or 1" meter service on PVC, DIP, or CIP (0-15' HDPE) | EA | 1,000 | | \$ | \$ |
| 8101 | Furnish, tap and install 3/4" meter service on PVC, DIP or CIP (+15-80' HDPE) | EA | 1,000 | | \$ | \$ |
| 8102 | Furnish, tap and install 3/4" meter service on PVC, DIP or CIP (+80-150' HDPE) | EA | 200 | | \$ | \$ |
| 8103 | Furnish, tap and install 3/4" Dual meter service on PVC, DIP or CIP (0-15' HDPE) | EA | 100 | | \$ | \$ |
| 8104 | Furnish, tap and install 3/4" Dual or 1" Dual meter service on PVC, DIP or CIP (+15-80' HDPE) | EA | 100 | | \$ | \$ |
| 8105 | Furnish, tap and install 3/4" Dual meter service on PVC, DIP or CIP (+80-150' HDPE) | EA | 50 | | \$ | \$ |
| 8106 | Furnish, tap and install 1" Dual meter service on PVC, DIP or CIP (0-15' HDPE) | EA | 100 | | \$ | \$ |
| 8107 | Furnish, tap and install 1" or 1-1/2" meter service on PVC, DIP or CIP (+15-80' HDPE) | EA | 100 | | \$ | \$ |
| 8108 | Furnish, tap and install 1" or 1-1/2" meter service on PVC, DIP or CIP (+80-150' HDPE) | EA | 20 | | \$ | \$ |
| 8109 | Furnish, tap and install 1-1/2" or 2" meter service on PVC, DIP or CIP (0-15' HDPE) | EA | 100 | | \$ | \$ |
| 8110 | Furnish, tap and install 2" DDCV and service on PVC, DIP or CIP (0-15' HDPE) | EA | 100 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 8120 | Furnish, tap and install 3/4" or 1" meter service on HDPEP (0-15' HDPE) | EA | 100 | | \$ | \$ |
| 8121 | Furnish, tap and install 3/4" meter service on HDPEP (+15-80' HDPE) | EA | 100 | | \$ | \$ |
| 8122 | Furnish, tap and install 3/4" meter service HDPEP (+80-150' HDPE) | EA | 20 | | \$ | \$ |
| 8123 | Furnish, tap and install 3/4" Dual meter service on HDPEP (0-15' HDPE) | EA | 20 | | \$ | \$ |
| 8124 | Furnish, tap and install 3/4" Dual or 1" Dual meter service on HDPEP (+15-80' HDPE) | EA | 10 | | \$ | \$ |
| 8125 | Furnish, tap and install 3/4" Dual meter service on HDPEP (+80-150' HDPE) | EA | 10 | | \$ | \$ |
| 8126 | Furnish, tap and install 1" Dual meter service on HDPEP (0-15' HDPE) | EA | 10 | | \$ | \$ |
| 8127 | Furnish, tap and install 1" or 1-1/2" meter service on HDPEP (+15-80' HDPE) | EA | 10 | | \$ | \$ |
| 8128 | Furnish, tap and install 1-1/2" or 2" meter service on HDPEP (+80-150' HDPE) | EA | 10 | | \$ | \$ |
| 8129 | Furnish, tap and install 1" or 1-1/2" meter service on HDPEP (0-15' HDPE) | EA | 10 | | \$ | \$ |
| 8130 | Furnish, tap and install 2" DDCV and service on HDPEP (0-15' HDPE) | EA | 20 | | \$ | \$ |
| 8300 | Install 3" meter | EA | 6 | | \$ | \$ |
| 8301 | Install 4" meter | EA | 6 | | \$ | \$ |
| 8302 | Install 6" meter | EA | 6 | | \$ | \$ |
| 8303 | Install 8" meter | EA | 6 | | \$ | \$ |
| 8320 | Install 4" double detector check valve assembly | EA | 6 | | \$ | \$ |
| 8321 | Install 6" double detector check valve assembly | EA | 6 | | \$ | \$ |
| 8322 | Install 8" double detector check valve assembly | EA | 6 | | \$ | \$ |
| 8323 | Install 10" double detector check valve assembly | EA | 6 | | \$ | \$ |
| 8324 | Install 12" double detector check valve assembly | EA | 6 | | \$ | \$ |
| 8400 | F&I 6'0" X 6'0" above-ground vault or below-ground vault | EA | 2 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|------------------------------------------------------------------------------------|-------|------------------|---------------------|------------|----------------------|
| 8401 | F&I 8'0" X 5'4" above-ground vault or below-ground vault | EA | 2 | | \$ | \$ |
| 8402 | F&I 9'4" X 8'0" above-ground vault or below-ground vault | EA | 2 | | \$ | \$ |
| 8403 | F&I 10'8" X 8'0" above-ground vault or below-ground vault | EA | 2 | | \$ | \$ |
| 8404 | F&I auxiliary materials for above-ground large service | EA | 5 | | \$ | \$ |
| 8405 | F&I 12' X 5' concrete slab for above-ground Meters and DDCV's | EA | 5 | | \$ | \$ |
| 8406 | F&I 12' X 9' concrete slab for above-ground Meters and DDCV's | EA | 5 | | \$ | \$ |
| 9200 | Furnish, place and compact limerock base | CY | 500 | | \$ | \$ |
| 9201 | Furnish, place and compact crushed concrete base | CY | 500 | | \$ | \$ |
| 9203 | Furnish, place and compact Superpave Type SP-12.5 asphalt base course | SY-IN | 7,200 | | \$ | \$ |
| 9204 | Furnish and install asphalt concrete surface Type S-1 | SY-IN | 7,200 | | \$ | \$ |
| 9205 | Furnish and install asphalt concrete surface Superpave Type SP-12.5 | SY-IN | 5,500 | | \$ | \$ |
| 9206 | Furnish, place, grade and compact Type SIII asphaltic concrete overlay | SY-IN | 5,500 | | \$ | \$ |
| 9207 | Furnish, place, grade and compact Superpave Type SP-9.5 asphaltic concrete overlay | SY-IN | 4,500 | | \$ | \$ |
| 9208 | Mobilization to perform mechanical milling | EA | 10 | | \$ | \$ |
| 9209 | Mechanical milling of asphalt roadways in 1-inch increments | SY-IN | 5,000 | | \$ | \$ |
| 9210 | Restore 6" thick concrete driveway | SY | 1,000 | | \$ | \$ |
| 9211 | Restore brick pavement, including base material | SY | 500 | | \$ | \$ |
| 9212 | Install Brick pavement furnished by City, Contractor F&I base material | SY | 200 | | \$ | \$ |
| 9213 | Furnish materials & Install Signalization loops | EA | 20 | | \$ | \$ |
| 9214 | Furnish Traffic Control Officer (Off Duty Law Enforcement) | MH | 1,000 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| 9215 | Furnish and install Work Zone Signs | ED | 10,000 | | \$ | \$ |
| 9216 | Furnish and install Business Signs | ED | 20 | | \$ | \$ |
| 9217 | Furnish and install Barricades (Temporary – Type II) | ED | 10,000 | | \$ | \$ |
| 9218 | Furnish and install Barricades (Temporary Type III) (6") | ED | 10,000 | | \$ | \$ |
| 9219 | Furnish and install Advance Warning Arrow Panel | ED | 20 | | \$ | \$ |
| 9220 | Furnish and install High Intensity Flashing Lights (Temporary-Type B) | ED | 5,000 | | \$ | \$ |
| 9221 | Furnish and install Variable Message Sign (Temporary) | ED | 20 | | \$ | \$ |
| 9300 | Furnish and install Type "D" concrete curb | LF | 500 | | \$ | \$ |
| 9301 | Furnish and install valley curb | LF | 500 | | \$ | \$ |
| 9302 | Furnish and install Miami curb | LF | 500 | | \$ | \$ |
| 9303 | Furnish and install Type "F" concrete curb | LF | 500 | | \$ | \$ |
| 9304 | Furnish and install stone or precast curb | LF | 500 | | \$ | \$ |
| 9305 | Remove and install existing stone curb | LF | 100 | | \$ | \$ |
| 9306 | Furnish and install asphaltic concrete curb | LF | 1,000 | | \$ | \$ |
| 9307 | Furnish and install 4" thick concrete sidewalk | SY | 5,000 | | \$ | \$ |
| 9308 | Furnish and install hexagon block sidewalk | SY | 250 | | \$ | \$ |
| 9309 | Grade and sod roadside/ditch bottoms and sides - Bahia | SY | 100,000 | | \$ | \$ |
| 9310 | Grade and sod roadside/ditch bottoms & sides - St. Augustine | SY | 100,000 | | \$ | \$ |
| 9311 | Grade, fertilize, sprig, and hydro-seed roadside | SY | 10,000 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------------------|------|------------------|--------------------------------|------------|----------------------|
| 9312 | F&I detectable warnings on concrete walking surfaces | EA | 100 | | \$ | \$ |
| 9400 | Grout abandoned pipe | CY | 250 | | \$ | \$ |
| 9500 | Furnish, form and place reinforced concrete | CY | 250 | | \$ | \$ |
| 9501 | Restore rip-rap (rubble) | CY | 100 | | \$ | \$ |
| 9502 | Replace 4" or 6" VC sanitary sewer pipe with PVC | LF | 500 | | \$ | \$ |
| 9503 | Replace 8" or 10" VC sanitary sewer pipe with PVC | LF | 500 | | \$ | \$ |
| 9504 | Replace damaged but not marked sanitary laterals, w PVC | LF | 500 | | \$ | \$ |
| 9505 | Video photography | LF | 30,000 | | \$ | \$ |
| 9600 | Demolish and Remove large service vault | EA | 1 | | \$ | \$ |
| 9601 | Demolish and Remove Large service concrete slab | EA | 2 | | \$ | \$ |
| 9700 | Excavation and removal of rock | CY | 2 | | \$ | \$ |
| 9701 | Excavation and removal of muck | CY | 10 | | \$ | \$ |
| 9800 | Removal of trees 5" in diameter and greater | EA | 5 | | \$ | \$ |
| 9801 | Root Pruning | LF | 500 | | \$ | \$ |
| 9802 | F&I 2" diameter Oaks | EA | 5 | | \$ | \$ |
| 9900 | Excavation exploratory pits - \$600 per agreed and accepted pit | EA | 50 | Six Hundred Dollars & No Cents | \$ 600.00 | \$ 30,000.00 |
| 9910 | Valve Box Adjustment or removal | EA | 40 | | \$ | \$ |
| 9911 | Vault adjustment or removal, small | EA | 1 | | \$ | \$ |
| 9912 | Manhole adjustment | EA | 1 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------|------------------|------------------------------------------|---------------|----------------------|
| 9920 | F&I blow-off assembly per Detail 2.16 | EA | 50 | | \$ | \$ |
| 9921 | F&I blow-off assembly per Detail 2.17 | EA | 50 | | \$ | \$ |
| 9922 | F&I air release valve per Detail 2.14 & 2.15 | EA | 50 | | \$ | \$ |
| 9930 | Furnish & install precast thrust blocks | EA | 50 | | \$ | \$ |
| 9931 | Furnish, form & pour concrete thrust blocks | CY | 98 | | \$ | \$ |
| 9940 | Cut into existing asbestos concrete pipe | EA | 18 | | \$ | \$ |
| 9950 | F&I new project signs | EA | 12 | | \$ | \$ |
| 9951 | Furnish, install and reletter previously used project signs | EA | 10 | | \$ | \$ |
| 9960 | Separate mobilization on project with a final cost equal to or less than \$5,000 for a unit price of \$2,000 and no cents. | EA | 5 | | \$ | \$ |
| 9970 | Supplemental survey layout by a Registered Land Surveyor | LF | 3,270 | | \$ | \$ |
| 9980 | Contingency allowance (Water) to be used as directed by the Engineer | EA | 1 | Four Hundred Thousand Dollars & No Cents | \$ 400,000.00 | \$ 400,000.00 |
| 9990 | Crew Day allowance | ED | 30 | | \$ | \$ |
| 10000 | One-Time Performance Bond Allowance | LS | 1 | | \$ | \$ |
| SCHEDULE B - STORMWATER PAY ITEMS | | | | | | |
| SW100 | Contingency allowance (Stormwater) to be used as directed by the Engineer | EA | 1 | One Hundred Fifty Dollars & No Cents | \$ 150,000.00 | \$ 150,000.00 |
| SW120 | Regrade ditch/embankment/misc. grading | SY | 6,000 | | \$ | \$ |
| SW125 | Regular excavation | CY | 1,600 | | \$ | \$ |
| SW350 | Concrete Flume | SY | 45 | | \$ | \$ |
| SW425.01 | Stormwater Manhole (Type P-8) | EA | 20 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| SW425.03 | Stormwater Manhole (Type J-8) | EA | 20 | | \$ | \$ |
| SW425.1 | Inlet, COT Curb Type 2 (P-Bott) | EA | 10 | | \$ | \$ |
| SW425.11 | Inlet, Ditch Bottom (Type C Modified) (J-Bott) | EA | 10 | | \$ | \$ |
| SW425.2 | Inlet, COT Curb Type 2 (J-Bott) | EA | 10 | | \$ | \$ |
| SW425.3 | Inlet, COT Curb Type 3 (P-Bott) | EA | 12 | | \$ | \$ |
| SW425.4 | Inlet, COT Curb Type 3 (J-Bott) | EA | 8 | | \$ | \$ |
| SW425.5 | Inlet, COT Curb Type BR-1 (P-Bott) | EA | 8 | | \$ | \$ |
| SW425.6 | Inlet, COT Curb Type BR-2 (J-Bott) | EA | 8 | | \$ | \$ |
| SW425.7 | Inlet, COT Grate Type T (P-Bott) | EA | 8 | | \$ | \$ |
| SW425.8 | Inlet, Ditch Bottom (Type C) | EA | 10 | | \$ | \$ |
| SW425.9 | Inlet, Ditch Bottom (Type C Modified) | EA | 4 | | \$ | \$ |
| SW430.1 | Pipe Culvert (0-24" SS) (Round) | LF | 400 | | \$ | \$ |
| SW430.2 | Pipe Culvert (0-24" SS) (Round) CLIV | LF | 200 | | \$ | \$ |
| SW430.3 | Pipe Culvert (25-36" SS) (Round) | LF | 300 | | \$ | \$ |
| SW430.4 | Pipe Culvert (37-48" SS) (Round) | LF | 40 | | \$ | \$ |
| SW430.5 | Pipe Culvert (49-60" SS) (Round) | LF | 40 | | \$ | \$ |
| SW430.6 | Pipe Culvert (14" x 23" & 19" x 30" SS) (Elliptical) | LF | 200 | | \$ | \$ |
| SW430.7 | Pipe Culvert (14" x 23" & 19" x 30" SS) (Elliptical) CLIV | LF | 100 | | \$ | \$ |
| SW430.8 | Pipe Culvert (24" x 38" SS) (ECP) | LF | 150 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| SW430.85 | Pipe Culvert (29" x 45" SS) (ECP) | LF | 40 | | \$ | \$ |
| SW430.86 | Pipe Culvert (43" x 68" SS) (ECP) | LF | 40 | | \$ | \$ |
| SW430.9 | Pipe Culvert (38" x 60" SS) (ECP) | LF | 20 | | \$ | \$ |
| SW435 | Connect To Existing Stormwater To Manhole | EA | 18 | | \$ | \$ |
| SW530 | Riprap (rubble) | CY | 100 | | \$ | \$ |
| SCHEDULE C - WATER - MINOR PROJECTS PAY ITEMS | | | | | | |
| DD5001 | F&I full fire hydrant assembly on existing mains via Tap | EA | 10 | | \$ | \$ |
| DD5002 | F&I full fire hydrant assembly on existing mains via remove & replace ex FH, valve & Tee | EA | 5 | | \$ | \$ |
| DD5003 | F&I fire hydrant assembly & new hydrant valve downstream of existing (to remain, wasted) hydrant valve | EA | 5 | | \$ | \$ |
| DD5101 | F&I 6" Gradelok fitting with DD5001, DD5002, or DD5003 | EA | 10 | | \$ | \$ |
| DD5102 | F&I 6" Gradelok fitting with DD5001, DD5002, or DD5003 | EA | 10 | | \$ | \$ |
| DD5103 | F&I 6" Gradelok fitting with DD5001, DD5002, or DD5003 | EA | 10 | | \$ | \$ |
| DD5201 | Remove & salvage hydrant - Type I removal | EA | 5 | | \$ | \$ |
| DD5003 | Remove & salvage hydrant - Type II removal | EA | 5 | | \$ | \$ |
| DD6012 | F&I 2" gate valve with box on DIP, CIP or PVC | EA | 5 | | \$ | \$ |
| DD6013 | F&I 3" gate valve with box on DIP, CIP or PVC | EA | 2 | | \$ | \$ |
| DD6014 | F&I 4" gate valve with box on DIP, CIP or PVC | EA | 2 | | \$ | \$ |
| DD6015 | F&I 6" gate valve with box on DIP, CIP or PVC | EA | 5 | | \$ | \$ |
| DD6016 | F&I 8" gate valve with box on DIP, CIP or PVC | EA | 5 | | \$ | \$ |

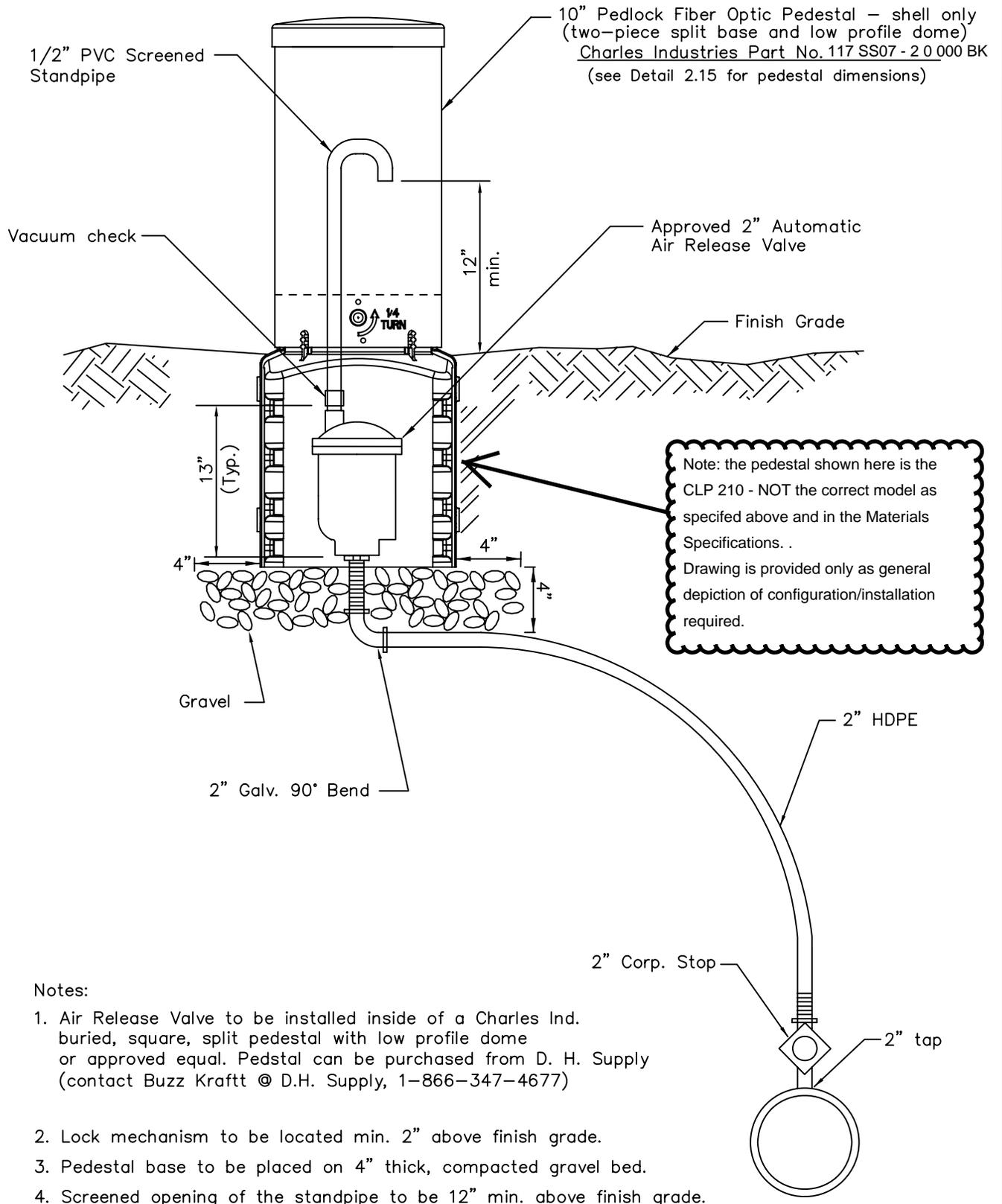
| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| DD6017 | F&I 10" gate valve with box on DIP, CIP or PVC | EA | 2 | | \$ | \$ |
| DD6018 | F&I 12" gate valve with box on DIP, CIP or PVC | EA | 5 | | \$ | \$ |
| DD6019 | F&I 16" gate valve with box on DIP, CIP or PVC | EA | 5 | | \$ | \$ |
| DD6020 | F&I 16" butterfly valve with box on DIP, CIP or PVC | EA | 10 | | \$ | \$ |
| DD6021 | F&I 20" butterfly valve with box on DIP or CIP | EA | 5 | | \$ | \$ |
| DD6022 | F&I 24" butterfly valve with box on DIP or CIP | EA | 10 | | \$ | \$ |
| DD6023 | F&I 30" butterfly valve with box on DIP or CIP | EA | 10 | | \$ | \$ |
| DD6024 | F&I 36" butterfly valve with box on DIP or CIP | EA | 6 | | \$ | \$ |
| DD6025 | F&I 42" butterfly valve with box on DIP or CIP | EA | 2 | | \$ | \$ |
| DD6026 | F&I 48" butterfly valve with box on DIP or CIP | EA | 2 | | \$ | \$ |
| DD6027 | F&I 16" gate valve with box on DIP, CIP or PVC, in ex. Vault | EA | 5 | | \$ | \$ |
| DD6028 | F&I 16" butterfly valve with box on DIP, CIP or PVC, in ex. Vault | EA | 5 | | \$ | \$ |
| DD6029 | F&I 20" butterfly valve with box on DIP or CIP, in ex. Vault | EA | 2 | | \$ | \$ |
| DD6030 | F&I 24" butterfly valve with box on DIP or CIP, in ex. Vault | EA | 2 | | \$ | \$ |
| DD6031 | F&I 30" butterfly valve with box on DIP or CIP, in ex. Vault | EA | 2 | | \$ | \$ |
| DD6032 | F&I 36" butterfly valve with box on DIP or CIP, in ex. Vault | EA | 2 | | \$ | \$ |
| DD6033 | F&I 42" butterfly valve with box on DIP or CIP, in ex. Vault | EA | 2 | | \$ | \$ |
| DD6075 | F&I 2" gate valve and box on HDPE | EA | 2 | | \$ | \$ |
| DD6076 | F&I 4" gate valve and box on HDPE | EA | 2 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| DD6077 | F&I 6" gate valve and box on HDPEP | EA | 2 | | \$ | \$ |
| DD6078 | F&I 8" gate valve and box on HDPEP | EA | 2 | | \$ | \$ |
| 6074 | F&I 12" gate valve and box on HDPEP | EA | 2 | | \$ | \$ |
| DD8200 | Furnish tap and install 3/4" or 1" meter service on PVC, DIP, or CIP (0-15' HDPE) | EA | 600 | | \$ | \$ |
| DD8201 | Furnish, tap and install 3/4" meter service on PVC, DIP or CIP (+15-80' HDPE) | EA | 200 | | \$ | \$ |
| DD8202 | Furnish, tap and install 3/4" meter service on PVC, DIP or CIP (+80-150' HDPE) | EA | 2 | | \$ | \$ |
| DD8203 | Furnish, tap and install 3/4" Dual meter service on PVC, DIP or CIP (0-15' HDPE) | EA | 5 | | \$ | \$ |
| DD8204 | Furnish, tap and install 3/4" Dual or 1" Dual meter service on PVC, DIP or CIP (+15-80' HDPE) | EA | 5 | | \$ | \$ |
| DD8205 | Furnish, tap and install 3/4" Dual meter service on PVC, DIP or CIP (+80-150' HDPE) | EA | 2 | | \$ | \$ |
| DD8206 | Furnish, tap and install 1" Dual meter service on PVC, DIP or CIP (0-15' HDPE) | EA | 2 | | \$ | \$ |
| DD8207 | Furnish, tap and install 1" or 1-1/2" meter service on PVC, DIP or CIP (+15-80' HDPE) | EA | 5 | | \$ | \$ |
| DD8208 | Furnish, tap and install 1" or 1-1/2" meter service on PVC, DIP or CIP (+80-150' HDPE) | EA | 2 | | \$ | \$ |
| DD8209 | Furnish, tap and install 1-1/2" or 2" meter service on PVC, DIP or CIP (0-15' HDPE) | EA | 5 | | \$ | \$ |
| DD8210 | Furnish, tap and install 2" DDCV and service on PVC, DIP or CIP (0-15' HDPE) | EA | 1 | | \$ | \$ |
| DD8250 | Furnish, tap and install 3/4" or 1" meter service on HDPEP (0-15' HDPE) | EA | 5 | | \$ | \$ |
| DD8251 | Furnish, tap and install 3/4" meter service on HDPEP (+15-80' HDPE) | EA | 2 | | \$ | \$ |
| DD8252 | Furnish, tap and install 3/4" meter service HDPEP (+80-150' HDPE) | EA | 2 | | \$ | \$ |
| DD8253 | Furnish, tap and install 3/4" Dual meter service on HDPEP (0-15' HDPE) | EA | 2 | | \$ | \$ |
| DD8254 | Furnish, tap and install 3/4" Dual or 1" Dual meter service on HDPEP (+15-80' HDPE) | EA | 2 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|------------------------------------------------------------------------------------|-------|------------------|---------------------|------------|----------------------|
| DD8255 | Furnish, tap and install 3/4" Dual meter service on HDPEP (+80-150' HDPE) | EA | 2 | | \$ | \$ |
| DD8256 | Furnish, tap and install 1" Dual meter service on HDPEP (0-15' HDPE) | EA | 2 | | \$ | \$ |
| DD8257 | Furnish, tap and install 1" or 1-1/2" meter service on HDPEP (+15-80' HDPE) | EA | 2 | | \$ | \$ |
| DD8258 | Furnish, tap and install 1-1/2" or 2" meter service on HDPEP (+80-150' HDPE) | EA | 2 | | \$ | \$ |
| DD8259 | Furnish, tap and install 1" or 1-1/2" meter service on HDPEP (0-15' HDPE) | EA | 5 | | \$ | \$ |
| DD8260 | Furnish, tap and install 2" DDCV and service on HDPEP (0-15' HDPE) | EA | 2 | | \$ | \$ |
| DD9230 | Furnish, place and compact limerock base | CY | 100 | | \$ | \$ |
| DD9231 | Furnish, place and compact crushed concrete base | CY | 100 | | \$ | \$ |
| DD9233 | Furnish, place and compact Superpave Type SP-12.5 asphalt base course | SY-IN | 3,000 | | \$ | \$ |
| DD9234 | Furnish and install asphalt concrete surface Type S-1 | SY-IN | 4,000 | | \$ | \$ |
| DD9235 | Furnish and install asphalt concrete surface Superpave Type SP-12.5 | SY-IN | 2,000 | | \$ | \$ |
| DD9236 | Furnish, place, grade and compact Type SIII asphaltic concrete overlay | SY-IN | 4,500 | | \$ | \$ |
| DD9237 | Furnish, place, grade and compact Superpave Type SP-9.5 asphaltic concrete overlay | SY-IN | 2,000 | | \$ | \$ |
| DD9238 | Mobilization to perform mechanical milling | EA | 12 | | \$ | \$ |
| DD9239 | Mechanical milling of asphalt roadways in 1-inch increments | SY-IN | 5,000 | | \$ | \$ |
| DD9240 | Restore 6" thick concrete driveway | SY | 300 | | \$ | \$ |
| DD9241 | Restore brick pavement, including base material | SY | 200 | | \$ | \$ |
| DD9242 | Install Brick pavement furnished by City, Contractor F&I base material | SY | 100 | | \$ | \$ |
| DD9243 | Furnish materials & Install Signalization loops | EA | 6 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|-----------------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| DD9244 | Furnish Traffic Control Officer (Off Duty Law Enforcement) | MH | 250 | | \$ | \$ |
| DD9245 | Furnish and install Work Zone Signs | ED | 5,000 | | \$ | \$ |
| DD9246 | Furnish and install Business Signs | ED | 10 | | \$ | \$ |
| DD9247 | Furnish and install Barricades (Temporary - Type II) | ED | 5,000 | | \$ | \$ |
| DD9248 | Furnish and install Barricades (Temporary Type III) (6') | ED | 5,000 | | \$ | \$ |
| DD9249 | Furnish and install Advance Warning Arrow Panel | ED | 10 | | \$ | \$ |
| DD9250 | Furnish and install High Intensity Flashing Lights (Temporary-Type B) | ED | 1,500 | | \$ | \$ |
| DD9251 | Furnish and install Variable Message Sign (Temporary) | ED | 5 | | \$ | \$ |
| DD9308 | Furnish and install valley curb | LF | 100 | | \$ | \$ |
| DD9309 | Furnish and install Miami curb | LF | 100 | | \$ | \$ |
| DD9310 | Furnish and install Type "D" concrete curb | LF | 100 | | \$ | \$ |
| DD9311 | Furnish and install Type "F" concrete curb | LF | 100 | | \$ | \$ |
| DD9312 | Furnish and install stone or precast curb | LF | 100 | | \$ | \$ |
| DD9313 | Remove and install existing stone curb | LF | 80 | | \$ | \$ |
| DD9314 | Furnish and install asphaltic concrete curb | LF | 200 | | \$ | \$ |
| DD9315 | Furnish and install 4" thick concrete sidewalk | SY | 500 | | \$ | \$ |
| DD9316 | Furnish and install hexagon block sidewalk | SY | 20 | | \$ | \$ |
| DD9318 | Grade, fertilize, sprig, and hydro-seed roadside | SY | 1,000 | | \$ | \$ |
| DD9319 | F&I detectable warnings on concrete walking surfaces | EA | 20 | | \$ | \$ |

| Item No. | Description | Unit | Approx. Quantity | Unit Price in Words | Unit Price | Total Computed Price |
|----------|--------------------------------------------------------------|------|------------------|---------------------|------------|----------------------|
| DD9320 | Grade and sod roadside/ditch bottoms and sides - Bahia | SY | 2,500 | | \$ | \$ |
| DD9321 | Grade and sod roadside/ditch bottoms & sides - St. Augustine | SY | 2,500 | | \$ | \$ |
| | | | | | | |
| | | | | TOTAL | \$ | \$ |
| | | | | | | |

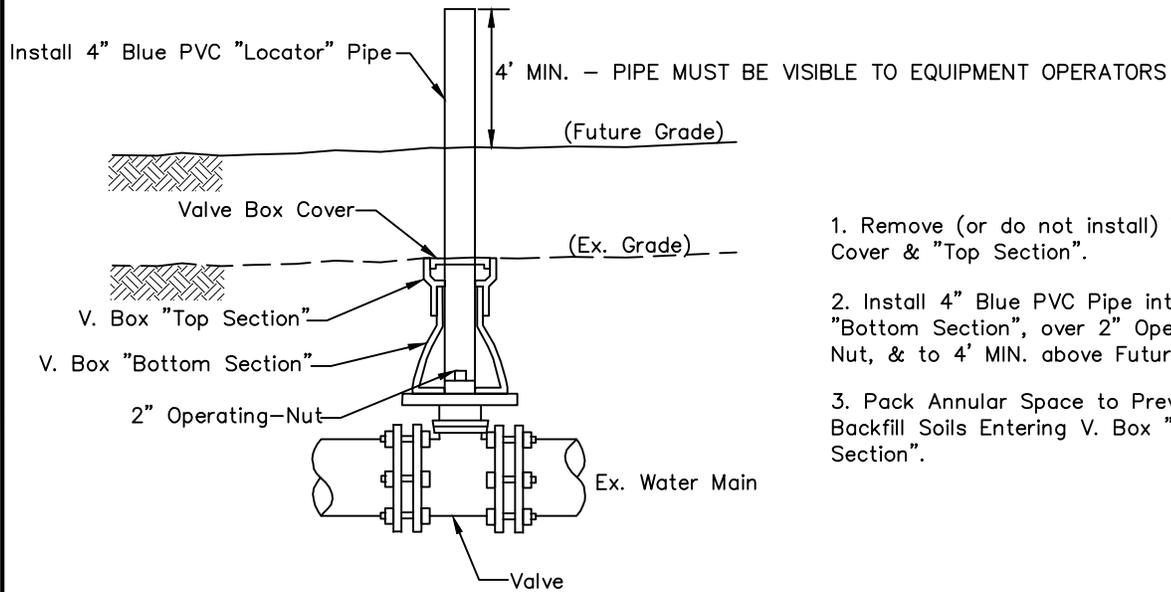


Notes:

1. Air Release Valve to be installed inside of a Charles Ind. buried, square, split pedestal with low profile dome or approved equal. Pedestal can be purchased from D. H. Supply (contact Buzz Kraftt @ D.H. Supply, 1-866-347-4677)
2. Lock mechanism to be located min. 2" above finish grade.
3. Pedestal base to be placed on 4" thick, compacted gravel bed.
4. Screened opening of the standpipe to be 12" min. above finish grade.

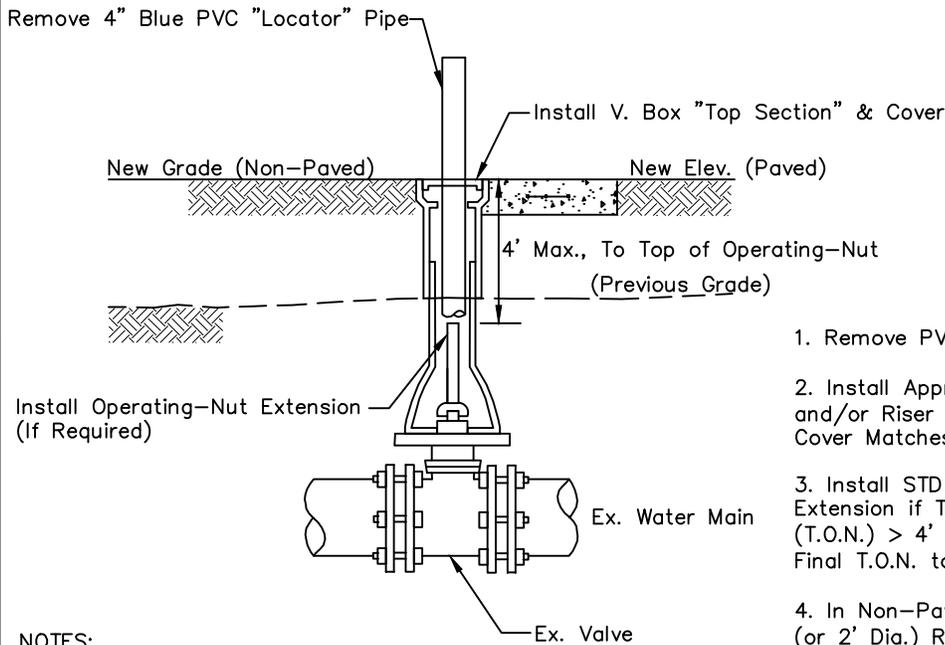
| | | | | |
|---------------------------------------|---------------------------------------|----------------------------------------------|----------------------------------------|-------------|
| <p>TAMPA WATER DEPARTMENT</p> | <p>APPROVED <u>Sept. 2011</u></p> | <p>REVISED _____ _____ _____</p> | <p>AUTOMATIC AIR RELEASE VALVE</p> | <p>2.14</p> |
|---------------------------------------|---------------------------------------|----------------------------------------------|----------------------------------------|-------------|

TO PROTECT VALVE BOX LOCATION DURING CLEARING & GRUBBING



1. Remove (or do not install) V. Box Cover & "Top Section".
2. Install 4" Blue PVC Pipe into V. Box "Bottom Section", over 2" Operating-Nut, & to 4' MIN. above Future Grade.
3. Pack Annular Space to Prevent Backfill Soils Entering V. Box "Bottom Section".

TO ADJUST HEIGHT OF VALVE BOX FOR CHANGED GRADE



1. Remove PVC Locator Pipe.
2. Install Approved V. Box "Top Section" and/or Riser & Cover, such that Top of Cover Matches New Grade Elevation.
3. Install STD CI Operating-Nut Extension if Top of Operating-Nut (T.O.N.) > 4' below Grade. Final T.O.N. to be < 4' Deep.
4. In Non-Paved Areas, Construct 2'x2' (or 2' Dia.) Reinforced Concrete Pad, per STD. Detail 3.01 (3000 P.S.I. Concrete, 6-Gauge 4"x4" W.W.F.)

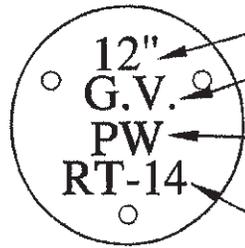
NOTES:

1. MATERIALS FOR & INSTALLATION OF VALVE BOXES & PADS SHALL CONFORM TO TAMPA WATER DEPT. SPECIFICATIONS & STD. CONSTRUCTION DETAILS (DETAILS 3.01 & 3.03)

| | | | | |
|---------------------------------------------------------------------------------------------------------------------|-----------|---------|-------------------------------------------------------|------|
|  TAMPA WATER DEPARTMENT | APPROVED | REVISED | VALVE BOX (V. BOX) ADJUSTMENTS FOR GRADE CHANGE | 3.05 |
| | Dec. 2011 | _____ | | |

NOTE

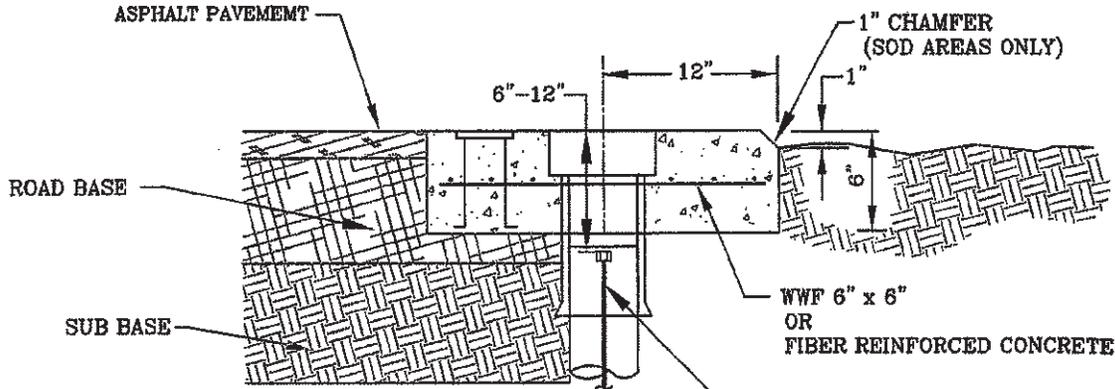
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST T.W.D. APPROVED MATERIAL SPECIFICATIONS.
2. IF VALVE IS LOCATED WITHIN A SIDEWALK CONCRETE COLLAR MAY BE ELIMINATED AND DISK SET FLUSH DIRECTLY IN SIDEWALK.
3. **BRONZE DISK REQUIRED:** FOR ALL VALVES, AND DUMMY BOXES.



- VALVE SIZE
- VALVE TYPE
(GV=GATE VALVE)
(BF=BUTTER FLY VALVE)
- SERVICE TYPE
(PW=POTABLE WATER)
(RCW=RECLAIMED WATER)
(FM=FORCE MAIN)

BRONZE DISK DETAIL

- DIRECTION AND NUMBER OF TURNS TO OPEN AND CLOSE VALVE MUST LIST DIRECTION BY
(LT=LEFT)
(RT=RIGHT)
- DUMMY BOXES SHALL BE STAMPED "WIRE ONLY"

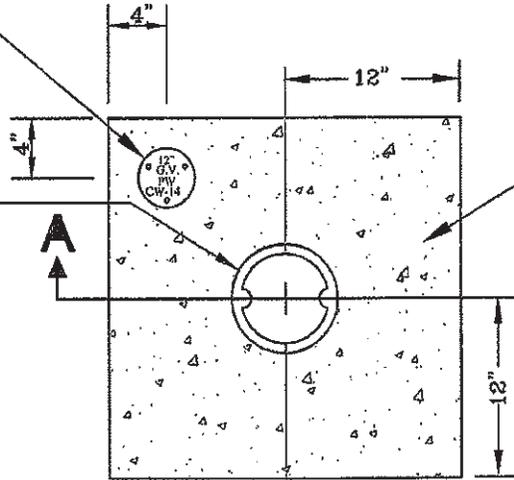


3"Ø x 1/8" THICK BRONZE DISK ANCHORED IN PAD WITH 1/4" x 2" SERRATED ANCHOR PINS

SECTION A-A

— KEY EXTENSION

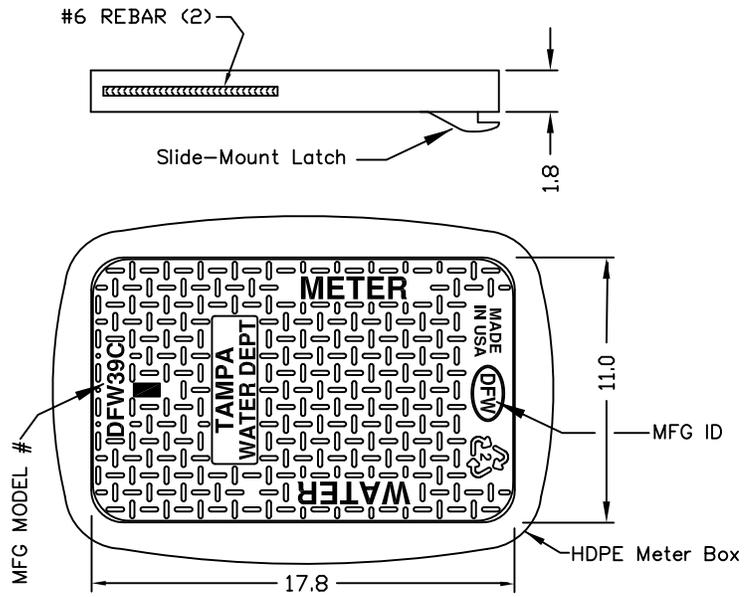
APPLICABLE VALVE BOX PER MAIN SERVICE
(SEWER=ROUND)
(WATER=ROUND)
(RECLAIM=SQUARE)



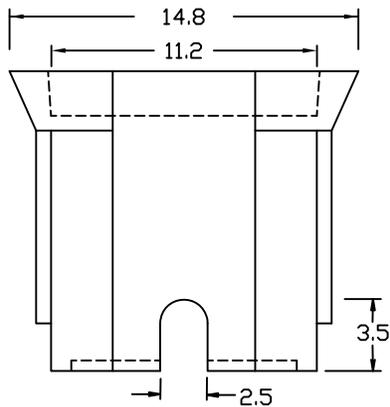
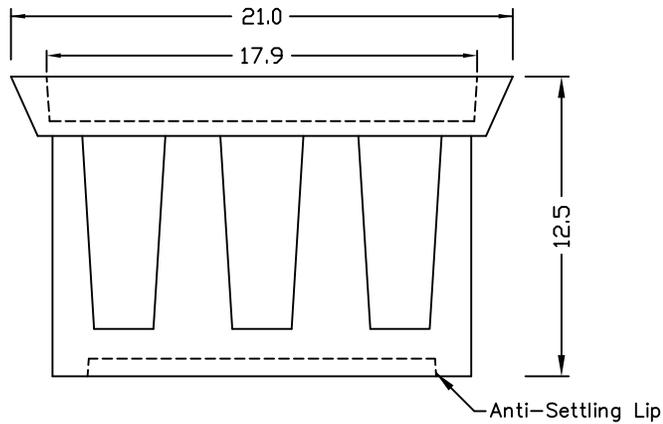
24" x 24" x 6" THICK 3,000 P.S.I. CONCRETE VALVE BOX COLLAR

PLAN VIEW

| | | | | |
|------------------------------|------------------|---------|----------------------------------------|------|
| TAMPA WATER DEPARTMENT | APPROVED | REVISED | CONCRETE VALVE BOX COLLAR DETAIL | 3.06 |
| | <u>JULY 2015</u> | ____ | | |
| | _____ | ____ | | |



HDPE Lid w/Rebar

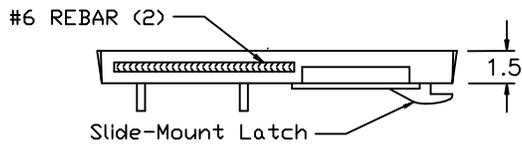
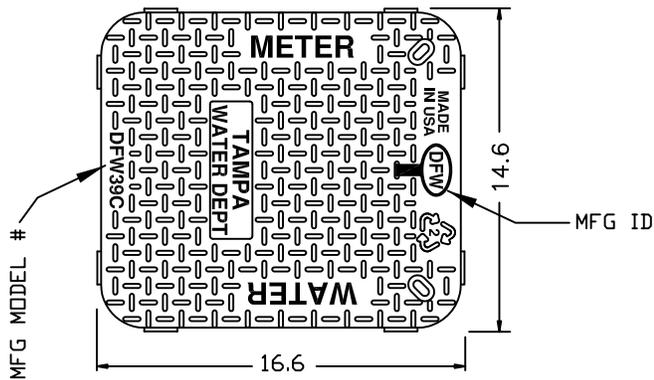


HDPE METER BOX w/LIP

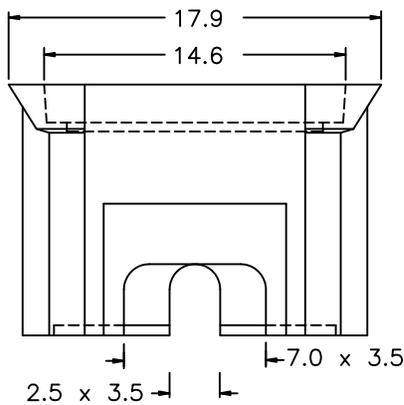
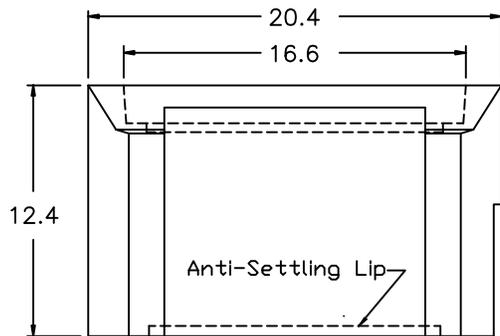
Units = inches
(NTS)

#37 HDPE METER BOX w/HDPE COVER

| | | | | |
|---------------------------------------|--------------------------------|----------------------------------------------|-----------------------------------------------------|--------------|
| <p>TAMPA WATER DEPARTMENT</p> | <p>APPROVED Sept. 2011</p> | <p>REVISED _____ _____ _____</p> | <p>3/4" OR 1" SINGLE SERVICE HDPE METER BOX</p> | <p>5.10A</p> |
|---------------------------------------|--------------------------------|----------------------------------------------|-----------------------------------------------------|--------------|



HDPE LID w/REBAR

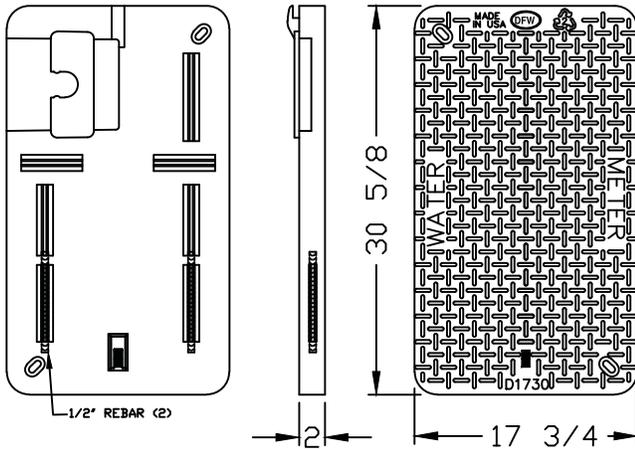


HDPE METER BOX w/LIP

Units = inches
(NTS)

"DUAL-H" HDPE METER BOX w/HDPE COVER

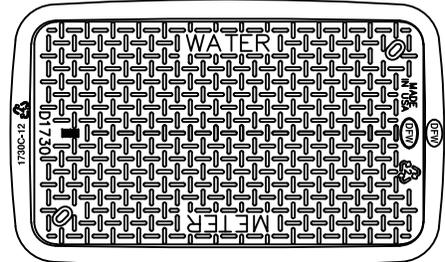
| | | | | |
|---------------------------------------|--------------------------------|----------------------------------------------|---------------------------------------------------|--------------|
| <p>TAMPA WATER DEPARTMENT</p> | <p>APPROVED Sept. 2011</p> | <p>REVISED _____ _____ _____</p> | <p>3/4" OR 1" DUAL SERVICE HDPE METER BOX</p> | <p>5.11A</p> |
|---------------------------------------|--------------------------------|----------------------------------------------|---------------------------------------------------|--------------|



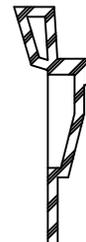
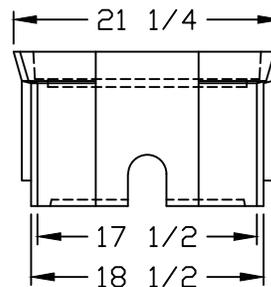
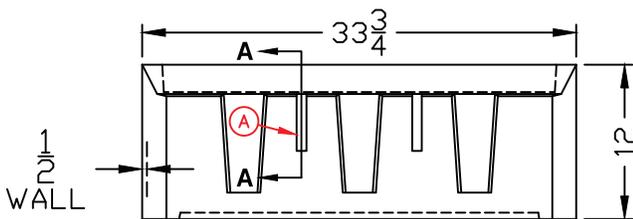
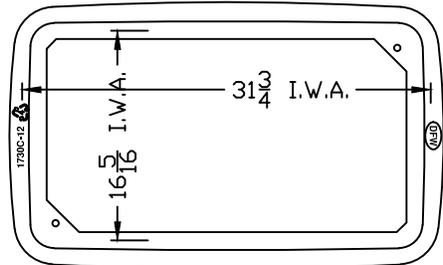
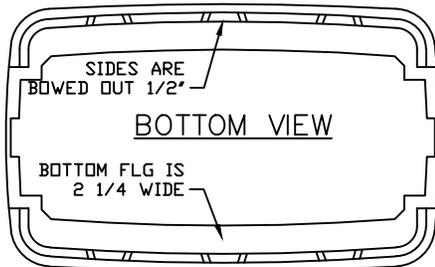
DFW1730C-1EA-LID

| BODY KEY | |
|----------|------------|
| H | HEAVY WALL |

| LID KEY | |
|---------|-----------------|
| 1 | BLACK COLOR |
| E | REBAR, 1/2" |
| A | AMR SLIDE MOUNT |



DFW1730CH-12-1EA



LIFT STRUCTURE
SECTION A-A

DFW1730CH-12-BODY

NOTES

- 1) DIM'S ± 1/8 U.N.O.
- 2) LID MATERIAL: H.D.P.E.
- 3) BODY MATERIAL: L.L.P.E.
- 4) WALL THICKNESS: 1/2 ± 5%
- 5) I.W.A. = INSIDE WORK AREA.

TAMPA
WATER
DEPARTMENT

1-1/2" & 2" SINGLE SERVICE HDPE & LID METER BOX

5.12A

INSERTION VALVES (4" to 12")

1. GENERAL

Insertion valves shall be installed in live cast iron, ductile iron, C-900 PVC, and asbestos cement pipelines without requiring the shutdown of water flow through the pipe. The design should allow the insertion valve to be installed into an existing pressurized pipeline while maintaining constant pressure and service. Insertion valves provided shall be true resilient seat gate valves that will remain in the water distribution piping system after insertion. Insertion valves must safely operate in balanced and unbalanced pressure situations – pressure equalization on the downstream (or upstream) side of the closed valve shall not be necessary to open the valve.

2. PRODUCT

- a. Insertion valve shall be capable of pressure-tight assembly to the exterior of the pipe in which flow is to be stopped at working pressures up to 250 psi.
- b. Insertion valve shall:
 - 1) have a ductile iron body, bonnet and wedge that provide strength and pressure ratings that meet or exceed the requirements of AWWA C-515 or C-509 Standards.
 - 2) open right (clockwise).
 - 3) be capable of working on Cast/Grey Iron or Ductile Iron Class A B C and D, IPS PVC, C900 and C909 PVC, Steel, AC pipe diameters without changing either top or bottom portion of split valve body.
 - 4) be suitable for working pressures up to 250 psi. The pressure rating designation must be cast into the body of the insertion valve.
 - 5) have stuffing box, operating stem, and resilient wedge that are removable, repairable, and/or replaceable under pressure.
 - 6) have valve body that provides full mechanical protection of the pipe, and that is permanently restrained to the pipe.
 - 7) have a body of two-piece ductile iron casting manufactured to specifications of ASTM A536, latest revision, min. Grade 65-45-12, with 8-mil (min.) epoxy coating inside and out that meets or exceeds ANSI\AWWA C-550 Standards, and is certified to ANSI\NSF 61.
 - 8) have a ductile iron wedge, fully encapsulated with EPDM rubber by high pressure and high temperature compression or injection mold process. There shall be no exposed iron. EPDM rubber shall be ANSI\AWWA NSF-61 certified.

- 9) have a wedge that seats on the valve body and not on the pipe. The wedge shall be totally independent of the carrier pipe – it shall not come into contact with the carrier pipe or depend on the carrier pipe to create a seal.
 - 10) have a wedge that rides inside the body channels to maintain wedge alignment throughout its travel control, regardless of high- or low-flow pressure or velocity.
 - 11) the wedge shall be symmetrical and seal equally well with flow in either direction.
 - 12) have gate valve stem and wedge nut made of copper alloy in accordance with Section 4.4.5.1 of AWWA Standard C-515.
 - 13) have a 2” standard (square), NRS (non-rising stem) operating nut in accordance with ASTM A126, Class B.
 - 14) have a NRS stem with integral thrust collar in accordance with Section 4.4.5.3 of AWWA Standard C-515. Two piece stem collars are not acceptable.
 - 15) open and close through AWWA standard turns per inch.
 - 16) have a triple O-ring stem seal with two O-rings located above and one O-ring located below the thrust collar.
 - 17) have mechanical joint (MJ) ends for connection of the valve to the pipeline.
 - 18) the stuffing box, operating stem and resilient wedge (complete bonnet and all moving parts) shall be removable, repairable and/or replaceable under pressure. So that, in the event the valve stem is broken or damaged, the bonnet can be removed under pressure.
- c. All bolting materials shall meet or exceed the physical strength requirements of ASTM A307 with dimensions conforming to ANSI B18.2.1 (304 SS min.).
 - d. The sleeve shall be pressure tested prior to cutting the pipe, either through the use of the temporary knife gate installed on the valve body or through a blind flange installed on the valve body, to 150 psi.
 - e. The tapping cutter shall extract the coupon from the cut pipeline.
 - f. Restraint devices connecting the valve body castings to the pipe shall be split EBAA Mega-lug, or approved equal, with a working pressure rating of 350 psi. Gland body, wedges, and wedge-actuating components shall be cast from Grade 65-45-12 ductile iron material in accordance with ASTM A536. Torque-limiting twist-off nuts shall be included to ensure proper actuating of the gripping wedges. Restraint devices shall be listed by Underwriters Laboratories, and Approved by Factory Mutual.

3. QUALITY CONTROL

- a. Catalogs and maintenance valve data shall be provided as required by the Engineer. The catalogs and maintenance data shall contain sufficient detail to serve as a guide in the valve assembly, valve disassembly, the ordering of repair parts, complete valve lubrication and valve maintenance information.
- b. Valves shall meet or exceed test specifications as set forth in AWWA C-515, latest revision, excluding in Section 5.1 Testing: 5.1.13 (leakage test), and 5.1.2.3 (seat test).

4. MANUFACTURER

Insertion valves shall be domestically manufactured. Insertion valves shall be Team Industrial Services “Team InsertValve”, or approved equal.

AIR VACUUM AIR RELEASE VALVES

1. GENERAL

Air and vacuum valves shall be fully automatic capable of venting large quantities of air while pipeline is being filled, allowing air to re-enter while pipeline is being drained (or when negative pressure occurs), and to continuously and automatically release air from a pressurized liquid system. Single body or dual body Combination Air Valves shall be installed,

They shall be of the size indicated, with flanged or screwed ends to match piping. Bodies shall be of high-strength cast iron. The float, seat, and moving parts subject to wetting shall be constructed of Type 316 stainless steel. Seat washers and gaskets shall be Buna-N seal to provide an initial contact to Buna-N with final metal contact to prevent over compression of the resilient seal. Valves shall be designed for minimum 150 psi water-working pressure, unless otherwise indicated.

Air vacuum air release valves shall be installed inside of a Charles Industries fiber optic pedestal (Part No. 117 SS07 – 2 0 000 BK), generally in accordance with Standard Detail 2.14 (Automatic Air Release Valve) and 2.15 (Pedestal for Automatic Air Release Valve), having a buried, square base with a louvered low-profile above-grade dome. Base (pedestal) shall be fully buried on grade such that the dome/pedestal interface is 1” min. above finished grade.

A blue reflective sticker ARV (to be provided by the City Inspector) shall be affixed to the dome, as directed by the Inspector, in accordance with manufacturer recommendations.

2. PRODUCT

Air Vacuum and Air Release Valves shall be manufactured and tested in accordance with AWWA Standard C512 for clean water.

Combination Air and Vacuum Valves shall have the same general requirements as indicated above. Two inch and smaller combination air valves for clean water applications shall be of the integral type with a valve assembly which functions as both an air and vacuum valve and an air release valve.

3. QUALITY CONTROL

When submitting for approval of air vacuum air release valve not listed below, the Contractor shall include drawings and brochures that clearly indicate size, dimensions, weights, performance standards, etc. If this documentation is omitted, the air release valve may be rejected at the sole option of the City.

4. MANUFACTURER

Combination Air and Vacuum Valves: The valves shall be Val-Matic 202C Combination Air Valve, Apco Single Body Combination Air Valves, Crispin C-Series Combination Air Valves, Crispin Universal Air Release Valves, or approved equal. Unless otherwise specified or indicated on the drawings, all combination valves shall be provided with surge check discs on the valve inlet to restrict the exhaust air flow rate.