WATER & SEWER UTILITY SERVICES INSTALLATION STANDARDS

Application, Scheduling, Fees & General Installation Standards

Rev. 6/15/22

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Definitions

- **"Applicant"** shall mean the second party or parties entering into contract for the performance of the work covered by these specifications.
- **"City"** shall mean City of Topeka Utilities Department; respectively the Water or Wastewater Utilities.
- **"City Code"** shall refer to the Topeka Municipal Codebook, Chapter 13, Utilities, which can be found on file in the City Clerk's Office or available online at: https://www.codepublishing.com/KS/Topeka/.
- **"Customer"** shall mean the party responsible for water usage or wastewater discharge.
- **"Fees and Charges Schedule"** shall refer to the Utilities Department's currently adopted Schedule of Fees and Charges located at https://cot-wp-uploads.s3.amazonaws.com/wp-content/uploads/utilities/WaterFeesandCharges.pdf.
- **"Meter Services"** shall mean the Utilities Department Meter Services designated representative.
- **"Technical Specifications"** shall refer to the City of Topeka & Shawnee County Standard Technical Specifications, and can be found on file in the City Engineering Office or available online at: https://www.topeka.org/engineering/design-right-of-way/.
- **"Water Distribution Inspection"** shall mean the Water Distribution Inspection designated representative.
- **"Water Engineer"** shall mean City of Topeka Utilities Department, Asset Management Division, Water Engineer.

1. Application Process

1.1 Online Pre-Application Questionnaire Form

To complete an online Pre-Application Questionnaire Form for water service (domestic, fire line, and irrigation) or wastewater service (sewer) connections, go to the web-based Cityworks portal at https://www.topeka.org/utilities/. If you need assistance, please contact the City of Topeka Utilities at watereng@topeka.org or (785) 368-0152.

1.2 Application Requirements

Applications must include the total fixture units count connected or to be connected to the service line for determination of proper meter size and type. This is the same count required by Development Services for a building permit.

1.3 Ultrasonic Meters (3" to 12")

Ultrasonic meters shall be installed in a properly sized concrete or composite material vault. See Diagrams 3A, B, C and Chart 1. Refer to Section 8.02 (Materials) of the City of Topeka Technical Specifications for material and fitting types.

1.4 Ultrasonic Meters (1.5" and 2")

Ultrasonic Meters shall be installed in a pre- packaged meter kit supplied by the Utilities Department.

1.5 Irrigation Meters

For Irrigation Meters, the maximum flow in gallons per minute (gpm) required for the largest zone is needed to determine meter size. The proper meter size and type must be determined to complete the application.

1.6 Submit Completed Applications Online

Pre-Application Questionnaire Forms, along with the Fixture Unit Schedule, must be submitted online via the web-based Cityworks portal at https://www.topeka.org/utilities/ . For additional information:

- E-mail: watereng@topeka.org
- Call: (785) 368-0152

1.7 Submit Completed Fixture Unit Schedules

Completed Fixture Unit Schedules MUST accompany applications for new or renewed services. Material charges, system fees, inspection fees & cross connection backflow fees will be the responsibility of the Applicant.

1.8 Technical Questions

Technical questions related to applications for Water and Wastewater service can be answered by one of the following:

- Water Engineer: (785) 368-0152
- Wastewater Engineer: (785) 368-4251
- Cross Connection Inspector: (785) 368-1628

2. Scheduling Taps, Inspections and Material Pickup

2.1 Hours of Operations

- Water Services – 1901 SW Western Avenue
  - Monday – Friday, 7:00 a.m. to 3:00 p.m.
  - Inventory Specialist: (785) 368-2533 or (785) 368-3687
- Water Pollution Control (WPC) – 1115 NE Poplar Street
  - Monday – Friday, 8:00 a.m. to 4:30 p.m.
  - Call Center: (785) 368-1111
- Cross Connection – 620 SE Madison Street, 3rd Floor, Development Services
  - Monday – Friday, 8:00 a.m. to 5:00 p.m.
  - Backflow & Cross Connection Inspector: (785) 368-1628

2.2 Scheduling Tapping and Inspection for Utility Services

After receiving Engineering approval, the Applicant is responsible for scheduling an appointment for tapping and inspection.

- Contact the Utilities Call Center at (785) 368-3111.
- Tapping must be scheduled at least 24 hours in advance.
- All materials not furnished by the City, as outlined in these Standards, are the responsibility of the Applicant.
- A licensed contractor or plumber shall make taps for services 2" and smaller under the direct supervision of Water Distribution Inspection.
- City will make all taps for services greater than 2".
- The excavated area must meet Occupational Safety and Health Association (OSHA) safety standards. If conditions do not meet OSHA safety standards, tapping and inspection will be rescheduled at the Applicant's expense.
- The water main needs to be visible and clean for Water Distribution Inspection to make or inspect the tap.
- For water services, all materials must be installed, minus the tap, so the system can be charged and backfilled, in accordance with the Technical Specifications, after the tap, and Water Distribution Inspection approves the installation.
- If the site has not been properly prepared and/or the Applicant wishes to reschedule the appointment, the Applicant must give least one-hour advance notice. If adequate notice is not given, tapping and inspection will be rescheduled at the Applicant's expense.
- If Water Distribution Inspection needs to return for any reason, additional charges will apply.
- After the installation has been approved, final restoration must be completed to City Code.

3. General Conditions

- The City may refuse to accept an application for a utility connection if the Applicant has any unpaid obligation due and/or owed, whether such obligation is for unpaid accounts, charges, service, materials, guarantees, damages, or other reasons.
- It shall be the responsibility of the building owner to install a thermal expansion tank in accordance

with plumbing code adopted by the City for all new services and for any water service upgrades.

- A **pressure reducing valve (PRV)** will be required on service when delivery pressure at the main exceeds the level indicated as "excessive" per the Uniform Plumbing Code (UPC), and any amendments thereto, as adopted by the City. For new construction, the Applicant is responsible for the purchase and installation of the PRV. Maintenance and repair of the PRV is the responsibility of the homeowner.
- **Tracer wire** will be installed from the main to the meter on all service lines. See Section 8 of the Technical Specifications.
- Each habitable building shall have a separate and independent metered water service subject to Fees and Charges Schedule.
- **Multi-unit residential buildings** shall have a separate and independent metered service for each unit. Deviations require prior approval by the Water Engineer.
- **Multi-unit commercial buildings** shall have one meter per structure. Deviations require prior approval of the Water Engineer.
- **Lawn irrigation systems,** whether for commercial or residential property, may have a separate meter. The irrigation meter will not be charged wastewater fees. "Deduct meters" will not be permitted for new irrigation installations.
- **Fire line and stormwater** charges are a monthly set fee set forth by City Code.
- **Fire line backflow prevention** is required for every fire line. The backflow prevention device is to be located as close as practicable to the connection with the water main (per adopted Topeka Municipal Code Chapter 14.35.540(b)). A backflow prevention device may be installed in a vault or inside the building. If the backflow prevention device is installed in a vault, see Figure 1 for details on vault sizing and construction. No vault shall be installed within a City easement or the public right-of-way. The backflow prevention device shall comply with the currently adopted plumbing code.
- The terms of the connection application and all use of water mains or sewer lines in relation to the service connection herein permitted shall be subject to all applicable provisions of the City Code, Technical Specifications, and any additional utility standards and specifications relating to service characteristics of the specific customer.
- The Applicant shall pay for all materials furnished, at current costs, as specified in the Fees and Charges Schedule.
- Failure to comply with construction specifications as outlined in this document will result in denial of service connection until all deficiencies are corrected to the satisfaction of the Water Engineer.
- **Applicable permits** must be posted at the job site before the service connection will be made.
- **Water:** The location of the water service herein applied for shall be installed in a manner enabling City water personnel free and unobstructed access to the meter at all times during its existence. The meter pit shall **not** be located in parking areas, drives, sidewalks, or inside fences. The meter pit shall be located in the public right-of-way or easement contiguous to the parcel or building being served. Deviations must have prior approval by the Water Engineer. The City will install service piping from the main to the meter pit. The Applicant is responsible for the installation of the service piping from the meter pit to the building or dwelling. This portion of the service line is the property of the Customer, and shall be maintained at the Customer's expense.
- **Sewer:** The building sewer piping constructed by the applicant, from the property to and including the connection at the fitting of the City's sanitary sewer main, will remain the property of the customer and will be maintained by, and at the expense of, the Customer.
- **Excavation, Backfill and Surface Restoration:** The Applicant will be responsible for all excavation, backfill, and surface restoration consistent with the Technical Specifications. Call for

field locates before beginning excavation. The Applicant shall excavate the hole for the tap in accordance with most current OSHA Regulations and Kansas One-Call requirements. City employee may refuse to work in any excavation they feel is unsafe. The Kansas Department of Industrial Safety may be called to settle any safety disputes. The Applicant is responsible for providing appropriate traffic control, fencing and barricades while any open excavation exists. Backfill in compliance with the Technical Specifications. Backfill immediately once the tap is completed. The area around the meter pit will be backfilled with unwashed pea gravel up to (12") twelve inches from top of meter box and then black dirt to grade. Care should be taken while backfilling around meter pit to prevent damage to the meter pit.

- **Clean-up**: In established areas the Applicant shall remove all excess dirt, unused materials, and refuse resulting from the work immediately after the completion of the work. The Applicant is responsible for all landscape, sidewalk, street, and pavement restoration. The Applicant shall return all disturbed areas to the original condition or better.
- **Streets, Alleys, Sidewalks, and Easements**: When making excavations in streets, alleys, or sidewalks, pavement material must be removed and deposited in a manner that will cause the least inconvenience to the public and provide for adequate drainage and protection of the stormwater conveyance system. No person shall leave an excavation made in an easement open at any time without properly protecting, barricading, and/or maintaining the excavation. Site completion shall be coordinated with the Construction Inspection section of the Public Works Engineering Division, 368-3971, and in compliance with Technical Specifications.

Any and all deviations from these guidelines must have prior approval by the Water Engineer.

4. Materials and Installation for Domestic and Irrigation Services

NOTE: In addition to the standards listed below, all materials and installation practices will follow the latest version of the Technical Specifications.

4.1 Positive Displacement Meters (5/8" and 1")

Installation

- The Applicant will be responsible for the complete installation of the pipe saddle and corporation stop, per City standards.
- Refer to Figures 2 through 4.

Piping

- The piping will be furnished and installed by the Applicant. Pipe will be nominal size of 1", 1-1/2", or 2", and shall be HDPE DR -0.9 per Technical Specifications. Piping must be blue in color.
- Pipe will be installed to forty inches (40") depth at the meter pit. All other points shall have a minimum cover of forty inches (40") below street sub-grade, sidewalks, and turf.
- Piping between the water main and the meter pit shall be in line with the corporation stop and installed perpendicular to the main. There shall be no horizontal bends or offsets in the piping between the main and meter pit.
- The minimum allowable horizontal distance between the new water service piping and all gas service lines, underground power lines, and communication lines is eighteen inches (18"). When in public right-of-way, a minimum horizontal separation distance of ten feet (10') is required

between the water service pipe and any sanitary sewer lines.

- Tracer wire for locating shall be installed with all service lines from the water main to the meter pit. See Section 8.02(H) in the Technical Specifications.

Meter and Setter

- The meter and setter will be furnished by the City at the expense of the Applicant.
- The meter shall be installed fifteen inches (15") from top of meter pit cover.
- The setter is to be installed such that the meter is centered in the pit and the shut-off valve is accessible from aboveground.

Meter Pit, Ring, and Cover

- A meter pit, ring, and cover will be furnished by the City at the expense of the Applicant. This does not include vaults.
- Ford Type "A", "C", " X" or " PMBC-3'' Single Lid Cover with a 4" depth.
- The meter pit shall be installed in the public right-of-way or easement. The meter pit **shall not** be located in parking areas, drives, and sidewalks, or inside fences without approval from the Water Engineer.
- The meter pit shall be supported by four (4) concrete blocks (not furnished) placed on twelve inches (12") of ¼" chat, compacted in-place and leveled.
- The ring will be positioned such that the top is at ground-level, leaving the cover flush with the finished grade.
- A two-inch (2") hole in the cover is needed for the installation of the Reading Systems Antenna. The antenna will be attached to the meter cover and register.

BEFORE OPERATION, PERFORM THESE STEPS:

- Caution must be exercised to avoid air in the line and sudden changes in flow; these conditions can cause damage to the meter and piping.
- With the outlet-side valve closed, SLOWLY open inlet-side valve to pressurize meter.
- SLOWLY open the outlet-side valve to pressurize downstream line.
- After installation, it is important that both valves be in the "FULL OPEN" position. A partially open valve can adversely affect meter accuracy.

4.2 Ultrasonic Meters (1-½" and 2")

Installation

- The Applicant will be responsible for the complete installation of the pipe saddle and corporation stop, per City standards.
- Refer to Diagram 5.

Piping

- The piping will be furnished and installed by the Applicant. Pipe will be nominal size of 1", 1-1/2", or 2", and shall be HDPE DR -0.9 per Technical Specifications. Piping must be blue in color.
- Pipe will be installed to forty-two inches (42 ") depth at the meter pit. All other points shall have a minimum cover of forty-two inches (42") below street sub-grade, sidewalks, and turf.
- Piping between the water main and the meter pit shall be in line with the corporation stop and installed perpendicular to the main. There shall be no horizontal bends or offsets in the piping between the main and meter pit.

- The minimum allowable horizontal distance between the new water service piping and all gas service lines, underground power lines, and communication lines is eighteen inches (18”). When in public right-of-way, a minimum horizontal separation distance of ten feet (10’) is required between the water service pipe and any sanitary sewer lines.
- Tracer wire for locating shall be installed with all service lines from the water main to the meter pit. See Section 8.02(H) in the Technical Specifications.

Meter and Setter

- The meter and setter will be furnished by the City at the expense of the Applicant.
- The meter shall be installed twenty-eight inches (28”) from top of meter pit cover.
- The setter is to be installed such that the meter is centered in the pit and the shut-off valve is accessible from aboveground.

Meter Pit, Ring, and Cover

- A meter pit, ring, and cover will be furnished by the City at the expense of the Applicant. This does not include vaults.
- Ford Type "A", "C", “ X” or “ PMBC-3'' Single Lid Cover with an eight inch (8") depth.
- The meter pit shall be installed in the public right-of-way or easement. The meter pit **shall not** be located in parking areas, drives, and sidewalks, or inside fences without approval from the Water Engineer.
- The meter pit shall be supported by four (4) concrete blocks (not furnished) placed on twelve inches (12”) of ¼” chat, compacted in-place and leveled.
- The ring will be positioned such that the top is at ground-level, leaving the cover flush with the finished grade.
- A two-inch (2”) hole in the cover is needed for the installation of the Reading Systems Antenna. The antenna will be attached to the meter cover and register.

BEFORE OPERATION, PERFORM THESE STEPS:

- Caution must be exercised to avoid air in the line and sudden changes in flow; these conditions can cause damage to the meter and piping.
- With the outlet-side valve closed, SLOWLY open inlet-side valve to pressurize meter.
- SLOWLY open the outlet-side valve to pressurize downstream line.
- After installation, it is important that both valves be in the “FULL OPEN” position. A partially open valve can adversely affect meter accuracy.

4.3 Ultrasonic Meters (3” and 4”)

Installation

- The Applicant will install piping from the main to the point of the building connection, including the meter vault. The piping entering and exiting the meter vault shall be appropriately restrained. Refer to Section 8.02 (Materials) of the City of Topeka Technical Specifications for material and fitting types. The meter assembly requires adjustable weight bearing stands installed under the water meter, by-pass and inlet/outlet sides of the meter assembly.
  - Refer to Figures 6 and 7.

Tap

- The City Utilities will make all taps for services larger than 2”.

Piping

- The piping will be furnished and installed by the Applicant from the main to the meter pit. The Applicant will furnish the piping from the pit to the point of distribution. Piping must be blue in color if HDPE.
- Pipe will be installed to forty-two (42) inch depth at the meter pit.
- All other points shall have a minimum cover of forty-two (42) inches under pavement, sub-grade, sidewalks and turf.
- The piping between the water main and the meter pit shall be in line with the corporation stop and at 90 degrees from the main. There shall be no horizontal bends or offsets in the piping unless approved by Water Engineer.
- There shall be a separation of a minimum of twenty-four (24) inches horizontal between the water service pipe and any gas service line, underground power line and communications lines, and in the public right- of-way a minimum of ten feet (10') horizontal between the water service pipe and any sanitary sewer service lines.
- Tracer Wire will be on all service lines for locating from the water main to the meter pit. See Section 8.02(H) in the Technical Specifications.

Vault and Access Cover

- The vault and cover will be furnished by the Applicant. Vault size is determined by the meter size. See figures for sizes and details.
- In the hatch, the Applicant shall drill 1 – 2" hole for the antennae. The hole shall be located in accordance with figures 6 or 7.

Meter and Meter Setup Assembly

- The meter setup assembly is to be installed so that the meter is off-set to allow ample room inside the vault for the by-pass assembly as defined in the Figure 6 and 7.

In Vault Piping

- Elbows: Elbows (90°) may be installed five (5) pipe diameters upstream the meter and/or directly downstream the meter.
- Valves: Fully open gate valves or ball valves may be installed immediately upstream or downstream the meter. Fully open isolation valves or butterfly valves may be installed at least five (5) pipe diameters upstream the meter or immediately downstream the meter. If control valves, check valves, or backflow preventers are needed, install them downstream of the meter to avoid cavitation. Do not install the meter on a pump suction side.
- Test Tee: Must be installed so that the test port is facing straight up, aligned with the meter's register. The center of the test port must be a minimum of one (1) pipe diameter from the outlet flange of the meter. 2" test ports are recommended.

BEFORE OPERATION, PERFORM THESE STEPS:

- Caution must be exercised to avoid air in the line and sudden changes in flow; these conditions can cause damage to the meter and piping.
- Close both the mainline and bypass valves.
- Turn air bleed on meter cover counter-clockwise up to two turns.
- With outlet-side valve closed, SLOWLY open inlet-side valve to pressurize meter.
- Close air bleed when air is completely vented and no "spitting" occurs.
- SLOWLY open the outlet-side valve to pressurize downstream piping.
- After installation, it is important that the inlet valve be in the "FULL OPEN" position. A partially open inlet valve can adversely affect meter accuracy.

4.4 HP Rated Ultrasonic Meters (6" and larger)

NOTE: ALL MJ= Full Body Restraint Glands/Gasket = Bolts/Nuts – SS 304/316. Refer to figure 8- Meter and Vault Requirements in the Technical Specifications.

- The piping entering and exiting the meter vault shall be appropriately restrained.
- Pipe will be installed to forty-two (42) inch depth at the meter pit.
- All other points shall have a minimum cover of forty-two (42) inches from bottom of pavement, sub-grade, sidewalks and turf.
  - Elbows: Elbows (90°) may be installed five (5) pipe diameters upstream the meter and/or directly downstream the meter.
  - Valves: Fully open gate valves or ball valves may be installed immediately upstream or downstream the meter. Fully open isolation valves or butterfly valves may be installed at least five (5) pipe diameters upstream the meter or immediately downstream the meter. If control valves, check valves, or backflow preventers are needed, install them downstream of the meter to avoid cavitation. Do not install the meter on a pump suction side.

  Test Tee: Must be installed so that the test port is facing straight up, aligned with the meter's register. The center of the test port must be a minimum of one (1) pipe diameter from the outlet flange of the meter. 2" test ports are recommended.
- Before installation inspect the valve clapper on the detector and check for freedom of movement.
- The meter should be lowered into the meter pit and positioned in the setting via chains or straps through the lifting hooks located on the top of the water meter. No attempt should be made to lift the assembly by a single center strap around the meter body of either end.
- The installation is to be in a horizontal position with its arrow pointing in the direction of the water flow.
- Tracer Wire will be on all service lines for locating from the water main to the meter pit. See Section 8.02(H) in the Technical Specifications.

BEFORE OPERATION, PERFORM THESE STEPS:

- Caution must be exercised to avoid air in the line and sudden changes in flow; these conditions can cause damage to the meter and piping.
- Close both the mainline and bypass valves.
- Turn air bleed screw on detector check valve and strainer cover counter-clockwise up to two turns.
- SLOWLY open mainline inlet-side valve to pressurize meter.
- Close air bleed screws when air is completely vented and no "spitting" occurs.
- SLOWLY open outlet-side valve to pressurize downstream piping.
- SLOWLY open upstream valve on bypass to pressurize bypass meter.
- SLOWLY open downstream valve on bypass.
- After installation, it is important that the inlet valve be in the "FULL OPEN" position. A partially open inlet valve can adversely affect meter accuracy.

4.5 Fire Lines Installation

Installation

- The Applicant will install piping from the main to the point of the building connection, including the vault, if a vault is being used for backflow assembly.

Tap

- The tap will be made by the City.
- No domestic service shall be tapped off a fire line or hydrant leg.

Piping

- The piping will be furnished and installed by the Applicant from the main to the vault. The Applicant will furnish the piping from the vault to the point of distribution, if a vault is being used.
- Pipe will be installed to forty-two (42) inch depth at the vault.
- All other points shall have a minimum cover of forty-two (42) inches from bottom of pavement, sub-grade, sidewalks and turf.
- Trace Wire will be on all service lines for locating from the water main to the meter pit. See Section 8.02(H) in the Technical Specifications.

Backflow Assembly

- All fire lines are required to have a backflow assembly. The backflow assembly may be located in the building or in a vault as close as practicable to the connection with the water main**.** The backflow device shall comply with currently adopted plumbing code.
- A backflow assembly shall be installed at a location that allows access to the device for maintenance and testing from floor level, without use of a ladder or other similar temporary apparatus, and that will not subject the device to flooding, excessive heat, or freezing.
- The customer will be responsible for installation of the backflow assembly at their own expense, including testing immediately after installation. Additionally, the Applicant will be responsible for the annual testing of the assembly and any necessary repair or maintenance.
- All private hydrant laterals served from a main will require a backflow assembly installed in a pit or vault in accordance with Diagram 1. The pit or vault shall be located on private property adjacent to right-of-way or utility easement.
- In accordance with Section 8 of the Technical Specifications, pumper nozzle caps on all private hydrants, as designated by the Water Engineer, shall be painted Sherwin-Williams industrial yellow #B54-Y37.

Valves

- A valve shall be installed on all fire lines or hydrant legs as close as possible to the main.

5. Sanitary Sewer Connections

5.1 General – The Applicant shall procure the services of a licensed plumber or obtain a homeowner's permit from Developmental Services to install a new building sewer line from the structure to the sewer stub (wye) not located within the road right-of-way or an easement. A licensed plumber must do the work within the road right-of-way or an easement.

5.2 Tap Required – If the building sewer service line requires a direct tap to the sewer main, a licensed plumber must excavate the area around the main in accordance with the most current OSHA regulations. City employees may refuse to work in any excavation they feel is unsafe. The Kansas Department of Industrial Safety may be called in to settle any safety disputes. The Applicant is responsible for providing appropriate traffic control, fencing and/or barricading. Water Pollution Control Division staff must do the actual tap.

5.3 Scheduling – The Applicant must allow five (5) working days from application date to schedule a tap. A minimum of 24 hours' notice shall be given to the Water Pollution Control Division for cancellation or rescheduling of any scheduled tap. Please call 785-368-3111 for scheduling tap.

5.4 Completion – The Applicant shall complete all backfilling, clean up, and surface restoration in accordance with the City Code, Technical Code, Specifications and Policies. If the excavation is in a road right-of-way or an easement this work must be inspected and approved by the Construction Inspection Section of the Public Works Engineering Division.

Please call 785-368-1628 to schedule you inspection.

NOTE: City map may not be accurate and could show a sewer stub on property where one does not exist. There are additional fees if a tap needs to be made in the sewer main. See Fee Schedule online at: https://s3.amazonaws.com/cot-wp-uploads/wp-content/uploads/utilities/UtilitiesFeeSchedule.pdf

Figure 1 – Vault for Fireline Backflow Prevention System

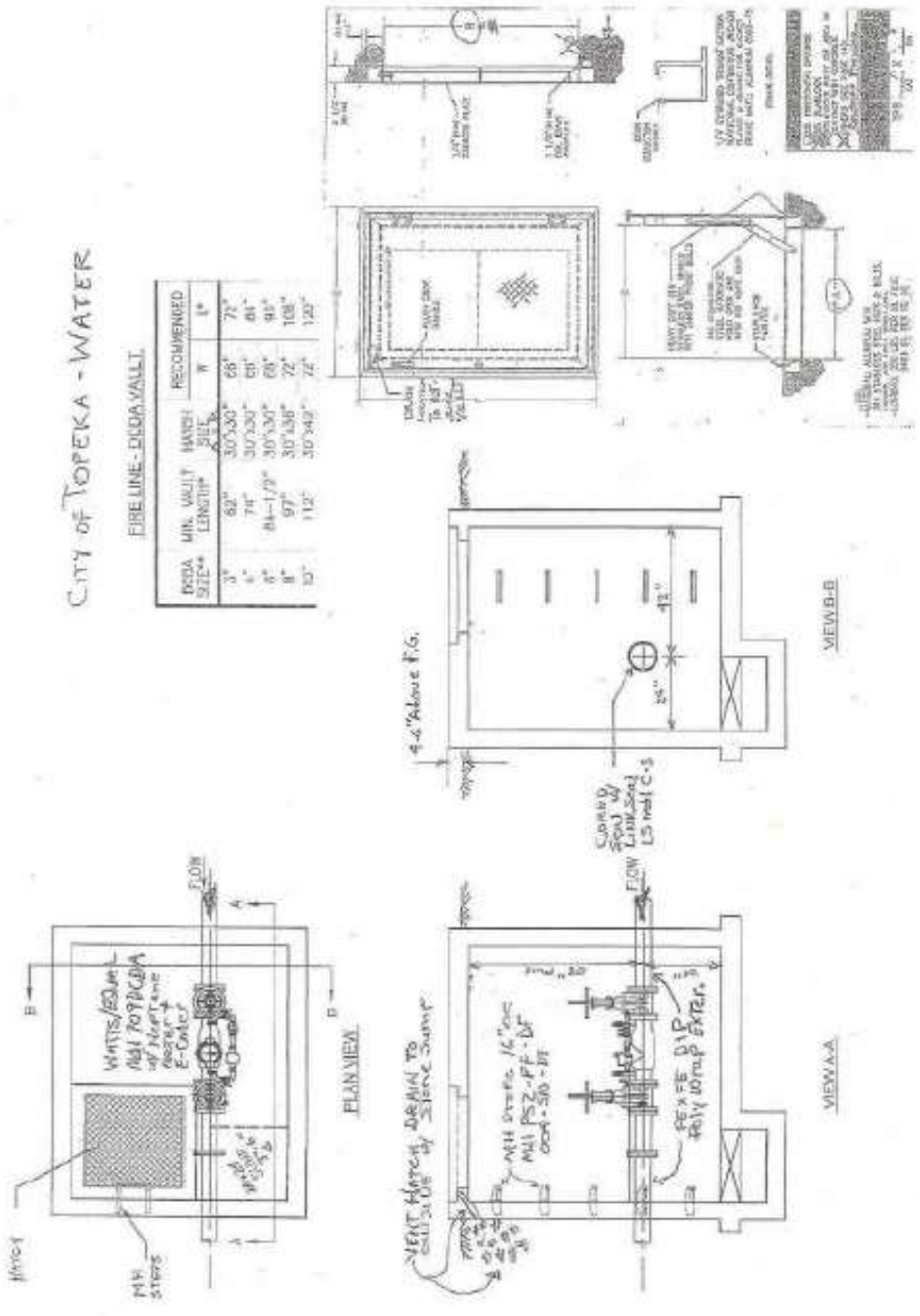
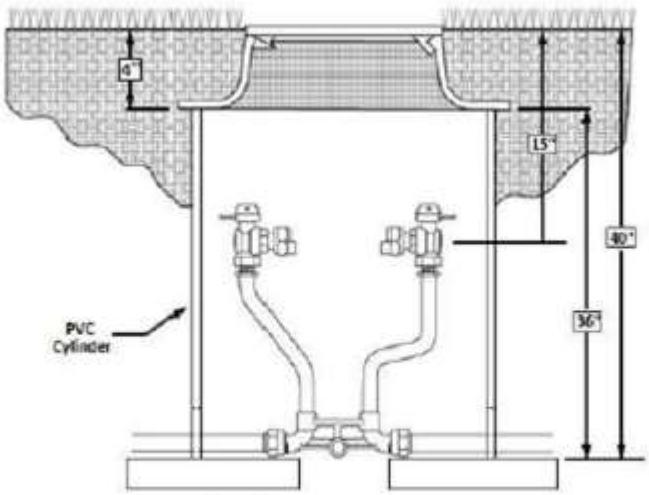
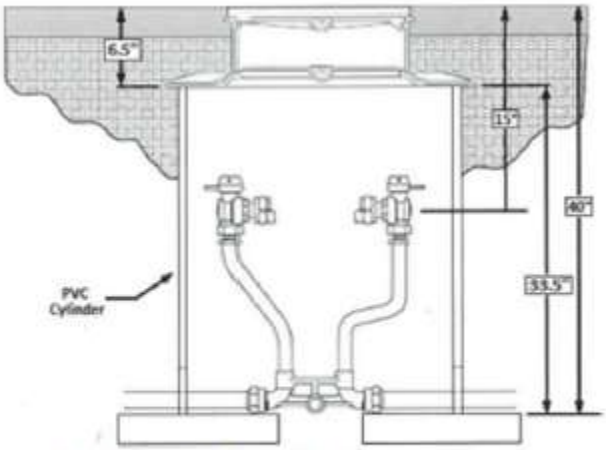


Figure 2—Positive displacement meter pit in green



* All parts are provided except for concrete blocks and ¼" chat.
* Meter box placement is dependent upon providing 40 inches of space from top of concrete block to grade.

Figure 3—Positive displacement meter pit in pavement



* All parts are provided except for concrete blocks and ¼" chat.
* Meter box placement is dependent upon providing 40 inches of space from top of concrete block to grade.
* The 36" PVC Cylinder will need to have 2.5 inches cut to obtain the 40" space from the top of the concrete block to grade.

Figure 4—1" Meter setter with angle ball valves on city and customer sides

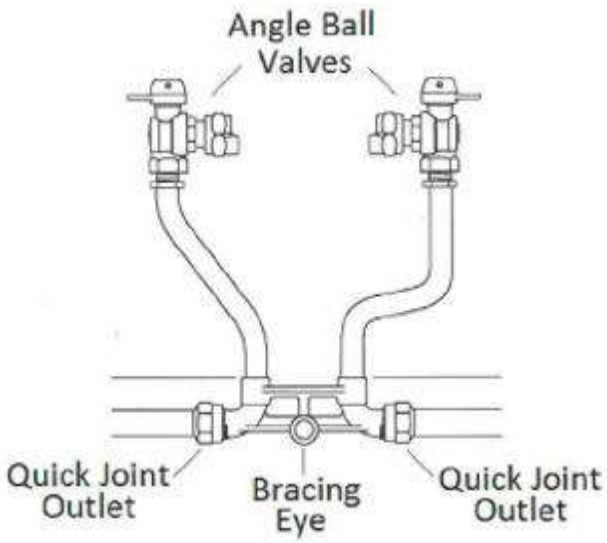
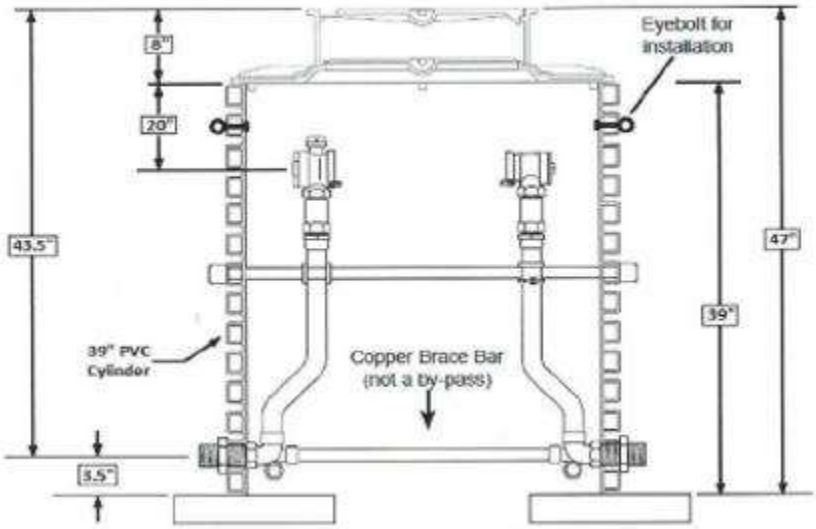


Figure 5—Setup for 1 1/2" and 2" ultrasonic meter pits



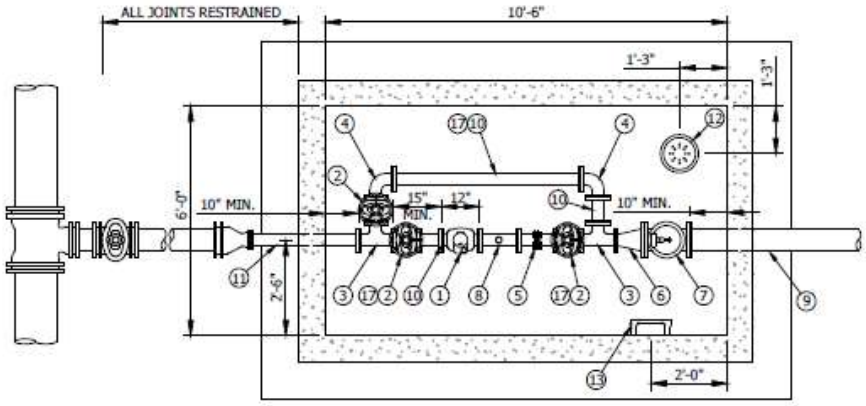
*All parts are provided except for concrete blocks and 1/4" chat.
*Meter box placement is dependent upon providing 47" of space from top of concrete block to grade.

Figure 6 – 3" Ultrasonic Meter and Vault

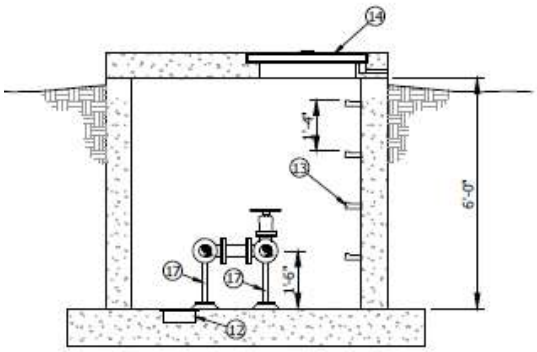
LIST OF MATERIALS

1. 3" ULTRASONIC METER
2. 3" FL GATE VALVE W/HANDWHEEL
3. 3"x3" FL TEE
4. 3" FL 90° BEND
5. 3" FLANGED DISMANTLING JOINT
6. 6"/4"x3" FL REDUCER
7. 6"/4" FL SWING-FLEX CHECK VALVE
8. 3"x2"x12" FL TEST TEE
9. 6"/4" FLxPE PIPING
10. 3" FLxFL PIPING*
11. 3" FLxPE PIPING
12. 12" SUMP PAN
13. PS2 STEP (4 REQ'D)
14. 24"x36" SINGLE LEAF ALUMINUM HATCH
15. VALVE BOX RING AND LID
16. 2" DIA. HOLE
17. ADJUSTABLE PIPE SUPPORT (3 REQ'D)

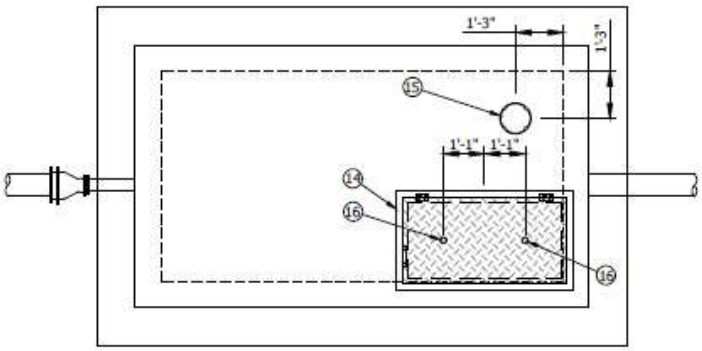
*FLxPE PIPE WITH RESTRAINED FLANGE COUPLING ADAPTER MAY BE USED



3" METER VAULT - PIPING PLAN
NO SCALE



3" METER VAULT - SECTION VIEW
NO SCALE



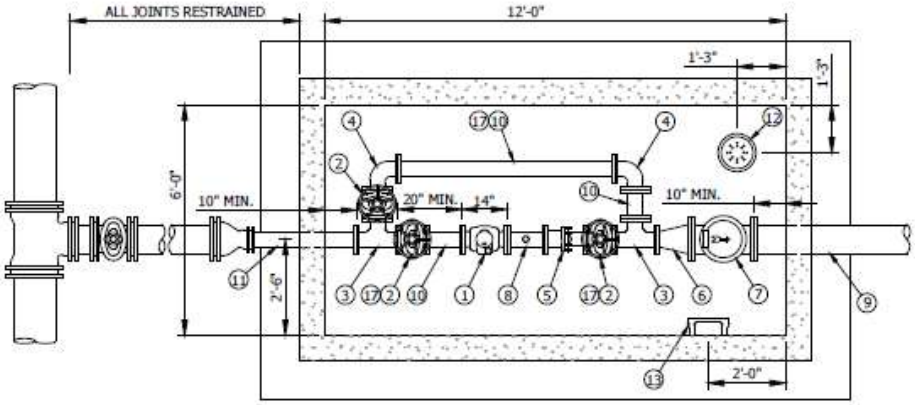
3" METER VAULT - TOP VIEW
NO SCALE

Figure 7 – 4" Ultrasonic Meter and Vault

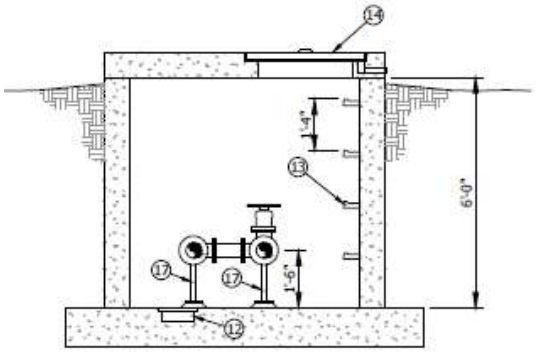
LIST OF MATERIALS

1. 4" ULTRASONIC METER
2. 4" FL GATE VALVE W/HANDWHEEL
3. 4"x4" FL TEE
4. 4" FL 90° BEND
5. 4" FLANGED DISMANTLING JOINT
6. 8"/6"x4" FL REDUCER
7. 8"/6" FL SWING-FLEX CHECK VALVE
8. 4"x2"x12" FL TEST TEE
9. 8"/6" FLxPE PIPING
10. 4" FLxFL PIPING*
11. 4" FLxPE PIPING
12. 12" SUMP PAN
13. PS2 STEP (4 REQ'D)
14. 24"x36" SINGLE LEAF ALUMINUM HATCH
15. VALVE BOX RING AND LID
16. 2" DIA. HOLE
17. ADJUSTABLE PIPE SUPPORT (3 REQ'D)

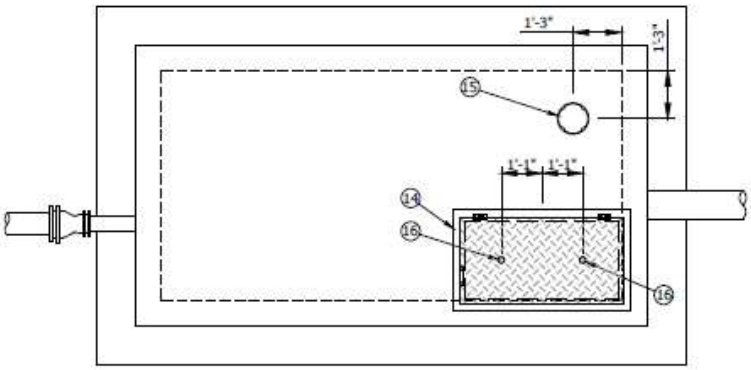
* FLxPE PIPE WITH RESTRAINED FLANGE COUPLING ADAPTER MAY BE USED



4" METER VAULT - PIPING PLAN
NO SCALE



4" METER VAULT - SECTION VIEW
NO SCALE



4" METER VAULT - TOP VIEW
NO SCALE

Figure 8 – 6" HP Ultrasonic Meter and Vault