



**Cherokee Metropolitan District Water and Wastewater
Infrastructure Construction Standards**

**Exceptions to Colorado Springs Utilities Water and Wastewater Line Extension and
Service Standards**

Effective December 15th, 2020

Purpose

Cherokee Metropolitan District has partially adopted the Colorado Springs Utilities 2019 Line Extension and Service Standards for water and wastewater to standardize additions to its water and wastewater system. The District maintains a list of exceptions to these standards which supersede the Colorado Springs Standards in any conflict. This set of exceptions may be supplemented or modified from time to time without advance notice. This set of exceptions may be revised following any changes to the Colorado Springs Utilities Standards.

Table of Contents

Water Exceptions	Page Number
Section 2.....	1
Section 3.....	2
Section 4.....	3
Section 5.....	3
Section 6.....	4
Section 7.....	4
Section 8.....	4

Wastewater Exceptions	Page Number
Section 2.....	6
Section 3.....	6
Section 4.....	7
Section 5.....	7
Section 6.....	7
Section 7.....	7
Section 8.....	8

Detail Drawings

B1-7 Typical Installation for ¾” Through 1” Meters Inside Single Family Residential HDPE Service

B-11A Typical Installation for 1-1/2” Through 6” Meters Inside Building

W-38 Typical Service Locations Relative to Street Layout

Water Standards Exceptions

Section 2

2.2.A: While in general Cherokee Metropolitan District (CMD) commitments follow a “first come, first serve” policy, larger commitments may take more time to review based upon size, amount of information provided by the Developer, or previous commitments made to the site.

2.2.B: The development plan is approved by El Paso County instead of the City of Colorado Springs.

2.2.C.1: Cost recovery agreements will be evaluated on a case by case basis.

2.2.C.3: Oversized lines may be required for certain portions of the District’s service area and cost recovery agreements will be evaluated on a case by case basis for these locations.

2.2.C.5: It is not anticipated that a new aboveground storage facility will be necessary for further developments within the District’s main service area. If one is found to be needed to serve the proposed development all costs will be borne by the Developer.

2.2.D: CMD will provide a preliminary acceptance letter upon satisfactory completion of final inspection. After a two year warranty period, during which the Developer must pay the costs associated with any infrastructure repairs, the District will provide a final letter of acceptance, fully transferring ownership.

2.3.D.3: Private hydrants must conform to applicable fire standards (Cimarron, Falcon, or Ellicott fire departments).

2.5.A: A Hydraulic Grade Line Request Form or similar document is not required. Instead, preliminary plans and proposed uses will be required before plat approval or reapproval in order to determine overall water use and issue a commitment letter. The Developer will be responsible for ensuring adequate fire flows can be provided to the development based on pressures and flowrates available at planned connection points.

2.5.B: A CMD approved, developer provided, preliminary utility plan is required to ensure that proposed connection points are suitable for the development. Contact CMD for nearby infrastructure capacity.

2.6.D: Connections to CMD water mains will be completed by the Contractor under the supervision of CMD personnel.

2.6.D.2: An outage model will be prepared for all water taps and in the event a large area is anticipated to have interrupted service additional planning and coordination may be needed.

2.6.E.7: Looping as determined by CMD and the applicable fire department (Cimarron Hills, Falcon, Ellicott, or others). A looped main may serve both domestic and fire flow subject to District approval.

2.6.G.1: These requirements may be modified on a case by case basis.

2.6.G.6: Developer shall supply survey drawings and digital location data of abandoned lines.

2.6.G.8: All valves shall open left.

2.6.G.10: Fire flow modelling in development area shall be conducted by Developer based on pressures and flowrates available at connection points. Fire hydrant placement must be approved by CMD and the applicable fire agency.

2.6.H.8 (d) & (f): Communication about locates should be directed to the Cherokee Metropolitan District front desk.

2.6.I: Cathodic protection installation is the responsibility of the Developer with approval by CMD.

2.7.D.3: Exceptions to utilities spacing may be made on a case-by-case basis.

2.7.E.1: Minimum depth of bury shall be 5 feet and maximum depth of bury shall be 6 feet unless otherwise approved by the District.

2.7.K: Consumptive Use Adjustments are not used by CMD. Instead irrigation meters may be installed in parallel with the main meter for large water users to accomplish a similar purpose.

Section 3

3.1: Construction plans must be submitted to CMD and may be submitted electronically upon approval by the District Engineer.

3.2.A: All control points must have coordinates supplied in a commonly used geographic coordinate system such as Colorado State Plane, World Geodetic Survey 1984, or Universal Transverse Mercator Zone 13. Other coordinate systems may be used subject to approval by CMD District Engineer.

3.2.A: All submitted plans and surveys shall be displayed in the North American Datum 1983.

3.2B: All listed items are required excepting: Colorado Springs Utilities (CSU) Project Number, Facilities Information Management (FIMS) Map Number, Development Plan Number. The county development number is required in addition to the items listed.

3.2.C: All pipeline profiles shall be included. Profiles for service lines to a single end user exceeding 100 feet are required.

3.3: Fire flow reports will be prepared by the Developer and reviewed by CMD as well as the applicable local fire department.

3.4: Contact CMD for water and wastewater vicinity maps.

3.5.A: A Utilities Addressing Plan (UAP) is not required. Lot locations and addresses will be established in the billing system upon initiation of service by the first resident.

3.5.B: Utilities Design CAD File (UDCF) shall be required during the review process for all projects for which a new water main is constructed. After final grading of the site an as-built georeferenced UDCF shall be submitted to CMD.

3.6: Contact CMD for digital signature blocks.

3.6.I: UAP not required.

3.6.K: CAD File submittal form not required.

Section 4

4.4.K.1: Potable fire hydrant bodies shall be painted with Rustoleum 7792402 Gloss White. Potable fire hydrant caps and bonnets shall be painted with Rustoleum 7524402 Safety Blue. If oil-based paints are unavailable, a reasonable substitute may be used with CMD approval.

4.5.A: Copper piping will not be allowed except as in the Meter Assembly

4.5.F.6: CMD testing protocol randomly selects meters across all size classes.

Section 5

5.6.A: Inspector overtime is generally not permitted and inspections must occur during regular business hours as defined by CMD at the time of inspection. If a wastewater tie-in or other work that requires the presence of a CMD Inspector must occur outside of business hours, all overtime and other costs of the CMD Inspector must be paid by the Developer.

5.7.A: Contact the CMD front desk for temporary meters.

5.7.C: Customer owned temporary meters are not allowed. Only CMD supplied temporary meters can be used in the District.

5.10.A: Salvaged metal utility pipes shall be delivered to the CMD headworks facility at 6657 E Platte Ave. Nonmetallic pipes shall be disposed of at the expense of the Contractor.

5.12.C: Notifications must be made to the applicable local fire department.

5.13.C: A CMD Inspector must be present for filling of pipeline.

5.13.D.1: All valves shall open left.

5.13.D.4: A CMD Inspector must be present for at first use of temporary blow offs.

5.20: A CMD Inspector must be present for the collection of bacteriological samples whenever this is required.

5.20.A: All disinfection testing must be completed by an independent contractor (not CMD or the Developer) and all costs must be paid by the Developer.

5.20.B: Disinfection cost for all lines are paid by the Builder.

5.20.C: Contractor shall dispose of chlorinated water as per Colorado Department of Public Health and Environment (CDPHE) regulations

5.21.B: CMD shall only be responsible for corporation box to curb box repairs if CMD has previously fully accepted that infrastructure after the two year warranty period.

5.21.O.2: All meters must have an automated meter read system compatible with CMD's system. This system does not use a leader wire.

5.21.O.3: Copper is not allowed as a material for the service line from curb box to meter pit.

5.22: CMD does not have specific water and sewer line marker decals. The Contractor should use generic markers as specified in 4.6.B.

Section 6

6.5.B.1: Tracer wire at curb stop must run to top of curb stop for access from this location.

Section 7

7: Pump stations will be evaluated on a case-by-case basis.

7.2: Should a pump station be determined to be required the Developer will pay all costs of design and construction. Ownership of the pump infrastructure will revert to CMD after a two year warranty period.

Section 8

8.2.A: Large-scale agricultural irrigation is currently not allowed using potable or non potable CMD water.

8.5.E: Operators of systems receiving non-potable water from CMD must receive training from CMD, participate in regular meetings with CMD distribution staff, and allow regular inspections of the system.

8.5.G: Direct discharges of nonpotable water into a waterway, tributary, storm, or sanitary sewer in excess of normal waste must be reported to CMD.

8.10.C.1: Golf courses do not have additional requirements beyond those imposed on nonpotable users.

8.14.B: Private water wells within the CMD's boundaries are not allowed.

Wastewater Standards Exceptions

Section 2

2.3.D: Cost recovery agreements will be evaluated on a case by case basis.

2.3.F: Oversized lines may be required for certain portions of the District's service area and cost recovery agreements will be evaluated on a case by case basis for these locations.

2.3.G: At the conclusion of construction and after successful completion of inspection, CMD will issue a preliminary letter of acceptance for wastewater infrastructure. At the end of one year of satisfactory performance, CMD will issue a final letter of acceptance, formally taking ownership of the infrastructure.

2.5.E.7: Manufacturer-installed plastic steps are required in all manholes.

2.7.A: Grease traps may be required for any commercial or industrial development at the discretion of the CMD Pretreatment Coordinator.

Section 3

3.1: Construction plans must be submitted to CMD and may be submitted electronically upon approval by the District Engineer.

3.2.A: All control points must have coordinates in a commonly used geographic coordinate system such as Colorado State Plane, WGS 1984, or Universal Transverse Mercator Zone 13. Other coordinate systems may be used subject to approval by CMD District Engineer.

3.2.A: All elevations shall be referenced to the NAD 1983 Datum.

3.2.B: Contact CMD for digital signature blocks.

3.2.B: All listed items are required excepting: CSU Project Number, FIMS Map Number, Development Plan Number. The County Development Number is required in addition to the items listed.

3.2.B: If a private main is proposed, clearly indicate this ownership on submitted sheets and indicate the location of the change in ownership from public to private.

3.3: Wastewater Master Facility Form (WWMFF) not required, instead provide expected floor space, dwelling units, occupancy, use, and additional information upon request.

3.4: Contact CMD for water and wastewater vicinity maps.

3.5: UAP is not required.

3.5.B: Utilities Design CAD File (UDCF) shall be required during the review process for all projects for which a new water main is constructed. After final grading of the site an as-built, georeferenced UDCF shall be submitted to CMD.

Section 4

4.2.B.5: Use of steel pipe is not allowed.

4.2.H.1: Manufacturer installed plastic steps are required in all manholes.

4.4.A: CMD does not have specific water and sewer line marker decals. The Contractor should use generic blue water markers for water lines and generic green sewer markers for sewer lines.

Section 5

5.6.A: Inspector overtime is generally not permitted and inspections must occur during regular business hours as defined by CMD at the time of inspection. If a wastewater tie-in or other work that requires the presence of a CMD Inspector must occur outside of business hours, all costs of the CMD Inspector must be paid by the Developer.

5.9.A: Salvaged metal utility pipes shall be delivered to the CMD headworks facility at 6657 E Platte Ave. Nonmetallic pipes shall be disposed of at the expense of the Contractor.

5.9.B: CMD does not have asbestos testing capability. Testing must be done by an outside lab at Contractor's expense.

5.12: Manholes shall have a minimum diameter of five feet.

5.12: Manhole liners conforming to section 4.5.A shall be applied to all new manholes.

5.25: Manhole adjustments due to paving are the responsibility of the paver unless Cherokee has issued a final letter of acceptance and the manhole is in a public right of way.

Section 6

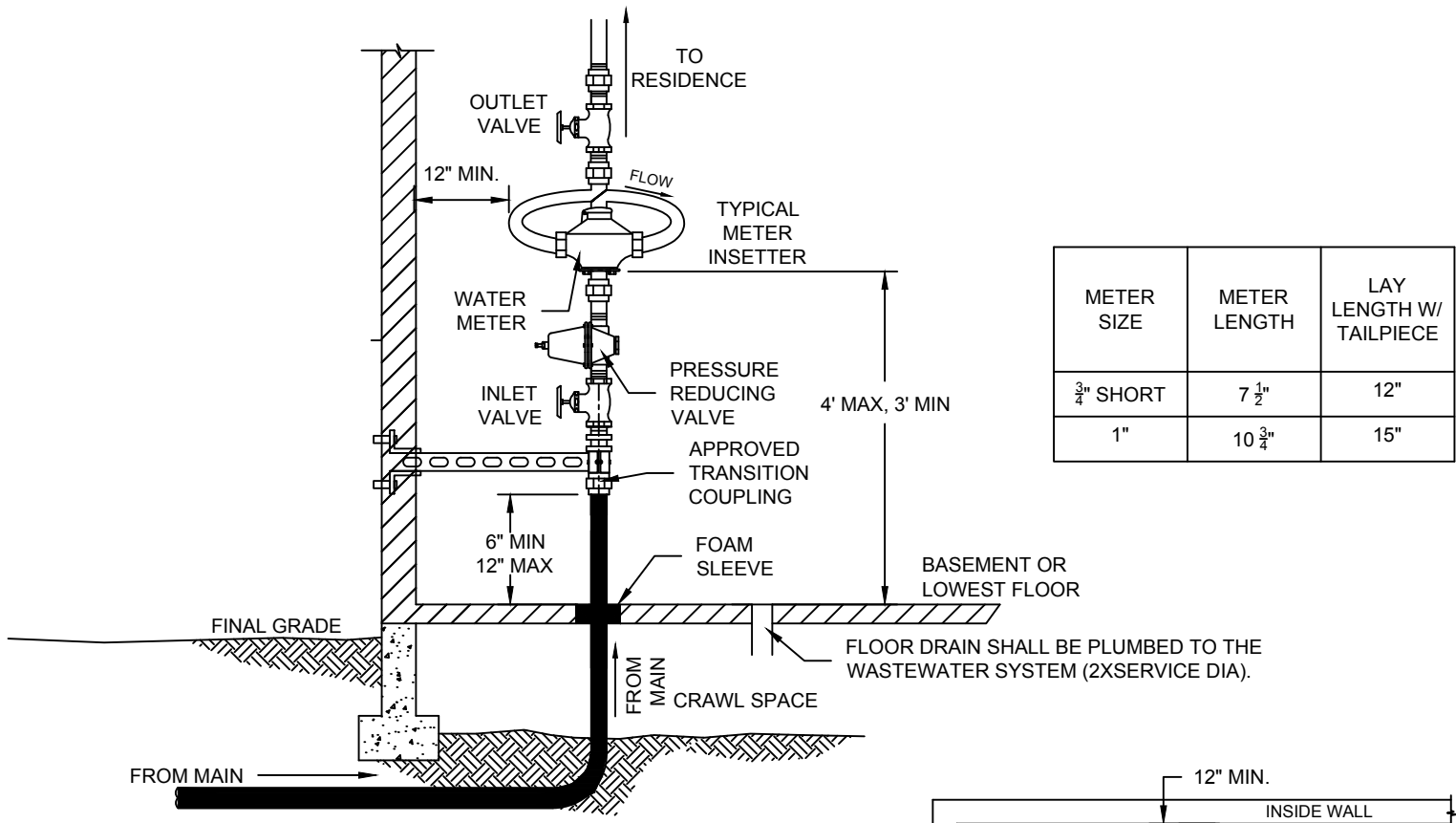
6.4.A: Plan and profile for all HDPE Sewer Mains, not just those 8 inches or greater must be submitted as part of the Construction Plans

Section 7

7: Lift stations are not allowed unless specifically approved by CMD.

Section 8

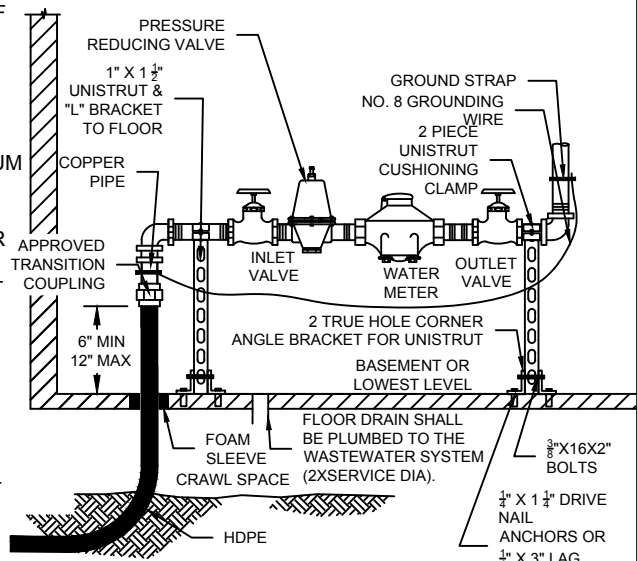
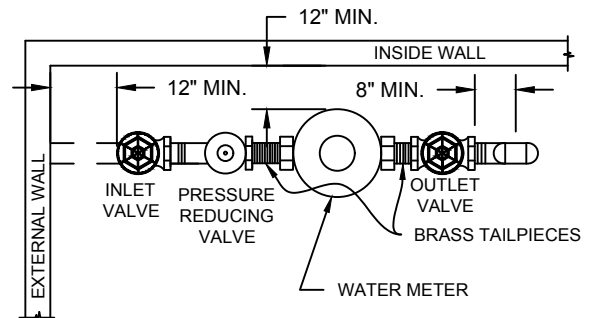
8: Underdrains sharing trenches with other utilities will be reviewed on a case-by-case basis, under no circumstances shall drains connect to wastewater service.



METER SIZE	METER LENGTH	LAY LENGTH W/ TAILPIECE
3/4" SHORT	7 1/2"	12"
1"	10 3/4"	15"

NOTES:

1. THE METER SHALL BE PROVIDED AND INSTALLED BY CHEROKEE METROPOLITAN DISTRICT.
2. REFERENCE SECTION 2.7.J (WATER METERS) FOR METER LOOP REQUIREMENTS.
3. METERS MUST BE LOCATED ON THE LOWEST FLOOR OF THE STRUCTURE. METERS SHALL NOT BE INSTALLED IN CRAWL SPACES, AREAS ONLY ACCESSIBLE BY LADDER, OR DESIGNATED STORAGE AREAS.
4. AN APPROVED TRANSITION COUPLING SHALL BE INSTALLED A MIN OF 6" AND A MAX OF 12" FROM THE FLOOR. THE METER LOOP SHALL BE CONSTRUCTED OF COPPER, DUCTILE IRON OR STEEL.
5. ALL FITTINGS IN THE METER LOOP SHALL BE SOLDERED, FIXED FLANGED OR THREADED.
6. THE METER MUST BE INSTALLED WITH THE CLEARANCE DIMENSIONS AS SHOWN ABOVE. ONE SIDE OF THE METER SHALL BE FREE FROM ANY OBSTRUCTION. 3' MINIMUM CLEARANCE IS REQUIRED ABOVE AND IN FRONT OF THE METER. 24" MINIMUM CLEARANCE IS REQUIRED BETWEEN THE METER LOOP AND ELECTRICAL OUTLETS.
7. BRASS INLET AND OUTLET VALVES SHALL BE INSTALLED ON EACH SIDE OF THE METER. INLET AND OUTLET VALVES SHALL BE FULL OPENING, GATE OR BALL VALVES WHICH CLOSE IN DIRECTION OF FLOW. NO CONNECTIONS ARE ALLOWED BETWEEN THE INLET AND OUTLET VALVES.
8. A MINIMUM OF 2' OF COPPER IS REQUIRED AFTER THE METER EXCEPT WHERE A MANIFOLD (MANIBLOCK) SYSTEM IS USED DIRECTLY AFTER THE METER AND IS SUPPORTED.
9. THE METER SHALL BE SECURED WITH UNISTRUT BEFORE AND AFTER THE INLET AND OUTLET VALVES AS SHOWN. UNISTRUT SHALL BE ANCHORED TO THE COPPER PIPE. GROUNDING IS REQUIRED TO ELIMINATE POTENTIAL FOR DISCHARGE OF STATIC ELECTRICITY CAUSED BY FLOW OF WATER THROUGH PIPING. GROUNDING STRAP NOT REQUIRED ON PREFABRICATED LOOPS.



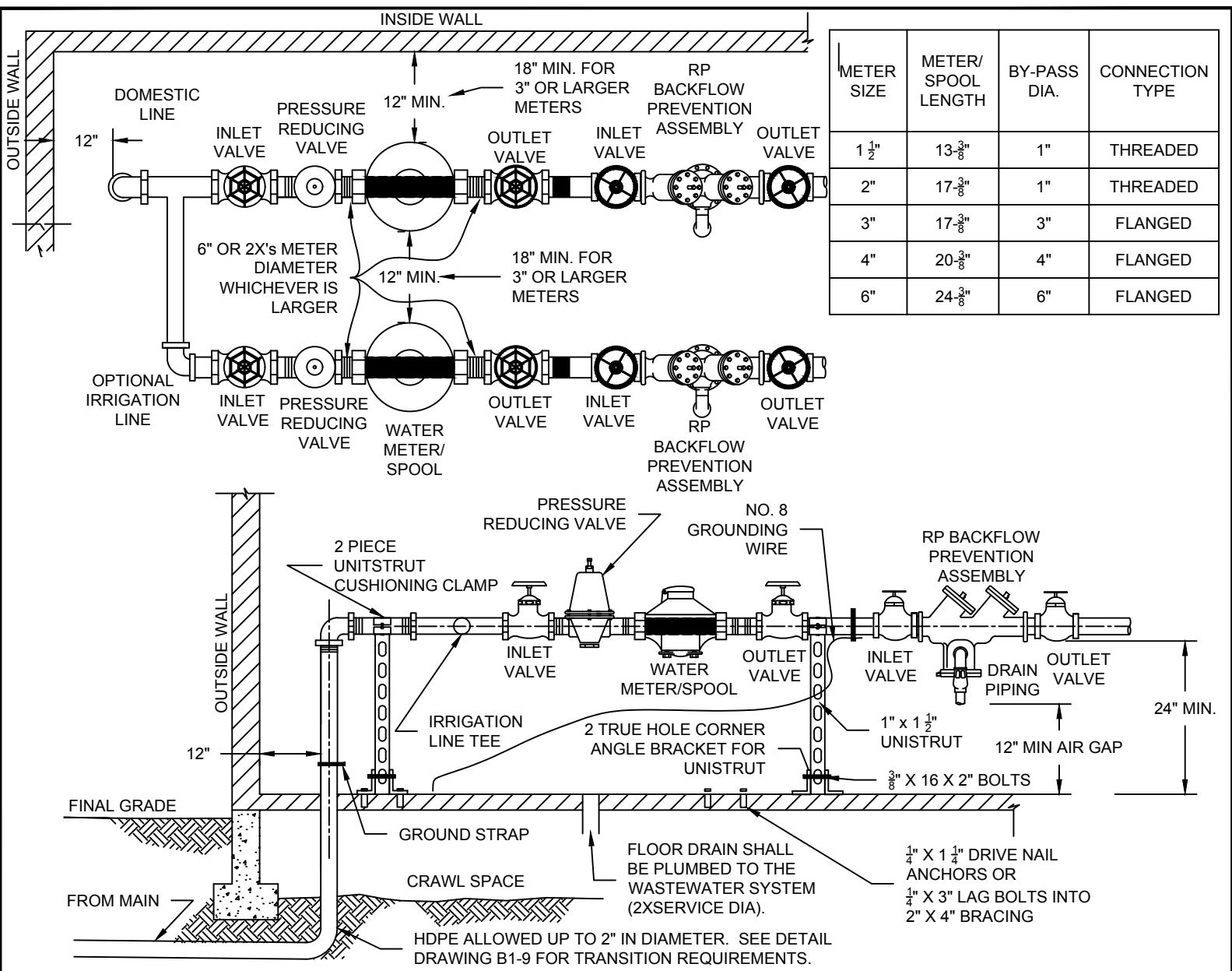
HORIZONTAL METER INSTALLATION ALLOWED AT THE DISCRETION OF UTILITIES



TYPICAL INSTALLATION FOR 3/4" THRU 1" METERS INSIDE SINGLE-FAMILY-RESIDENTIAL CONNECTION HDPE SERVICE

B1-7

DATED 11/2020



METER SIZE	METER/SPOOL LENGTH	BY-PASS DIA.	CONNECTION TYPE
1 1/2"	13 3/8"	1"	THREADED
2"	17 3/8"	1"	THREADED
3"	17 3/8"	3"	FLANGED
4"	20 3/8"	4"	FLANGED
6"	24 3/8"	6"	FLANGED

NOTES:

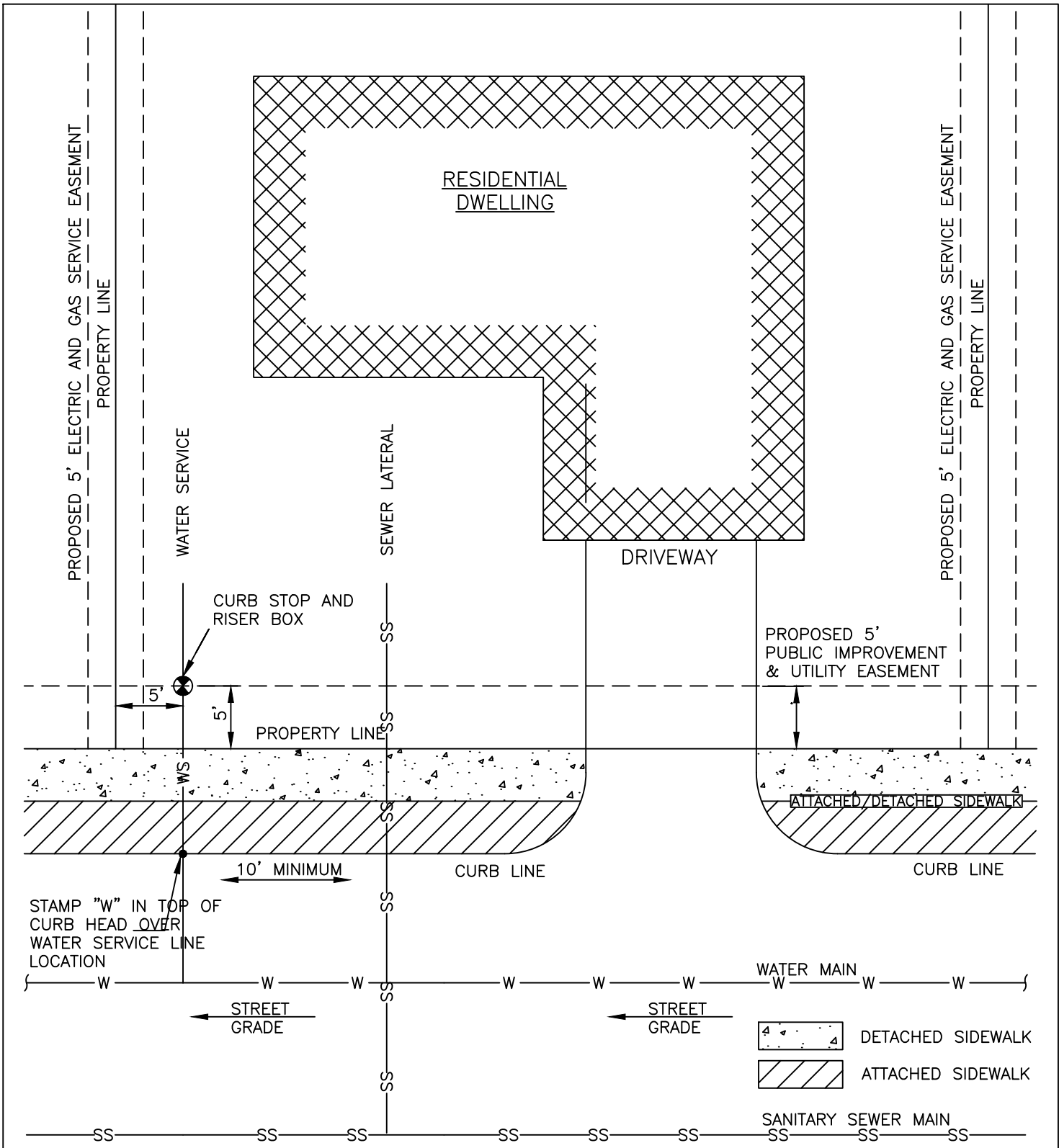
1. THE METER SHALL BE PROVIDED AND INSTALLED BY CHEROKEE METROPOLITAN DISTRICT.
2. METER LENGTHS VARY WITH CERTAIN TYPES OF METER, EXACT DIMENSIONS SHOULD BE OBTAINED FROM CHEROKEE METROPOLITAN DISTRICT
3. REFERENCE SECTION 2.7.J (WATER METERS) FOR METER LOOP REQUIREMENTS.
4. METERS MUST BE LOCATED ON THE LOWEST FLOOR OF THE STRUCTURE. METERS SHALL NOT BE INSTALLED IN CRAWL SPACES, AREAS ONLY ACCESSIBLE BY LADDER, OR DESIGNATED STORAGE AREAS.
5. THE METER LOOP SHALL BE CONSTRUCTED OF COPPER, DUCTILE IRON OR STEEL.
6. ALL FITTINGS IN THE METER LOOP SHALL BE SOLDERED, FIXED FLANGED OR THREADED.
7. THE METER MUST BE INSTALLED WITH THE CLEARANCE DIMENSIONS AS SHOWN ABOVE. ONE SIDE OF THE METER SHALL BE FREE FROM ANY OBSTRUCTION. 3" MINIMUM CLEARANCE IS REQUIRED ABOVE AND IN FRONT OF THE METER. 24" MINIMUM CLEARANCE IS REQUIRED BETWEEN THE METER LOOP AND ELECTRICAL OUTLETS.
8. BRASS INLET AND OUTLET VALVES SHALL BE INSTALLED ON EACH SIDE OF THE METER. INLET AND OUTLET VALVES SHALL BE FULL OPENING, GATE OR BALL VALVES WHICH CLOSE IN DIRECTION OF FLOW. NO CONNECTIONS ARE ALLOWED BETWEEN THE INLET AND OUTLET VALVES.
6. A MIN. OF 6" IS REQUIRED BETWEEN VALVE AND METER FLANGES, OR 2X's THE DIAMETER OF METER, WHICHEVER IS GREATER.
7. A MINIMUM OF 5' OF COPPER IS REQUIRED AFTER THE METER EXCEPT WHERE A MANIFOLD (MANIBLOCK) SYSTEM IS USED DIRECTLY AFTER THE METER AND IS SUPPORTED.
8. BRACING 1 1/2" & 2" METER SHALL BE AS SHOWN. FOR METERS 3" OR GREATER SHALL BE DESIGNED TO ANCHOR METER LOOP AND KEEP SECURED, SUPPORT SHALL BE ATTACHED TO FLOOR.
9. GROUNDING IS REQUIRED TO ELIMINATE POTENTIAL FOR DISCHARGE OF STATIC ELECTRICITY CAUSED BY FLOW OF WATER THROUGH PIPING. GROUNDING STRAP NOT REQUIRED ON PREFABRICATED LOOPS.
10. GAS FLEX LINE SERVICES SHALL BE LOCATED A MINIMUM OF 18" FROM THE METER LOOP.
11. A BACKFLOW PREVENTION ASSEMBLY IS REQUIRED, IT SHALL BE LOCATED BEFORE THE FIRST BRANCH LINE. FOR BACKFLOW PREVENTION ASSEMBLY REQUIREMENTS, INCLUDING LOCATION, SEE SECTION 2.7.L.
12. THE BACKFLOW PREVENTER SHALL BE SOLDERED OR FIXED FLANGED.



**TYPICAL INSTALLATION FOR
1-1/2" THRU 6" METERS
INSIDE BUILDING**

B1-11A

DATED 11/2020



NOTES:

1. DIMENSIONS SHOWN ARE TYPICAL FOR ALL DEVELOPMENTS REGARDLESS OF EXACT CONFIGURATION RELATIVE TO STREET.
2. SEWER LATERAL CLEANOUT NOT SHOWN
3. TYPICAL WATER SERVICE LINE LOCATION SHALL BE 5' FROM THE SIDE LOT LINE. ALTERNATE LOCATIONS MAY BE CONSIDERED ON A CASE BY CASE BASIS AND WILL ONLY BE ALLOWED WITH APPROVAL FROM THE DISTRICT.
4. ALL WATER SERVICE CURB STOPS SHALL BE SEALED WITH A WATERTIGHT PLUG TO PREVENT CONTAMINATION.



**CHEROKEE
METROPOLITAN
DISTRICT**

**TYPICAL SERVICE LINE LOCATIONS
RELATIVE TO STREET LAYOUT**

DRAWN: KSJB	REVISED:
DATE: NOV 2020	REVISED:
SCALE: NONE	REVISED: