WATER SERVICE CONNECTION INSTRUCTIONS

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Introduction

All potable water service connections to the City of Olathe's water distribution system must be approved and permitted by the Public Works Department. These connections include, but are not limited to, domestic and non-domestic, government facilities, firelines, sprinkler systems or any and all other connections to the City's system.

All plans for connection to the public distribution system relating to fire suppression, prevention and/or protection must be submitted to and approved by the Fire Marshall before the connection permit is approved.

The following text will outline the general instructions for water service connections. Please contact the Public Works Department, (phone 913-971-9311) with questions that are not covered. The Public Works Department office is located at the Municipal Service Center at 1385 S. Robinson.

II. General Information and Requirements

A. Applying for Water Service. The following procedure is typically used to apply for and receive a potable water service connection. Large service installations and fire service connection procedures differ. Refer to those pertinent sections for further details.

1. Applicant picks up application for permit at the Municipal Service Center, 1385 S. Robinson.
2. Applicant submits application, plot plan, materials data and other required information for review. All plot plans must show the building, utility easements, sewer and water locations and all other permanent structures such as sidewalks, driveways, storm sewer etc. This will help us determine the best possible location for the service line and water meter. Refer to the section of this text that applies to the specific service size for the required submittals.
3. The Public Works Department reviews the submitted items and approves the permit or requires changes to be made. One working day is usually sufficient for the review. However, problems with water line acceptance, etc. may delay the permit approval. All applicants should phone the Public Works Department prior to making a trip to the office to be sure the permit has been approved. (Reference City of Olathe Municipal Code Title 13, section 13.05.070 Water Service Connection)
4. The applicant may obtain the permit and pay the required fees at the Municipal Service Center when the permit has been approved.
5. Special condition requests are subject to approval by the Public Works Department. Any variations to these standards must be approved prior to construction.
6. All required fees shall be collected at the time that the applicant picks up the water service connection permit. A fee schedule is available upon request.

B. Public Safety

1. The contractor shall supply all barricades, safety fencing for excavation, etc. required for public safety.
2. Any closed off water mains shall be returned to service immediately upon the request of the Fire Department. The city shall accept no claims for damages for the contractor's equipment etc. in this event.
3. All trenches will comply with OSHA safety standards. City employees may deny taps and inspections for a noncompliant trench.

C. Clean-up

1. The applicant is responsible for final excavation elevation, backfill and restoration of the ground surface. The ground surface shall be restored to its original state prior to the acceptance of the work. The applicant shall be responsible for settlement for a period of

one year after the installation.
2. All cleanup, final grading and compaction shall be completed within 10 calendar days from the date the tap is made.
3. Final restoration to include seeding and/or sodding shall be completed within 90 calendar days from the date that the tap is made or before the issuance of occupancy permit for the service address whichever comes first.
4. The applicant may apply, in writing to the Public Works Department for an extension of time to complete the work.

D. Further Contractors Liabilities

1. The applicant and plumber are responsible for the final grade elevation, settlement, and replacement of parts for one year. Neither inspection, testing, approval nor acceptance of the work in whole or in part, by the City of Olathe or its agents shall relieve the Contractor or his sureties of full responsibility for materials furnished or work performed not in strict accordance with the City requirements.
2. All public and/or private property damaged by the applicant during service installation will be restored at the applicants expense. This includes restoring the polyethylene encasement to its original condition if damaged using like material.
3. The builder/owner personally or through his design (applicant) is contracting for the City water service and acknowledges liability for all monthly usage payments, service charges and surcharges resulting from the connections with the City system.

III. Construction

A. Street and/or Drive Crossing

1. The cutting of existing pavement is prohibited unless authorized by an excavation permit from the office of the City Engineer (913 971 8543). All street and/or drive crossings shall be made by means of boring, pushing, or tunneling. This includes the tapping of mains under City streets.
2. Cuts in concrete and asphalt pavements shall be no larger than necessary to provide adequate working space for proper installation of pipe and appurtenances. Cutting shall be started with a concrete saw in a manner which will provide a clean groove full depth along each side of the trench and along the perimeter of cuts for structures.
3. Concrete and asphalt pavement shall be removed so that a shoulder, not less than 12 inches in width, is left between the edge of the pavement and the edge of the trench. Trench width at the bottom shall not be greater than at the top, and no undercutting will be permitted. Pavement cuts shall be made to and between straight or accurately-marked curved lines which, unless otherwise required, shall be parallel to the centerline of the trench.
4. Pavement removed for a connection to the existing line shall not be of greater size than necessary for the installation.
5. Where the trench parallels the length of concrete walks and the trench location is all or partially under the walk, the entire walk shall be removed and replaced. Where the trench crosses drives, walks, curbs or other surface construction, the surface construction shall be removed and replaced between existing joints or between saw cuts.
6. The applicant must contact Public Works 24 hours prior to making street cuts. An approved traffic control plan is required for all street closures. The applicant must contact Public Works the day of excavating a street who will inform the Fire and Police Department when a street cut is to be made. Street cuts left overnight shall be plated to allow traffic flow.

B. Street Replacement

1. All excavations under a street shall be completely filled with graded gravel backfill CA-5 in uniform layers not exceeding 12 inches in uncompacted thickness. The backfill shall be

compacted to prevent settlement.

2. The replacement concrete and asphalt pavement shall be composed of a concrete base course at least 7 inches thick and an asphaltic concrete overlay at least 2 inches thick.
3. Materials and workmanship shall conform to the City of Olathe Technical Specifications 70-1

C. Excavation

1. The applicant is responsible for excavation and exposing the water main immediately prior to tapping by the city. The tap hole shall expose four lineal feet of main and be at least six inches below and behind the tap. Rock (CA-5) will be used for backfill around the water main. Excavation and backfilling of the main must be done in the same eight hour day between 8 a.m. and 5 p.m. It must be filled immediately after the tap is made and inspected. If backfill is not practical an approved safety fence is required around the entire excavation. (See IIB, Public Safety)
2. Compaction - All excavated areas shall be backfilled and tamped to 95% maximum density. Some approved methods of compaction are:

    a. Hydratamping

    b. b. Backhoe

    c. c. Airtamp

    d. d. Vibratory Platform

D. Water Main Taps

1. The City or an approved contractor shall make all main taps. All taps not made by the city shall be inspected by the city. The City of Olathe will make all 2" and smaller taps. All taps that are larger than 2" shall be made by a contractor approved by the Public Works Department and paid for by the applicant. An inspection fee shall be charged on all installations.
2. No connections to existing mains shall be started without prior approval of the Public Works Department. Each connection with an existing main shall be made at a time and under conditions which will least interfere with service to customers located nearby.
3. The water meter will be installed/issued after all inspections are passed.
4. In all cases that require the shut-down of a water main in order to perform the required work, the contractor shall notify the Public Works Department, 913 971 9311, at least three working days in advance as to when and the approximate length of time the line will be out of service. Contractor shall notify all affected customers a minimum of 24 hours in advance. City crews shall turn off and on the necessary valves to assist in the main tap when needed.
5. If closing of a valve to make the connection affects a customer who cannot be without service, the contractor shall supply a temporary service to the customer and schedule the time that is most convenient to the customer.
6. No taps will be made under overhanging rock, sidewalks, drives, unsafe trench conditions, etc.
7. No taps shall be made by the City when the temperature is at or below 25° F or during inclement weather. All taps made during winter months will be protected from freezing. Replacement is required of all frozen facilities at the expense of the contractor.
8. All road crossings must be tapped and excavation backfilled by 4:00 p.m. that same day. Unless other wise approved by the traffic control plan.
9. All street borings shall be 48 inches below the top of the curb. See City of Olathe technical specifications 60-2.
10. Only one service can be run through each hole on a street bore.
11. Type CA-5, 1/2" washed aggregate shall be used to backfill around exposed water mains,

sanitary sewer mains, and storm sewer pipe.

12. All taps must have a clearly posted address.

E. Utilities Separation Distances.

The following separation distances between the water service line and other utilities are required. The water main tap will not be made if these requirements are not met:

Item	Separation Distance
Gas service line	5 feet
Sewer connection (Horizontal)	10 feet
Sewer connection (Vertical)	2 feet
Power	5 feet
Telephone	5 feet
Other water service	2 feet
Water main joint/bell	2 feet
Storm Sewer	1 foot *

*Must meet 42 inches of cover plus the 12 inches of separation between the storm sewer and service line; meaning a storm sewer must have 54 inches or more of cover to allow the service line to be placed above it. Exceptions to this will be considered based on type of storm sewer pipe, location of storm sewer, and distance from storm inlet. A non-deteriorating, water resistant insulation may be approved. Insulation will be used until the service line has a minimum of 42 inches of cover and must extend 2 feet past the outside edges of the storm sewer.

F. Backflow Preventer.

A backflow preventer must meet the International Plumbing Code for installation and design requirements currently adopted by the City of Olathe. The owner of the building being served shall be responsible for all testing and maintenance of the backflow preventer.

IV. Inspection Information

A. Testing and Inspection

1. All materials and workmanship shall be subject to inspection, examination, or test by the City of Olathe at any and all times during manufacture or construction. The City of Olathe shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected before the water service will be approved. Rejected material shall be promptly segregated and removed from the project area and replaced with material of specified quality.
2. The Contractor shall furnish promptly all materials reasonably necessary for any tests which may be required. All tests by the City of Olathe will be

performed in such a manner as not to delay the work unnecessarily. Tests will be made in accordance with the provisions of the Technical Specifications of the City of Olathe.

3. The City will make or witness all taps and inspect the installation prior to backfilling. The contractor shall notify the City of Olathe sufficiently in advance of backfilling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the City of Olathe, the contractor shall uncover the facilities for inspection and recover it at their own expense when so requested by the City of Olathe.
4. Prior to tapping, the contractor will test the integrity of the service line by conducting either an air test or a hydrostatic test. The City will have a representative present for the test, or a tap will not be allowed. To save time for both the contractor and the city staff, contractors should schedule the test and the tap inspection simultaneously. See section 51-5 in the City of Olathe Technical Specifications.

B. Scheduling Inspection

1. A maximum of 10 taps are performed a day. All water taps and inspections shall be scheduled a minimum of one working day (24 hours) in advance. Because of the one working day required for the processing of the permit, there will be a minimum total waiting period of two working days between the time that the permit is submitted and the tap is made. This scheduling will help avoid any unnecessary delays for the tap crew, the plumber, and the excavating crew. No taps will be scheduled after 4:00 p.m.
2. The City tapping crew shall inspect the meter installation prior to the main being tapped, regardless of who makes the tap. The tap shall be made only after the installation has been approved. Inspections may be arranged by contacting the Public Works Department (913 971 9311).
3. The complete installation shall be inspected prior to backfilling. The contractor may make arrangements for this inspection by calling the Public Works Department prior to 12:00 p.m. The inspection shall be made as soon as practical and prior to 4:00 p.m. to allow for quick backfilling of the tapping hole.
4. A final inspection shall be made at a later time after all work is final to determine if extra work will be needed. The inspector will contact the applicant and/or contractor in the event that extra work is needed and outline the extent of the work.

C. Non-Compliance

Failure to Meet Requirements. If for any reason the applicant or plumber fails to meet the requirements set forth in these instructions, and corrections are not completed within 15 days of written notice, any or all of the following actions may be taken by the City of Olathe.

Actions by City.

a. No future connections for water service will be granted or permits issued

to the applicant or plumber unless approved by the Public Works Department.
b. Water service may be cut off from the place of violation and not restored until approved by the Public Works Department.
c. For reasons of public safety, health or prevention of private or public property damage, the city of Olathe may order the City crews to make necessary repairs and then bill the plumber or applicant. In special "emergency situations", as determined by the city of Olathe, the 15 day written notice to the applicant or plumber may be waived and immediate repair made by the City. The applicant or plumber will then be billed for the cost of repair.
d. The plumbing and/or excavation bond may be brought into action for the recovery of indebtedness as a result of any work not performed in accordance with the Water Service Connection Instructions or to the specifications of the City of Olathe.

V. Meter Information

A. Meter Location

1. Water meters shall typically be set at the easement/property line. Alternate locations must be approved by the Public Works Department staff prior to installation. Approved locations will be shown on the plot plans and a copy returned to the applicant. Water main taps will not be made if the meter is not installed in an approved location.
2. The owner or contractor is encouraged to obtain preliminary approval of the location and set-up prior to bidding the project. The approved meter location will be marked on the plot plan and copies will be distributed to the applicant, the tap crew, and the permanent file.
3. Meter pits shall not be in driveways, walkways or cast in concrete without prior approval. Traffic model rings and lids shall be provided by the applicant when required for these instances.
4. The typical meter installation details are shown in the following drawings. Service lines are placed 90 degrees to the water main.

B. Multiple Service Lines

1. A duplex may be served by two service line main taps and two meters; or one main tap and two meter with both meters installed in one meter pit; or one main tap and one meter. No service lines will be installed under the driveway. Refer to Standard Detail WM 4, WM 6, and WM 7.
2. A 4-plex will be served by no more than two 1" or larger service lines branched into two meters (4 meters total) or serviced by one meter.
3. When rock is encountered on a street crossing, a sub-main extension may be used to facilitate multiple services on the opposite side of the street. The size is based on individual circumstances and must first be approved by the Public Works Department

C. Curb Stop Valves

1. For 5/8” through 2” water meters, curb stop valves shall be installed at the property line when the water meter installation is located somewhere other than the property line or there is a coupling between the main and the meter on a service line that is under the street. For 11/2” and 2” service lines, curb stop valves shall be installed on the water main side of the street if the meter is on the opposite side of the street.
2. All buried valves shall be provided with valve boxes. Refer to the appropriate section for approved valve boxes. Valve boxes shall be set plumb. Each valve box shall be placed directly over the valve it serves with the top of the box brought flush with the finished grade.

D. Polyethylene Encasement

1. When the water main has a polyethylene encasement, it must be restored to its original condition if damaged using like material.
2. All copper service lines will have a polyethylene encasement covering a minimum of three feet including the corporation stop.
3. All three inch and large connections will have polyethylene encasement in accordance with section DC5-004 in City of Olathe Design Criteria. Refer to attached DIPRA guide.

VI. Specific Information For Residential (5/8” through 1”) Instructions

A. General

The City supplies the water meter and corporation stop for 5/8" and 1" services. Applicant supplies all other materials. Meter face must be within the range of 18" to 22" from the finish grade to reduce the chance of freezing and allow easy access for maintenance. City crew does not install meter.

B. Service Line and Fittings

1. Service lines shall be constructed of Type K soft copper pipe ¾” up to 2” in diameter from the corporation stop to the meter and from the meter to at least 3 feet outside the meter pit.
2. All service lines from the main to the meter must be ¾” or the same diameter or larger than the meter.
3. Service line must have a 6” to 8” gooseneck from the tap and then must remain in contact with the ground. Rock backfill must be placed around the looped section.
4. Piping must be rodded or blocked sufficiently to prevent the bends from slipping.
5. Copper fittings - Only flared fittings will be permitted with copper service

lines. All soldered fittings shall be factory soldered using silver solder. Shop and field soldering will not be accepted.

6. Copper service lines shall be composed of one continuous piece of copper piping between the corporation stop and the meter setter unless approved by the Public Works Department.

C. Materials

1. Meter Yoke (setters): Meter Yoke with locking stop and dual purpose nuts installed, 5/8", Ford VB-7112W, A.Y. McDonald #20-112WXDD33, Mueller B2404R with H14222 end connection. *Meter yokes must be a minimum of 12" in height. A taller yoke is acceptable as required to meet meter face depth standard.*
2. Meter Yoke with locking stop, 1": Mueller #B2404 with H14222 end connection; A.Y. McDonald #20410WXDD44. *Meter yokes must be a minimum of 12" in height. A taller yoke is acceptable as required to meet meter depth standard.*
3. Meter tile, 18" x 36" sonoloc rigid PVC, contech A2000 for 5/8" meters and Meter tile 24" x 36" sonoloc rigid PVC, contech A2000 for 1" meters. Or approved equal.
4. Clay and Bailey #2210 ring or approved equivalent. Nicor polymer locking lid with recessed AMR hole through the lid (see meter lid specs). **Olathe water meter lids are available through local distributors.**

5. Refer to standard detail WM 1 thru 6 of this text for a typical installation diagram.

VII. Specific Information For Residential And Commercial (1 1/2" and 2") Installations

A. General

The City supplies the water meter for 1 1/2" and 2" plus performs the tap. Applicant supplies all other materials, including the corporation stop. Meter face must be within the range of 18" to 22" from the finish grade to reduce the chance of freezing and allow easy access for maintenance. City crew does not install meter.

B. Service Line and Fittings

1. Service lines shall be constructed of Type K soft copper pipe up to 2" in diameter.
2. All service lines from the main to the meter must be the same diameter or larger than the meter.
3. Piping must be rodded or blocked sufficiently to prevent the bends from slipping.
4. Copper fittings - Only flared fittings will be permitted with copper service

lines. All soldered fittings shall be factory soldered using silver solder. Shop and field soldering will not be accepted.

5. Copper service lines shall be composed of one continuous piece of copper piping between the corporation stop and the meter setter unless approved by the Public Works Department.

C. Materials

1. Meter setter with locking stops, ball valve inlet and outlet, high by-pass, 18" riser height, and dual purpose coupling.

   a. a). 1 ½" meter Ford #VVB76-18BHB-11-66 Mueller B-2423-99000 (for 1 ½" meter) or approved equal b). 2" meter Ford #VVB77-18BHB-11-77 Mueller B-2423-99000 (for 2" meter) or approved equal c). Setters can be adjusted to these minimum distances: 1 ½" will be 13.25" and 2" will be 17.25". Water meter manufacture approved brass spacers will be used to account for additional space between meter and setter. Spacers will be supplied by the City.
   b. 2. Service Saddle - For PVC, AC, and Concrete
      a). Mueller (H-105 Series)
      b). Rockwell (Type 313) (type 317)
      c). Ford 101N
      d). All with C.C. threads and stainless steel straps.

   c. For PVC - Clow Vega (Style 3401 & 3402)
      For Truss Pipe Sensus (Type 317) or Mueller (H-105 Series)

2. Corporation Stop-Ball valve, with cc threads, and Flared Ends
   a). Mueller (B-25000C.C.)
   b). McDonald (4701B) w/cc threads
   c). Ford (FB600) w/CC threads

3. Curb Stop Valves – Ball valve with Flared Ends. Refer to Section V, sub-section C, statement 1 for use requirement.

   a). Mueller 300 Ball Curb valve (B25204)

   b). McDonald (6100)

   c). Ford (B-22)

4. Curb Box
   a). Mueller (H-10350) Buffalo Type
   b). Tyler (143 R) w/Enlarged Base

5. Meter Tile -Sonoloc or Contech: 36" X 36"
6. Meter Tile Cover

a. a). Clay and Bailey #2210 ring with 2436 adaptor. Nicor polymer meter lid with recessed AMR hole through the lid.
b. b). For Traffic Areas: Clay & Bailey(P-2207-T)-With Public Works Department approval only.

7. The contractor shall submit a list of materials to be used along with the plot plan.
8. The typical meter installation is shown on standard detail WM 9 and WM 10.

VIII. Specific Information For Commercial and Industrial (3" and larger meter) Installation

A. Plans and Materials Submittals

Plans, shop drawings and materials specifications for all work shall be submitted to the Public Works Department for approval. Plans shall include the location of proposed work, location of property lines and the location of other existing or proposed utilities. All work must have the Public Works Department written approval prior to construction.

B. General

All materials to be installed shall conform to the requirements of this text or the Technical Specification for Public Improvement Projects of the City of Olathe.

C. Materials

1. Water Meters and Lay Length

Water meters are supplied by the City of Olathe and are compound meters unless a turbo meter is requested and approved by the Public Works Department. The following chart indicates the minimum lay length based on meter size. This distance is to be made up of the meter, flanged adapter, and plain end by flanged end pipe. The distance would be between the two gate valves. Refer to standard detail WM 10a.

Water Meter	
Meter size	Minimum lay length
3 in	48 in
4 in	50 in
6 in	62 in
8 in	67 in
10 in	79 in
12 in	80 n

2. Meter Outlet. A flanged adapter shall be used on the outlet end of the *water meter. The approved flanged adapters are: Smith-Blair 900 series or* approved equal.

3. Fittings shall be Ductile Iron with 250 psi working pressure. All fittings within the meter pit shall have flanged ends. All fittings outside the meter pit shall be mechanical joint or push-on joint pipe.
4. Gate Valves. All gate valves shall be provided with an extension nut when buried or a hand operator when exposed. Valves shall open in the counterclockwise direction and shall have the opening direction cast on the valve body or operator. Valves shall be 200 lb. working pressure with rust preventive factory coated paint. All valves located within the meter pit shall have flanged ends. All valves located outside of the meter pit shall have mechanical joint ends. Approved valves are:

    a) American 80 “CRS”

    b) Mueller A-2370

5. Tapping Sleeves and Valves shall be designed for a minimum working pressure of 200 psi and shall be factory tested at 300 psi. Tapping sleeve shall be flanged outlet type and shall be provided with mechanical joints and end gaskets at each end. Approved tapping sleeve for iron pipe are:

    a) Mueller No. H-615 (or approved equal)

    b) American Tapping Sleeve (or approved equal)

    c) The Mueller No. H-612 tapping sleeve shall be used on PVC pipe and the Mueller No. H-619 shall be used on ABS pipe. Tapping valves shall conform to the requirements for gate valves outlined in this section except for tapping service modifications. Approved valves are Mueller No. A-2370-16 or American No. 825. Tapping sleeves shall be pressure tested prior to installation. The contractor shall provide all equipment and materials for a hydrostatic pressure test on the tapping sleeve to meet the requirements of section 51-5 in City of Olathe Technical Specifications.

6.Valve boxes. All buried valves shall be provided with valve boxes. Valve boxes shall be of heavy duty cast iron material suitable for the depth of cover required by the drawings. Valve boxes shall be not less than five inches in diameter, shall have a minimum thickness at any point of ¼ inch, and shall be provided with suitable cast iron bases and covers. Covers shall have the word ‘Water’ cast thereon. All parts of valve boxes, bases, and covers shall be coated by dipping in bituminous varnish. Valves and valve boxes shall be set plumb and as indicated on the drawings. After being placed in proper position, earth shall be filled in around each valve box and thoroughly tamped on each side of the box.

7.Ductile Iron Pipe 3” and larger shall be ANSI, A21.51, ASTM A536, Grade 60-42-10 cement lined pipe with a minimum ANSI thickness class of 50. Higher thickness class shall be installed when required by the Public Works Department. Refer to City Specifications, Section 5000 for further details. Wall pipe will be required in both walls of the meter pit.

a. All service lines from the main to the meter must be the same diameter or larger than the meter.

b. Piping must be rodded or blocked sufficiently to prevent the bends from slipping.

8.Anchoring Pipe shall be factory fabricated from Class 54 Ductile Iron pipe.
9.Pipe Supports shall be installed to support the pipe as needed. Under no condition shall there be more than three (3) fittings between supports. The approved pipe will be galvanized or stainless steel construction fastened to a concrete footing with a locking nut.
10.Corporation Stops. One inch corporation stop shall be furnished by the contractor for installation along the pipelines where necessary to vent the lines during filling. The number and location of the corporation cocks shall be approved by the Public Works Department. After testing and disinfection of the lines, the corporation stops shall be removed and a suitable plug installed in each opening.

D. Meter Vault Design Specifies

1 Meter vaults are not to be covered or placed in a driveway/traffic area. They can be part of grassed area, walkway, or in a parking lot as long as traffic does not park directly on the vault. When in a parking lot, traffic model rings and lids shall be provided by the applicant.
2 Thickness Overall thickness and reinforcement design must be signed and sealed by a state of Kansas registered engineer. The minimum standards are:

a. Walls 6" thick with #4 rebar on 12" centers both vertical and horizontal. Upper edge of wall will be miter cut to meet the lid. Refer to standard detail WM 10b.

b. Lid 8" thick with #4 rebar crossing on 12" centers.

Water Meter		Meter Vault General Dimensions	
Meter	Minimum	Minimum inside	Minimum inside

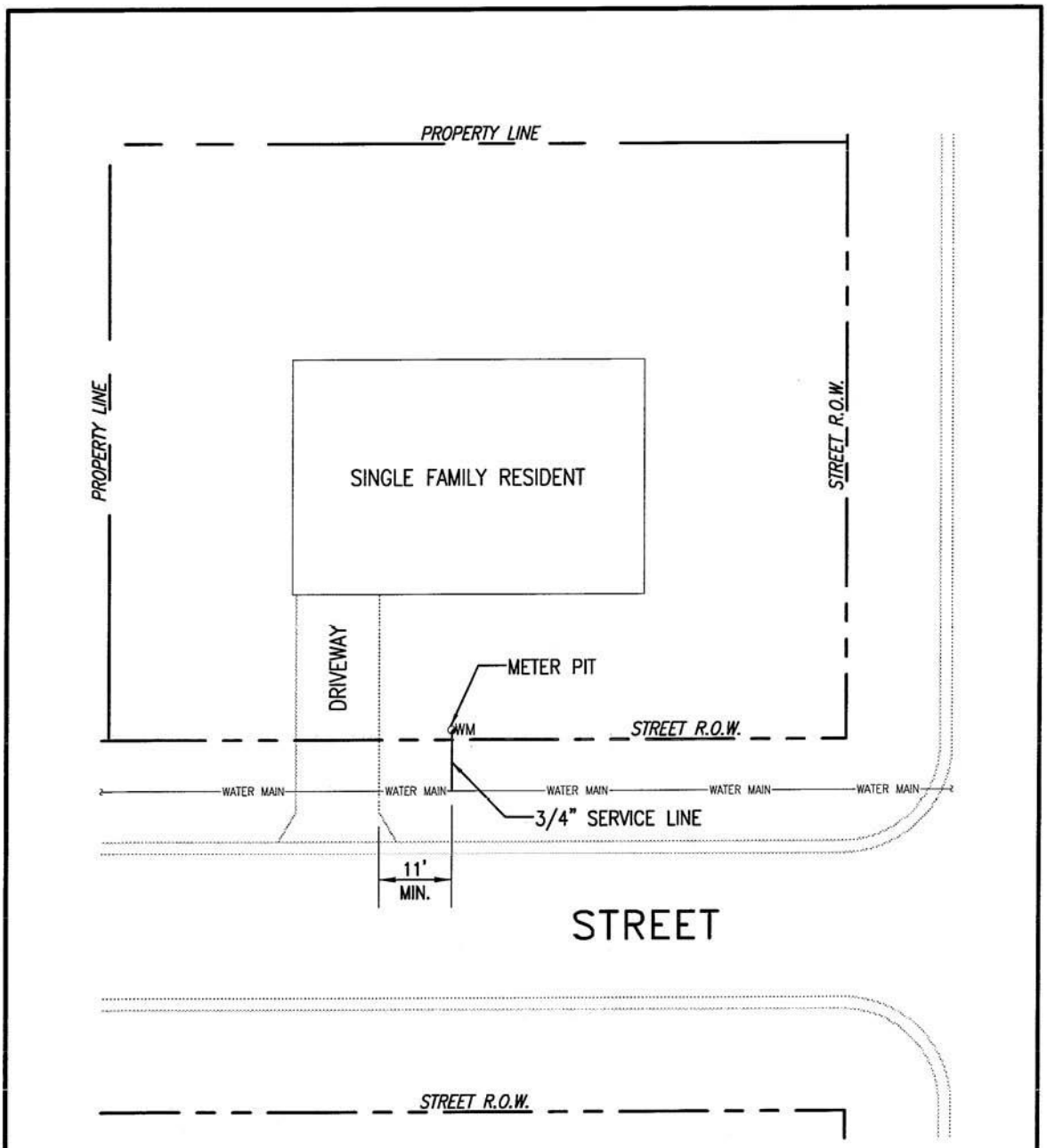
size	lay length	length of meter vault	width of meter vault
3 in	48 in	8.2 ft	4.4 ft
4 in	50 in	8.8 ft	4.4 ft
6 in	62 in	10.6 ft	4.7 ft
8 in	67 in	11.5 ft	5.2 ft
10 in	79 in	13.5 ft	5.7 ft
12 in	80 in	14 ft	6 ft

1 Vault Lid The vault lid must be removable. Lid will have 4 recessed lifting eyes placed approximately two feet from each corner; the intent is to ensure the lid can be removed. The lid will be miter cut and sealed with at butyl sealant to the vault walls to prevent water seepage. Refer to standard detail WM 11b. The remote read antenna will be mounted in the lid. A 2" hole will be cored through

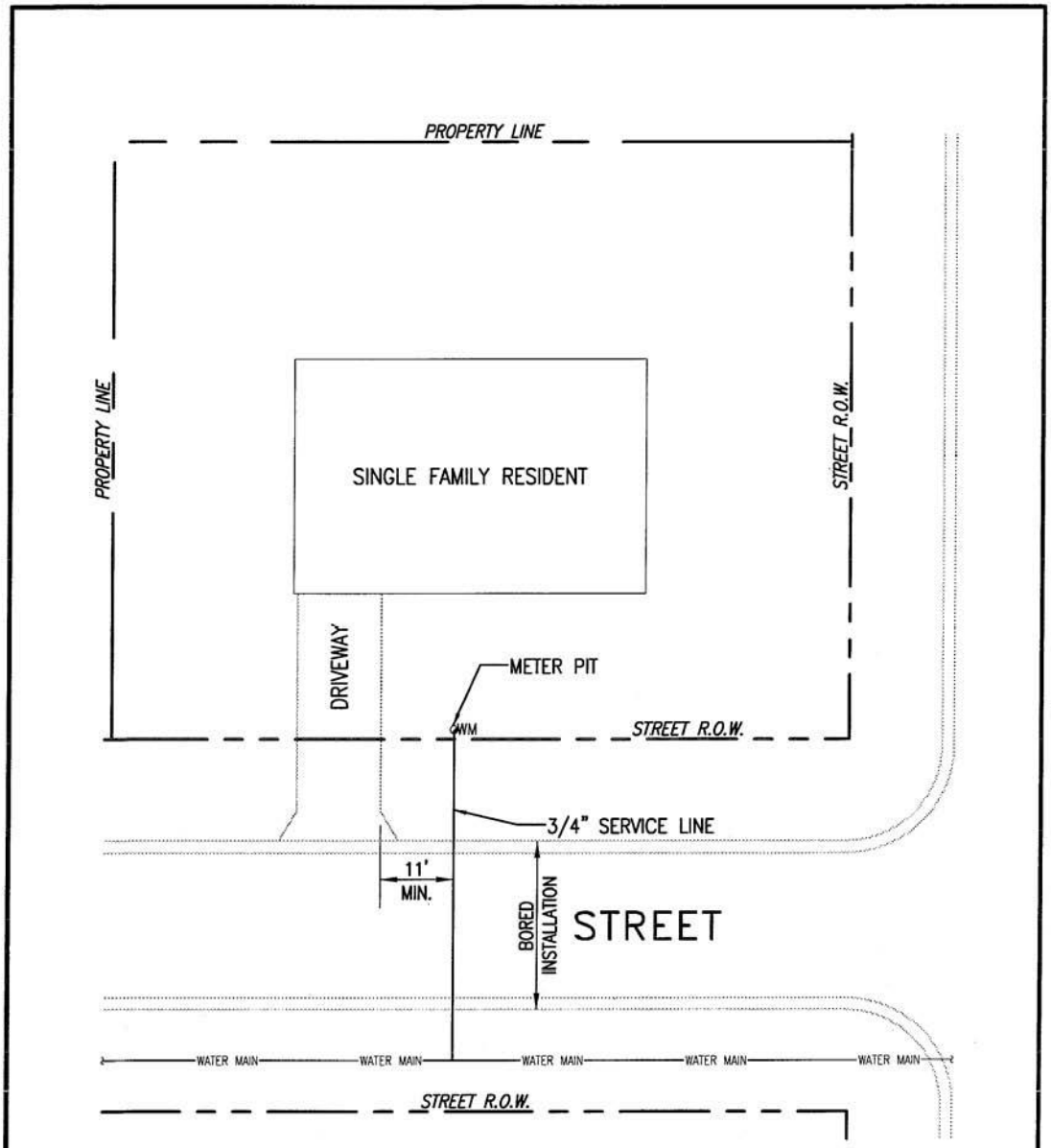
or built into the lid. On the top of the lid a 1" deep by 8" diameter recessed area, centered over the 2” hole, will be used to protect the remote read system.

2 Meter cover and Manhole Cover shall be a Neenah No. R-6350-G or a Clay and Bailey No. 2213. Changes are base upon meter vault location and type of traffic.

3 Design Measurements to standard detail WM 11a, 11b, and 11c for specific measurements related to height, and separation distances.



OLATHE KANSAS	APPROVED D.E.C. UTILITIES ENGINEER 1-06-03 DATE	SINGLE FAMILY RESIDENCE WATER MAIN LOCATED ON SAME SIDE OF STREET	STANDARD DETAIL WM-1



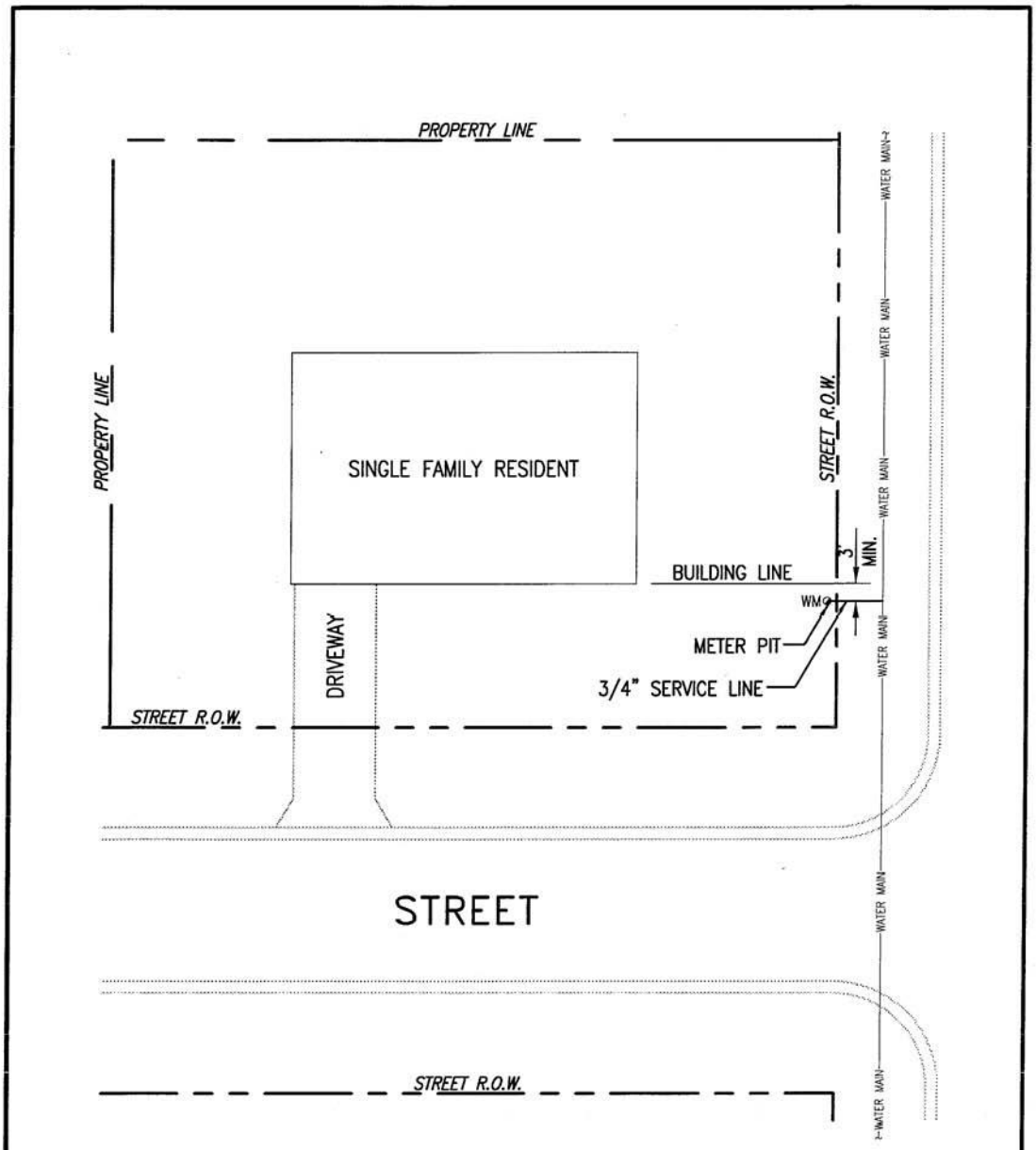
OLATHE
KANSAS

APPROVED
D.E.C.
UTILITIES ENGINEER
1-06-03
DATE

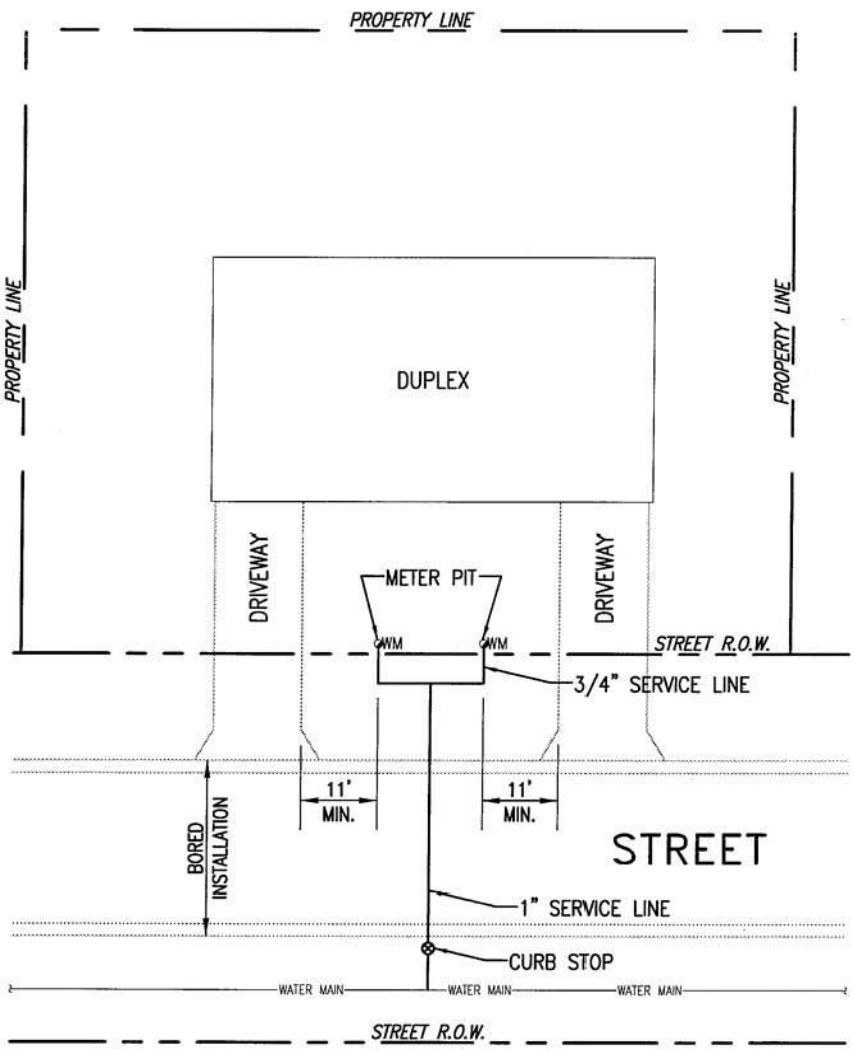
SINGLE FAMILY RESIDENCE

WATER MAIN LOCATED ACROSS STREET

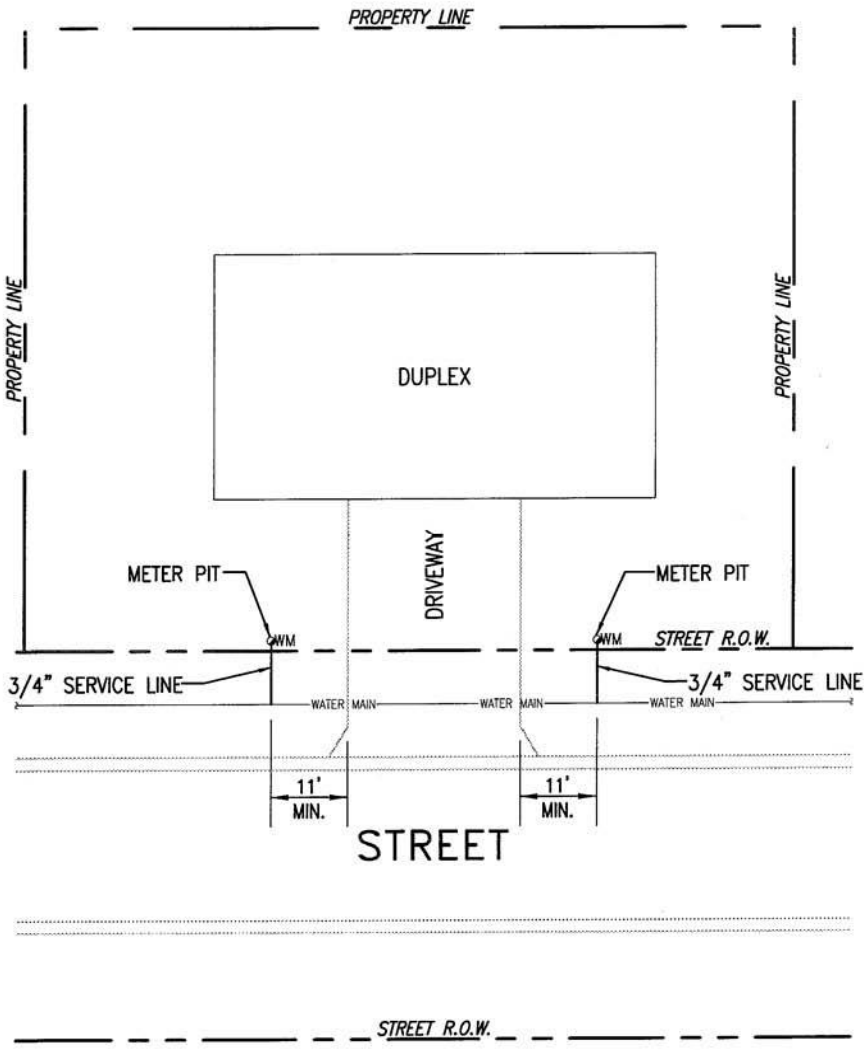
STANDARD DETAIL
WM-2



OLATHE KANSAS	APPROVED D.E.C. UTILITIES ENGINEER 1-06-03 DATE	SINGLE FAMILY RESIDENCE WATER MAIN LOCATED ON CORNER LOT	STANDARD DETAIL WM-3



OLATHE KANSAS	APPROVED D.E.C. UTILITIES ENGINEER 1-06-03 DATE	MULTIPLE FAMILY RESIDENCE WATER MAIN LOCATED ACROSS STREET	STANDARD DETAIL WM-4



OLATHE
KANSAS

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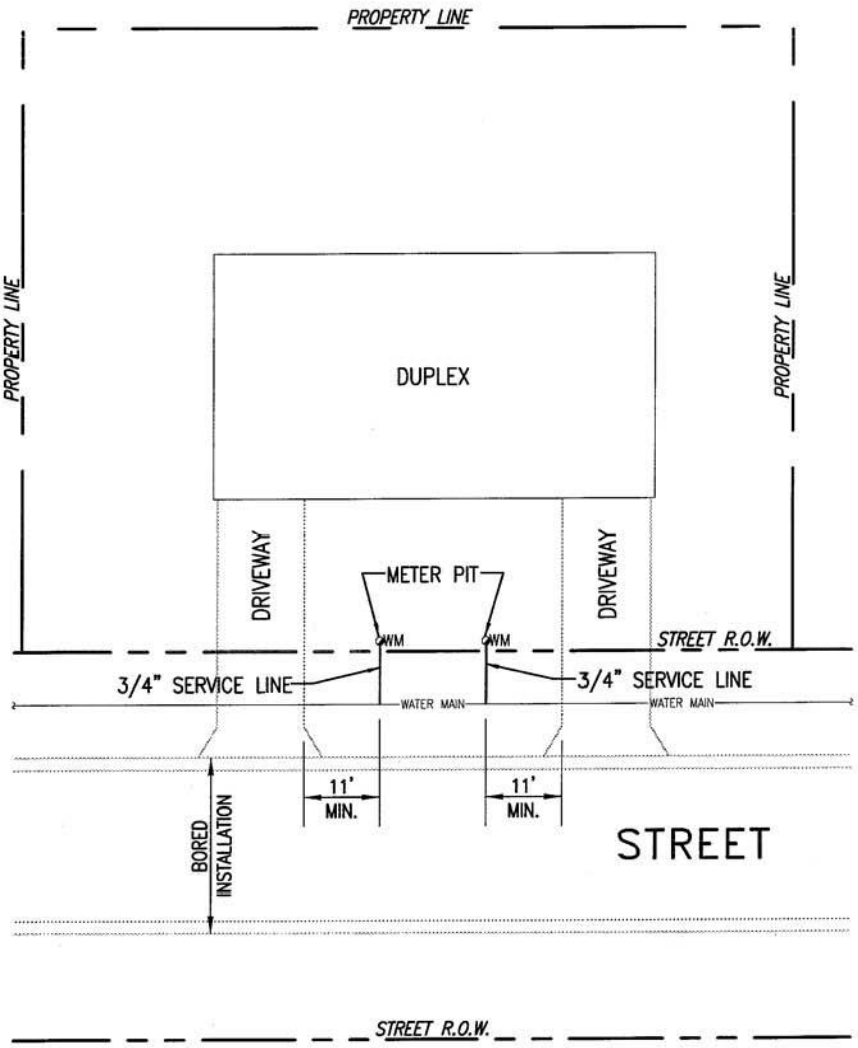
UTILITIES ENGINEER
1-06-03
DATE

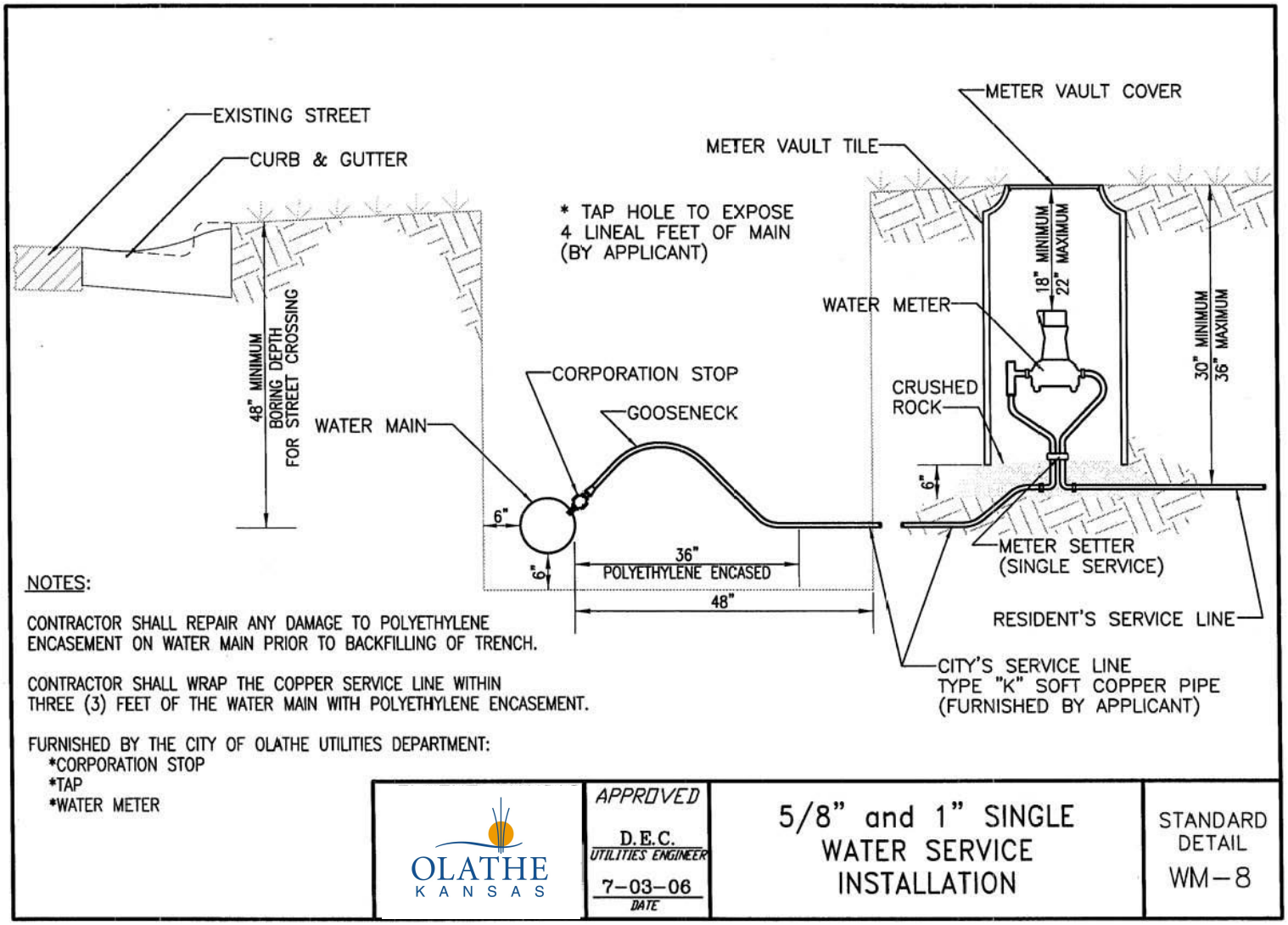
MULTIPLE FAMILY RESIDENCE

WATER MAIN LOCATED ACROSS STREET

STANDARD DETAIL
WM-6



OLATHE KANSAS	APPROVED D.E.C. UTILITIES ENGINEER 1-06-03 DATE	MULTIPLE FAMILY RESIDENCE WATER MAIN LOCATED ON SAME SIDE OF STREET	STANDARD DETAIL WM-7



NOTES:

CONTRACTOR SHALL REPAIR ANY DAMAGE TO POLYETHYLENE ENCASEMENT ON WATER MAIN PRIOR TO BACKFILLING OF TRENCH.

CONTRACTOR SHALL WRAP THE COPPER SERVICE LINE WITHIN THREE (3) FEET OF THE WATER MAIN WITH POLYETHYLENE ENCASEMENT.

FURNISHED BY THE CITY OF OLATHE UTILITIES DEPARTMENT:
- *CORPORATION STOP
- *TAP
- *WATER METER

OLATHE KANSAS

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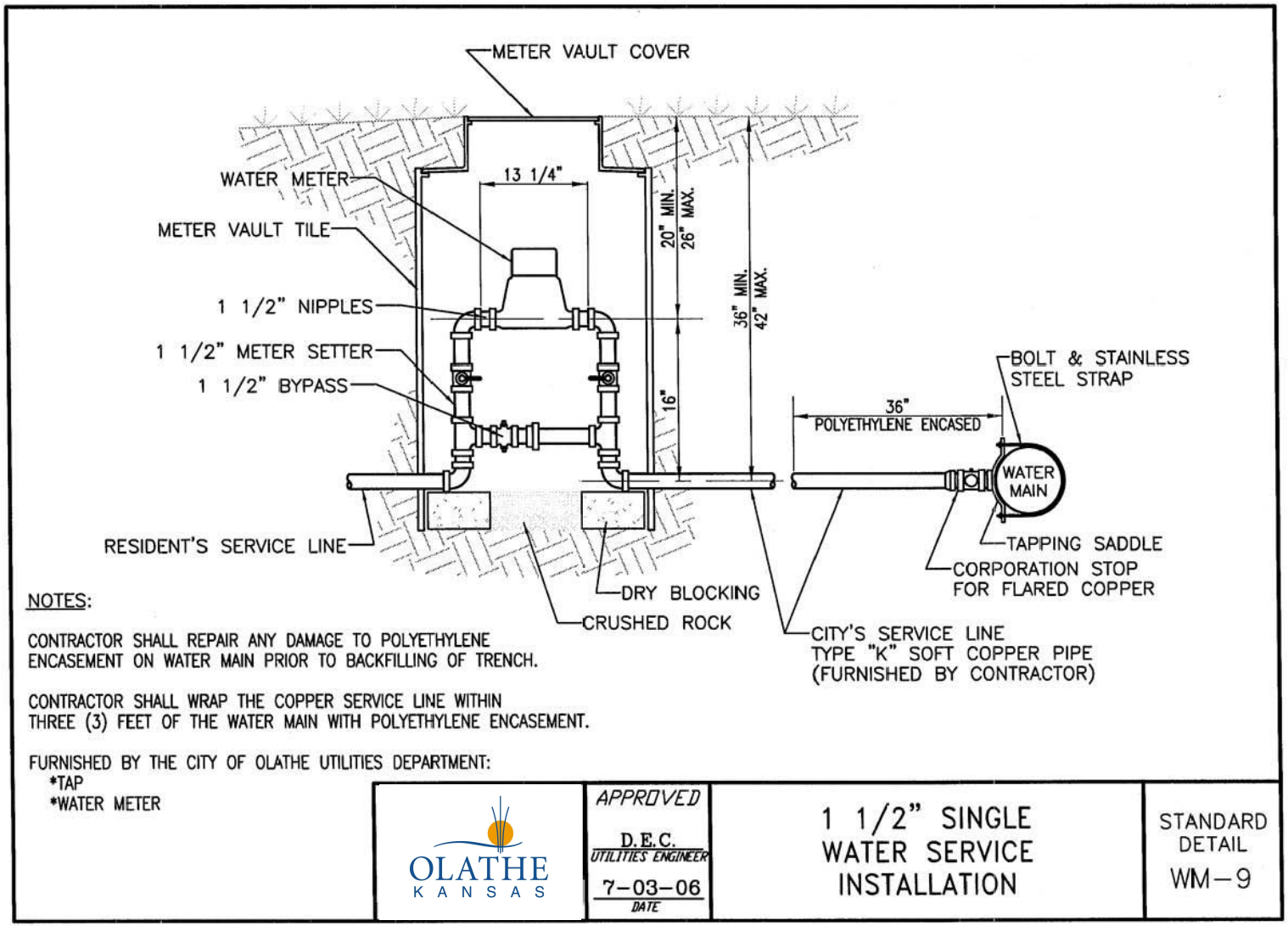
7-03-06
DATE

5/8" and 1" SINGLE WATER SERVICE INSTALLATION

STANDARD DETAIL
WM-8



NOTES:

CONTRACTOR SHALL REPAIR ANY DAMAGE TO POLYETHYLENE ENCASEMENT ON WATER MAIN PRIOR TO BACKFILLING OF TRENCH.

CONTRACTOR SHALL WRAP THE COPPER SERVICE LINE WITHIN THREE (3) FEET OF THE WATER MAIN WITH POLYETHYLENE ENCASEMENT.

FURNISHED BY THE CITY OF OLATHE UTILITIES DEPARTMENT:
- *TAP
- *WATER METER

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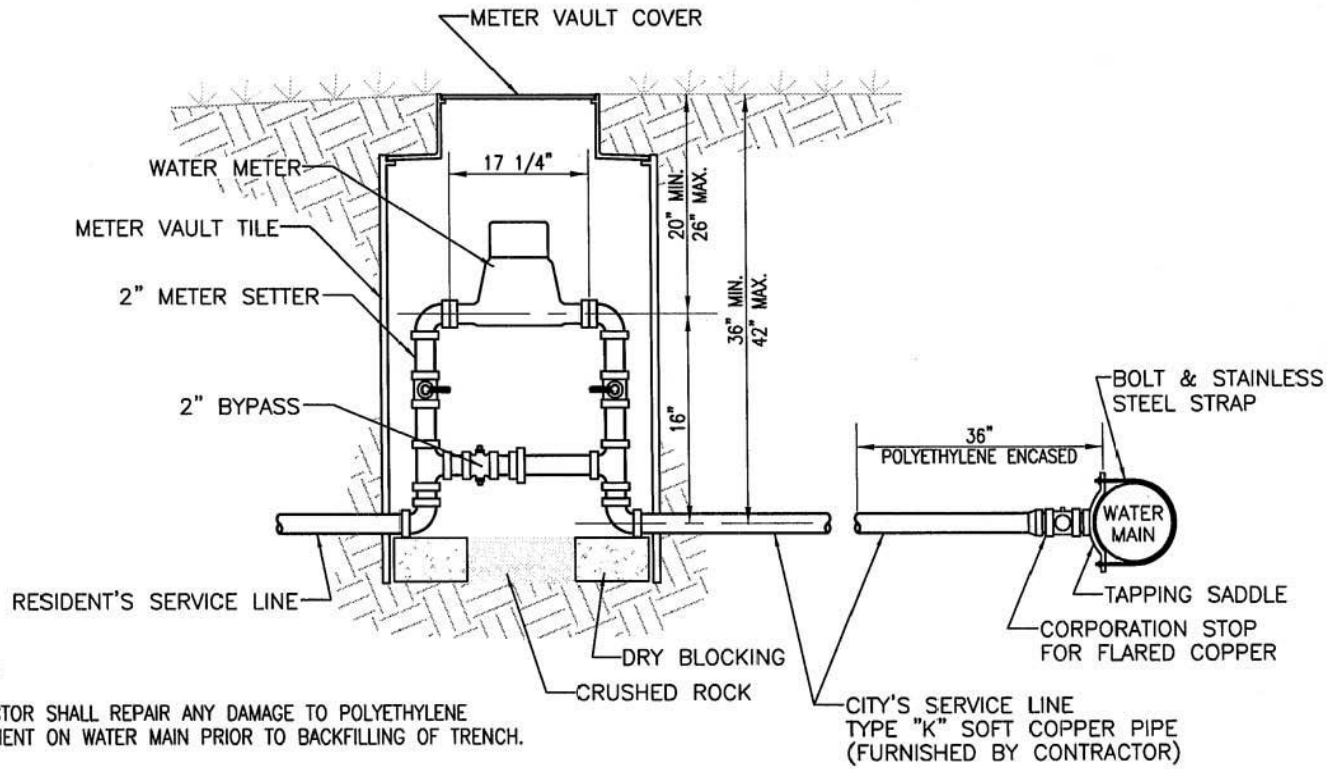
7-03-06
DATE

1 1/2" SINGLE WATER SERVICE INSTALLATION

STANDARD DETAIL
WM-9



NOTES:

CONTRACTOR SHALL REPAIR ANY DAMAGE TO POLYETHYLENE ENCASEMENT ON WATER MAIN PRIOR TO BACKFILLING OF TRENCH.

CONTRACTOR SHALL WRAP THE COPPER SERVICE LINE WITHIN THREE (3) FEET OF THE WATER MAIN WITH POLYETHYLENE ENCASEMENT.

FURNISHED BY THE CITY OF OLATHE UTILITIES DEPARTMENT:
- *TAP
- *WATER METER

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1-06-03
DATE

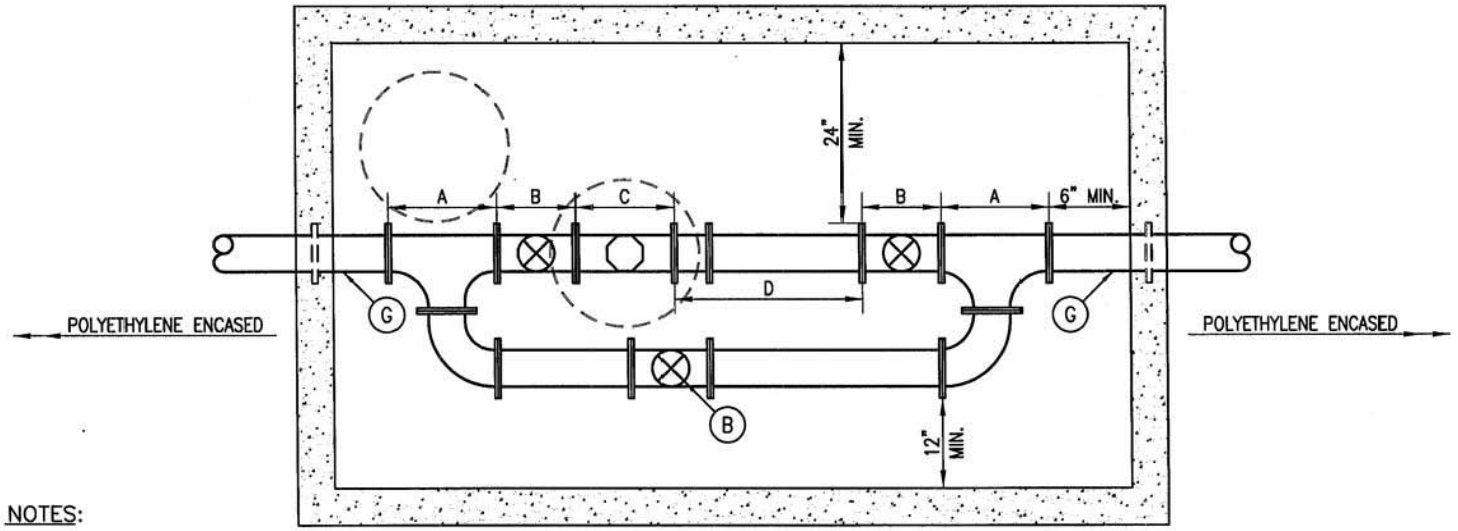
2" SINGLE WATER SERVICE INSTALLATION

STANDARD DETAIL
WM-10

LEGEND

A. – FLANGED TEE
B. – RESILIENT SEATED GATE VALVE
C. – WATER METER
D. – FLANGED ADAPTER & PLAIN END BY FLANGED END PIPE
E. – METER LID
F. – MANHOLE
G. – WALL PIPE
H. – PIPE SUPPORTS

METER SIZE	MINIMUM LAY LENGTH. COMBINATION OF C & D.
3"	48"
4"	50"
6"	62"



PLAN VIEW

NOTES:

ALL WATER LINE PIPING SHALL BE POLYETHYLENE ENCASED, EXCEPT PIPING IN VAULT.

FURNISHED BY THE CITY OF OLATHE UTILITIES DEPARTMENT:
*WATER METER

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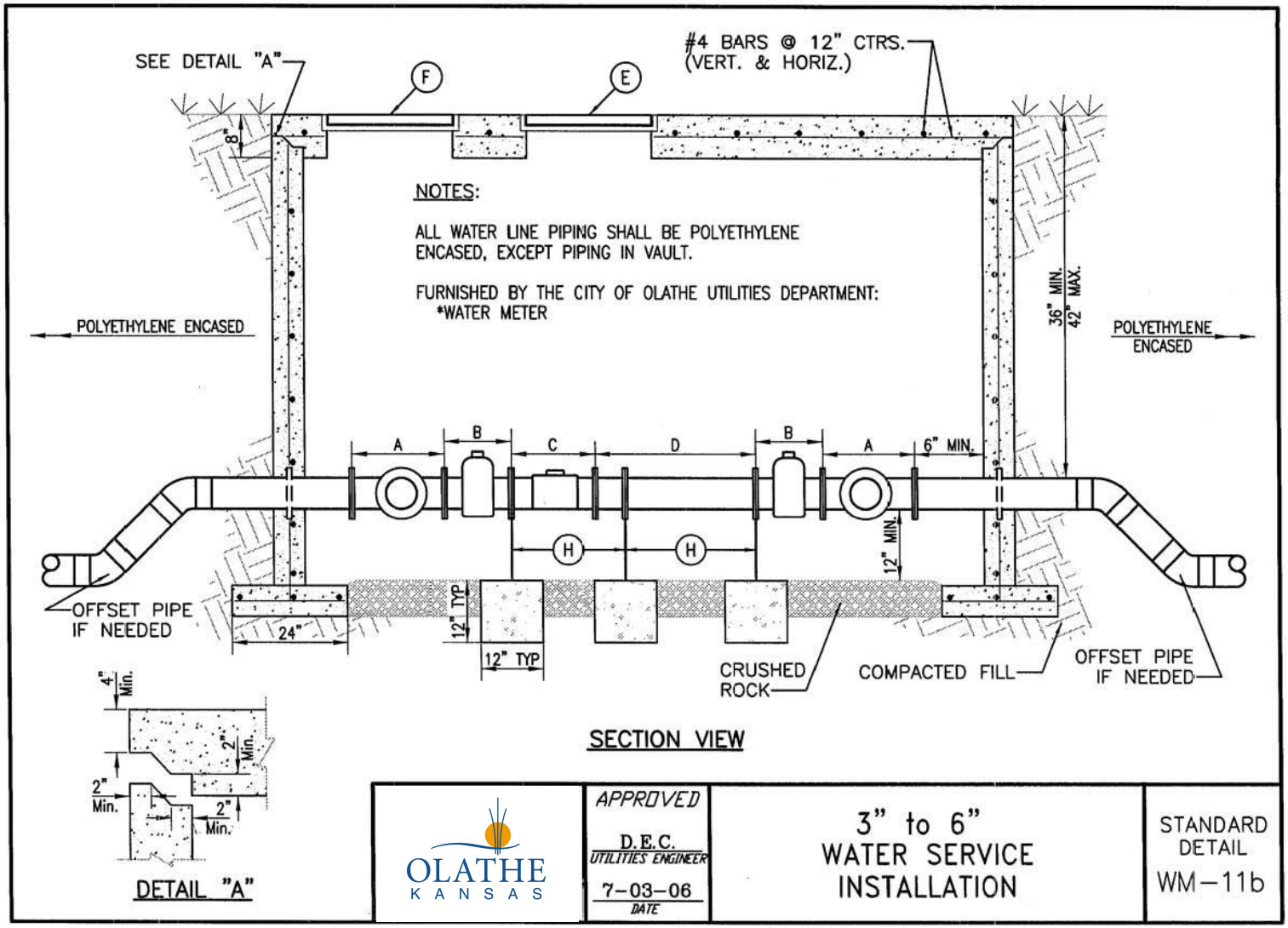
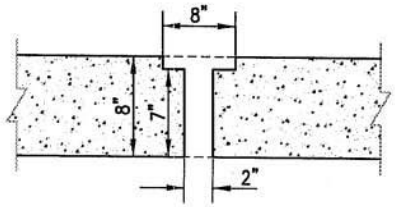
7-03-06
DATE

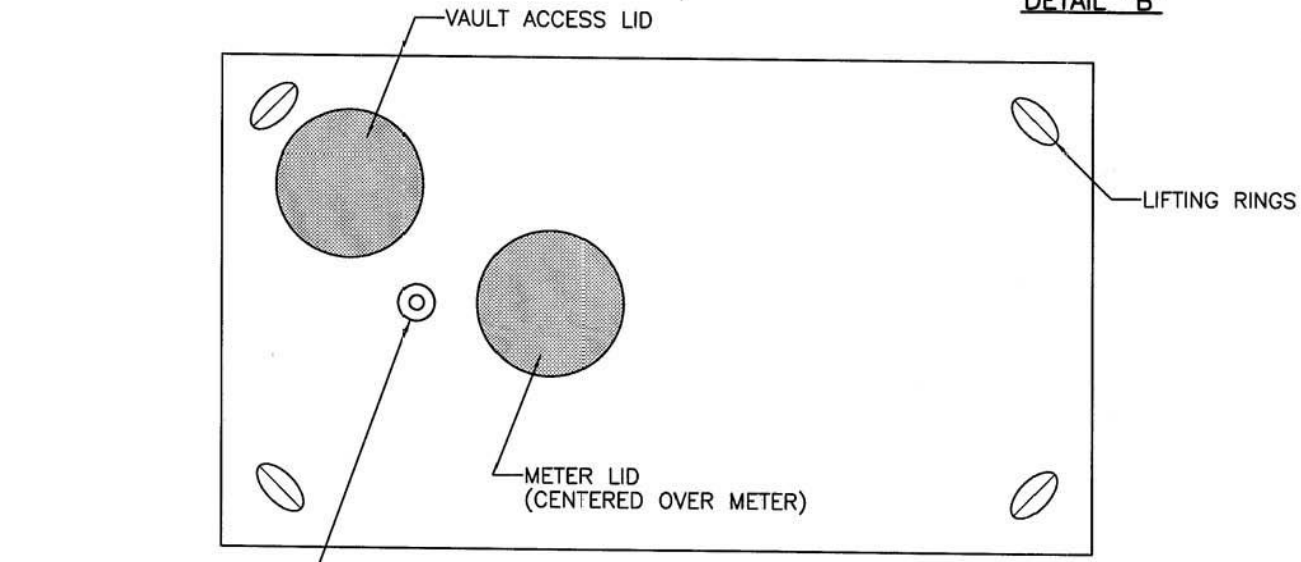
3" to 6" WATER SERVICE INSTALLATION

STANDARD DETAIL
WM–11a


SEE DETAIL "A"
#4 BARS @ 12" CTRS.
(VERT. & HORIZ.)
F
E
8"
NOTES:
ALL WATER LINE PIPING SHALL BE POLYETHYLENE ENCASED, EXCEPT PIPING IN VAULT.
FURNISHED BY THE CITY OF OLATHE UTILITIES DEPARTMENT:
*WATER METER
POLYETHYLENE ENCASED
POLYETHYLENE ENCASED
36" MIN.
42" MAX.
A
B
C
D
B
A
6" MIN.
H
H
12" MIN.
OFFSET PIPE IF NEEDED
24"
12" TYP
12" TYP
CRUSHED ROCK
COMPACTED FILL
OFFSET PIPE IF NEEDED
SECTION VIEW
4" Min.
2" Min.
2" Min.
2" Min.
DETAIL "A"
OLATHE
KANSAS
APPROVED
D.E.C.
UTILITIES ENGINEER
7-03-06
DATE
3" to 6"
WATER SERVICE
INSTALLATION
STANDARD
DETAIL
WM-11b



DETAIL "B"



VAULT TOP – PLAN VIEW

OLATHE
KANSAS

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7-03-06
DATE

3" to 6" WATER SERVICE INSTALLATION

STANDARD DETAIL
WM–11c

For a pocket-size version of this Guide, please contact your local DIPRA Regional Engineer, or visit the DIPRA web site at http://www.dipra.org to order your copy.

POLYETHYLENE ENCASEMENT INSTALLATION GUIDE

Effective, Economical Protection for Ductile Iron Pipe In Corrosive Environments

DIPRA
DIPRA
DIPRA
DIPRA®

A STEP-BY-STEP GUIDE FOR INSTALLING POLYETHYLENE ENCASEMENT ON DUCTILE IRON PIPE

THIS POLYETHYLENE SLEEVE (polywrap) is placed on Ductile Iron pipe to prevent corrosion. It does not have to be sealed watertight, but it should be installed so that no dirt or bedding material comes in contact with the pipe. All lumps of clay, mud, cinders, etc., on the pipe surface should be removed before the pipe is covered with polyethylene. If the polyethylene is damaged, it must be repaired before the trench is backfilled.

Small holes or tears can be repaired with a piece of tape placed over the hole. Large holes or tears should be repaired by taping another piece of polyethylene over the hole.

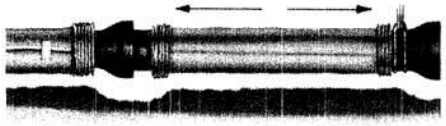
Overlaps, ends, and repairs can be held in place with tape or plastic tie straps until the trench is backfilled.

Other general tips for proper installation include: • When lifting polywrapped pipe with a backhoe, use a fabric-type "sling" or padded cable to protect the polyethylene. • When installing polywrap below the water table or in areas subject to tidal action, seal as thoroughly as possible both ends of each polyethylene tube with adhesive tape or plastic tie straps at the joint overlap. Also, place tape or plastic tie straps around the pipe at two (2) foot intervals. • Quality of installation is more important than the actual sequence followed.

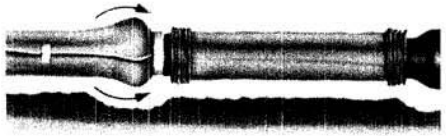
FOLLOW THESE STEPS FOR EASY INSTALLATION

STEP 1
Clean all dirt, cinders, etc., from the surface of the pipe. Cut polyethylene two (2) feet longer than the pipe. Slip polyethylene over spigot end and bunch as shown above.

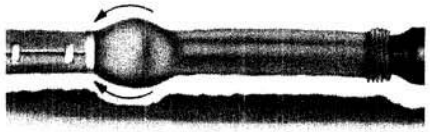
STEP 2
Dig bell holes at joint locations, lower pipe into trench and make up joint.



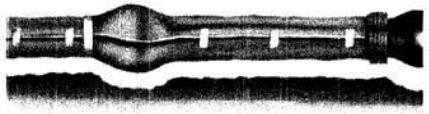
STEP 3
Move cable hoist to bell end of pipe and lift enough to slip polyethylene along pipe as shown above.



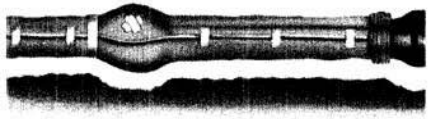
STEP 4
Pull polyethylene forward from previous joint over the bell and secure in place as shown.



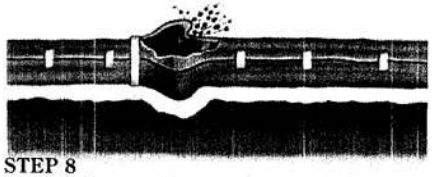
STEP 5
Pull polyethylene from new pipe over this same bell, providing a double layer of polyethylene and secure in place as shown.



STEP 6
Take up slack in the tube along the pipe barrel, making a snug but not tight fit. Fold over on top of pipe and secure in place about every three (3) feet as shown.



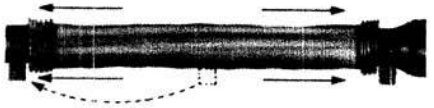
STEP 7
Make sure any tears in the polyethylene are repaired with tape or another piece of polyethylene secured over the damaged area.



STEP 8
Backfill the trench according to specifications, being careful not to damage the polyethylene while tamping around pipe. Backfill should not contain material that might damage the polyethylene.

Wet Trench Installation

STEP 1
Cut the polyethylene tube two (2) feet longer than pipe and slip over pipe as shown above.



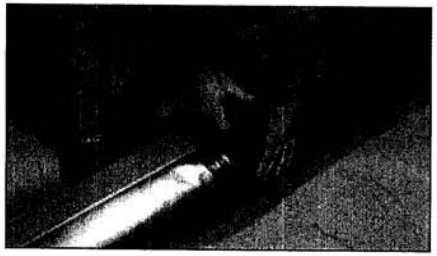
STEP 2
Spread the polyethylene tube as shown so that enough is left to provide a one (1) foot overlap at each end of pipe.

STEP 3
Take up slack in the tube to make a snug but not tight fit and secure every two (2) feet with tape or plastic tie straps completely around the pipe.

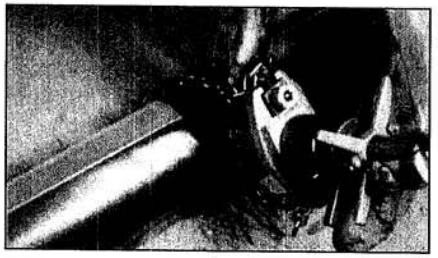
STEP 4
Lower pipe into trench, being sure that the polywrap is not damaged, and make up joint. Make overlap at joints as shown before. Be sure to secure the ends of the polyethylene with tape or plastic tie straps.

Tapping Polywrapped Pipe

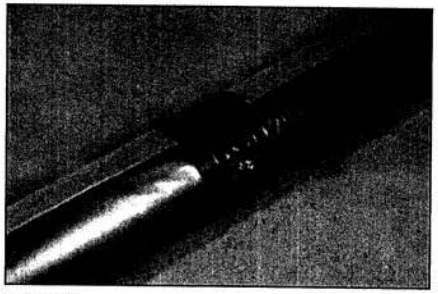
When tapping polywrapped Ductile Iron pipe, the following procedure is recommended.



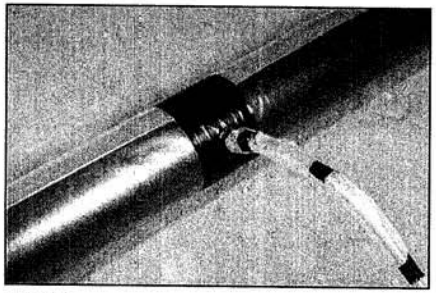
STEP 1
Wrap two or three layers of tape completely around the pipe where the tapping machine will be placed.



STEP 2
Mount the tapping machine on the taped area and make the tap directly through the tape and polywrap. Install corporation stop.



STEP 3
Inspect the entire area for damage and repair if necessary.



STEP 4
Wrap any connected copper service line within three (3) feet of the pipe with polyethylene.

STEP 5
Backfill trench as described before.

Remember: If you have any problems or questions about installing polyethylene encasement, contact DIPRA or one of its member companies.

DIPRA MEMBER COMPANIES

American Cast Iron Pipe Company
P.O. Box 2727
Birmingham, Alabama 35202-2727

Atlantic States Cast Iron Pipe Company
183 Sitgreaves Street
Phillipsburg, New Jersey 08865-3000

Canada Pipe Company, Ltd.
1757 Burlington Street East
Hamilton, Ontario L8N 3R5 Canada

Clow Water Systems Company
P.O. Box 6001
Coshocton, Ohio 43812-6001

Griffin Pipe Products Co.
1400 Opus Place, Suite 700
Downers Grove, Illinois 60515-5707

McWane Cast Iron Pipe Company
1201 Vanderbilt Road
Birmingham, Alabama 35234

Pacific States Cast Iron Pipe Company
P.O. Box 1219
Provo, Utah 84603-1219

United States Pipe and Foundry Company
P.O. Box 10406
Birmingham, Alabama 35202-0406

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