WESTERN WATER COMPANY

WATER MAIN EXTENTION PACKET

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WESTERN WATER COMPANY

LOCATION: 3639 Bennett Road, Morrow, Ohio 45152
PHONE: 513-722-1682
FAX: 513-899-2141

Procedure to follow for extending water service to a new development or existing road:

Step 1 Contract with an engineer to design water main plans for submittal to Ohio EPA.

Step 2 Engineer will work with Western Water Company (WWC) to incorporate our water main specifications in the design of the development.

Step 3 After plans have been approved by WWC, plans can be sent to Ohio EPA for their review and comments or approval.

- A check must accompany the plans for the Ohio EPA approval.
- At this time, you should start bidding or securing a contractor for the installation.

Step 4 Once a contractor has been selected, it is time to complete the formal application, pay fees, and sign all documents necessary to begin the project. Minimum Engineering, Inspection & Administration (EIA) fee of $1000 or 8% the total cost of construction is due. Total cost includes labor and material. If you are unable to place a value on the project, WWC will assign a value for you.

Step 5 Once Ohio EPA approval has been received and all fees and documents are signed WWC will release the job for construction.

Step 6 Submit materials list and manufacturer material submittals for approval.

Step 7 Contact Western Water Company at 513-899-3211 to schedule a pre construction meeting.

Step 8 Construction begins in the development under WWC supervision. All construction work must be preformed during WWC normal working hours 8:00am to 5:00 pm, Monday through Friday, unless written waiver is granted by WWC. Any overtime cost will be at the contractor's expense and payable prior to the work being preformed.

Step 9 Once construction is complete, the contractor is responsible for pressure testing the new water main.

Step 10 Once the pressure test has passed, WWC will take bacteriological samples and submit it to the lab for approval.

Step 11 After receiving lab approval, WWC will not turn the new main on until all punch list items have been completed to Western Water Company's satisfaction and record As-Built drawings in an AutoCAD .Dwg file, preferably tied to the State Plane Coordinate System, have been received.

Step 12 After the one-year warranty period has eclipsed, WWC will accept full responsibility of the new water main and appurtenances.

CONSTRUCTION SPECIFICATIONS

FOR

WATER LINE FACILITIES

WESTERN WATER COMPANY

3639 Bennett Road
Morrow, Ohio 45152
(513) 722-1682
(513) 899-2141 Fax

Distribution Department
Revised: February 1, 2023

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PART I GENERAL

1.1 SCOPE

A. Water lines and appurtenances designed and constructed on the Western Water Co system shall conform to the requirements of this specification.
B. Variations from these specifications shall be approved by the Western Water Co Engineering Department.
C. Variations shall be reviewed on a case-by-case basis.

1.2 WARRANTEES

A. The Contractor shall warrant all work for a period of one year after final acceptance by Western Water Co.

1.3 PRECONSTRUCTION MEETING

A. The Contractor shall arrange for a preconstruction meeting prior to beginning water line work. This meeting may be in conjunction with other preconstruction meetings for the same project.
B. Notify Western Water Co 24 hours minimum prior to the meeting.

1.4 SUBMITTALS

A. Submittals shall be approved by Western Water Co prior to beginning work. Western Water Company will stamp submittals approved.
B. Manufacturer and Material List
    1. Provide a list of all materials supplied including manufacturer, size, class, and model numbers.
C. Surveying
    1. Provide water line survey cut sheets showing locations of fittings, valves, reducers and all other appurtenances.
    2. Survey stakes, marking the backside of the curb, must be in place prior to waterline construction beginning.

1.5 RECORD DRAWINGS

A. Contractor shall maintain a set of records drawings as construction progresses to mark changes and deviations from the design.
B. Record Drawings (As-Built Drawings) shall be submitted to Western Water Co, in a ACAD Dwg file preferably tied to State Plane Coordinate System, prior to final acceptance of the water lines. Record Drawings shall be professionally drafted using the same level of quality as the approved drawings.

1.6 FINAL ACCEPTANCE

A. Final acceptance shall occur when all punch list items have been addressed to the satisfaction of Western Water Co and Western Water Co has received the As-Built Record Drawings in a ACAD Dwg file preferably tied to State Plane Coordinate System.

1.7 SEQUENCE OF EVENTS

A. The following list shows the pertinent events throughout the course of the project.
   1. After all approvals are received from Western Water Co and OEPA as well as all required fees paid and paperwork completed, the Developer or Contractor notifies Western Water Co of pre-construction conference meeting. Call (513) 899-3211 and ask for Chief Inspector.
   2. Contractor to submit manufacturer and materials list 1 week prior to construction.
   3. Western Water Co will issue letter accepting manufacturer and materials list.
   4. Contractor to notify Western Water Co 72 hours prior to construction.
   5. Contractor to notify Western Water Co 72 hours prior to when water lines need filled. Western Water Company will fill all water lines.
   6. Contractor to pressure test water lines. Call Western Water Co in advance of test start. Start test prior to 2:00 PM.
   7. Contractor to disinfect water lines and to notify Western Water Co when they are ready for bacteriological tests.
   8. Western Water Co to perform flushing and bacteriological tests.
   9. Western Water Co to notify Contractor when bacteriological test have passed.
   10. Contractor to remove blow-offs.
   11. Contractor to notify Western Water Co when ready for final walk through.
   12. Western Water Co to issue punch list to Contractor.
   13. Contractor to notify Western Water Co when punch list items are completed.
   14. Western Water Co to make punch list inspection and issue second punch list letter, if necessary.
   15. Engineer to provide Western Water Company with as-built Record Drawings in a ACAD Dwg file preferably tied to State Plane Coordinate System.
   16. Western Water Co to issue acceptance letter and warrantee period begins.

1.8 GENERAL NOTES

A. General Notes as modified by Western Water Co and shown on the approved Construction Drawings shall supercede the requirements of this specification wherever a conflict may occur.

B. Standard General Notes:
   1. Water line materials and installation methods shall conform to The Western Water Co Construction Specifications For Water Line Facilities, latest revision. Contractor shall obtain a copy and have in his possession during construction. Coordinate work with Western Water Co (513) 899-3211.
   2. Water mains shall become the ownership of Western Water Co upon final acceptance.
   3. Water Line Construction
      a. For pipe 6-inch and larger: Use PVC SDR 21 Class 200 pipe and mechanical joint fittings.
      b. For 2-inch pipe: Use PVC SDR 21 Class 200 pipe with mechanical joint or push-on gasket fittings.
      c. Maintain a minimum 10-foot horizontal and 1.5-foot vertical separation distance between water lines and sanitary and storm sewers.
      d. Water lines shall be NSF 61 approved.
      e. Provide concrete thrust blocking for all fittings, valves and anchor tees.

f. Minimum depth of cover shall be 60 inches to the top of pipe, except where otherwise required or approved by Western Water Co.
g. Place a 5-foot steel fence post or 2"X4" wood post at curb-stops, water main valves and the ends of lines.
h. All mechanical joint fittings require restraints, plus 40 feet up and down stream of said fittings.
i. Tracer wire for purpose of locating to be installed (Note: tracer tape not acceptable).

4. Water Service Construction
   a. For meters 1-inch and smaller, use 1-inch iron pipe size (IPS) polyethylene SDR 7 Class 200 pipe manufactured by Phillips Drisco Pipe Co.
   b. Connections to PVC pipe shall be Power Seal saddle type 3401 or Western Water Co approved equal.
   c. Provide a curb stop and box at the end of the service line. Locate end of service line at ROW, but a minimum of five feet from the "curb side" edge of sidewalk. No curb stops or boxes in roadway or sidewalks.
   d. Depth of cover shall be 34 inches.
   e. Place a 5-foot steel fence posts or 2"X4" wood post at the curb-stop. The ends of all 1" poly service line pigtails to extend above grade 3 feet.
   f. Contractor shall be responsible for special backfill material for all lines, including those installed by Western Water Co, where required by the County or City Engineer.

5. Hydrants
   a. Hydrants shall conform to AWWA C502 for dry barrel hydrants.
   b. Main valve: 5.25-inch compression
   c. Nozzles
      i. Threading: Conform to NFPA National Standard fire hose threads.
      ii. One 4.5-inch steamer
      iii. Two 2.5-inch hose
   d. Inlet Connection: 6-inch mechanical joint
   e. Operating Nut: 1.5-inch pentagon, turn counterclockwise to open.
   f. Extensions and parts: Shall be manufactured by the original equipment manufacturer.
   g. Approved Manufacturers: M&H, Mueller or American Darling.
   h. Painting: Repaint all hydrants after installation.
      White barrel, Red caps and Dome.

6. Miscellaneous

   a. Obtain written approval of material and manufacturers list from Western Water Co prior to beginning construction.
   b. Provide casing pipe for all County road crossings. Casing pipe shall be Steel pipe with 0.375-inch wall thickness or SDR 21 Class 200. Casings larger than 12-inch may be AWWA C905 DR 25.
   c. Easements shall be provided to Western Water before permission will be given to make new service line connections.
   d. Connections to existing water lines will be made by Western Water Co at the Contractor's expense, or performed by contractors who are approved for making connections.
   f. Booster pumps are not allowed on individual services.
   g. Dead end mains 6" or larger require a 6" hydrant and watch valve.
   h. Dead end mains 6" or less require a 2" flush hydrant and watch valve.

PART II PRODUCTS

2.1 WATER MAIN LINE PIPE

A. General
1. Provide Polyvinyl Chloride (PVC) or ductile iron pipe (DIP) as required in the General Notes. Ductile iron is preferred.
2. Pipe shall have a circumferential stripe at the spigot end to indicate the proper length of insertion.
3. Joints: Push-On bell and spigot.
4. Identification: Provide manufacturer's name, nominal size, SDR, pressure class, and National Sanitation Foundation (NSF) stamp markings continuously along pipe.
5. Joint Lubricant: Water soluble, NSF 61 approved, imparting no taste or odors, non supportive of bacteriological growth, and causing no deterioration effect on the pipe or gasket materials.

B. PVC Pipe (IPS)
1. Conformance: ASTM D2241
2. Class: Class 200 as required in the General Notes.

C. PVC Pipe (AWWA)
1. 4-inch through 12-inch
   a. Conformance: AWWA C900
   b. Class: DR 25 Class 100, DR 18 Class 18, or DR 14 Class 200 as required in the General Notes.
2. 16-inch
   a. Conformance: AWWA C905
   b. Class: DR 25 or DR 18 as required in the General Notes.

D. DIP
1. Conformance: AWWA C104, C111, C151 and C153
2. Class: 52 as required in the General Notes.

E. Approved Manufacturers
1. PVC Pipe
   b. Johns-Manville Corp.
   c. North American Pipe Corp.
   d. Bristol
2. DIP
   a. US Pipe
   b. American Pipe

2.2 FITTINGS

A. General
1. Fittings 3-inch and larger shall be ductile iron.
2. NSF 61 approved.
3. Lubrication: Conform to Section 2.1.A.5.

B. Ductile Iron Fittings
   a. Conformance: AWWA C104, C111, C151 and C153 for Compact Fittings.
   b. Class: 350
   c. Lining: Cement mortar.
   d. Coating: Epoxy.

e. Bolts: Non-corrosive (Blue Bolts)
f. Joints: Mechanical Joint.
g. Approved Manufacturers
    a. Tyler
    b. Union
    c. Sigma
    d. McWayne
    e. WWC approved AWWA equivalent

2.3 MAIN LINE VALVES

A. General
    1. Stem Extensions: Provide to bring operating nut to between 30 and 54 inches of finished grade if valve operating nut is greater than 54 inches deep. No valves or valve boxes in roadways or sidewalks.
B. Gate Valves
    1. Use for water lines up to 12-inch diameter.
    2. Conformance: AWWA C509 for resilient seated valves.
    3. Pressure Class: 150 PSI or equal to that of connecting pipe, whichever is greater.
    4. Joints: Mechanical Joint
    5. Operation: Non-rising stem, 2-inch square operating nut, and open counter clockwise.
    6. Coating: Epoxy
    7. Bolts: Non-corrosive (Blue Bolts)
    8. Approved Manufacturers
        a. Mueller
        b. American Flow Control
        c. Clow
        d. WWC approved AWWA equivalent

2.4 SERVICE CONNECTIONS

A. For PVC Pipe
    1. Type: Single strap saddle with minimum 2-inch bearing area on pipe. Bronze screws and confined O-ring seal.
    2. Design working pressure: 200 PSI
    3. Size shall fit class of PVC pipe.
    4. Outlet: Sized for 1-inch corporation stop or as shown on drawings.
    5. Markings shall indicate size of PVC pipe and O.D. of connecting pipe.
    6. Approved Manufacturers

	Style, Type, Model No. or Series	
Manufacturer	PVC (IPS) Pipe	PVC AWWA Pipe
Power Seal	3401	3401
Ford Meter Box	S70	S90
Mueller	H-13000	H-13000
A.Y. McDonald	3801	3805

2.5 CORPORATIONS STOPS

A. Conformance: AWWA C800
B. Size: As shown on plans.
C. Approved Manufacturers

Manufacturer	Model
Ford Meter Box	F-1001
Meuller	H-15005 or H-15009
A.Y. McDonald	4701-33

2.6 SERVICE LINE PIPE

A. General
   1. This section applies to the service line from the main line to the meter pit.
   2. Pipe Size: Required line size is based on meter size according to the following table:

Meter Size (Inches)	Service Line Size (Inches)	Class
5/8 to 1	1	PE SDR 7 (IPS)
1½ to 2	2	PVC SDR 21
3	3	PVC SDR 21

B. PVC pipe shall conform to Section 2.1.B.
C. Polyethylene (PE) Pipe
   1. Conformance: AWWA/ASTM C901/D1248
   2. Class: SDR 7 Class 200 (IPS)
   3. Approved Manufactures
      a. Phillips Driscopipe Ultaline 5100H water tubing 3408

2.7 CURB STOPS

A. Ford Compression Type
B. AY McDonald
C. Mueller
D. Approved Manufacturers

Manufacturer	Model
Ford Meter Box	B61-444 or Z61-444
Mueller	H-15191, H-15171 or B-25171
A.Y. McDonald	6102-33

2.8 HYDRANTS

A. Type: Breakable main rod and barrel flange.
B. Conformance: AWWA C502 for dry barrel hydrants.
C. Main valve: 5.25-inch compression
D. Nozzles
   1. Threading: Conform to NFPA National Standard fire hose threads.
   2. One 4.5-inch steamer

3. Two 2.5-inch hose

E. Inlet Connection: 6-inch mechanical joint
F. Operating Nut: 1.5-inch pentagon, turn counterclockwise to open.
G. Extensions and parts: Shall be manufactured by the original equipment manufacturer.
H. Approved Manufacturers

Manufacturer	Model
Mueller	
M&H	
American Darling	

2.9 FLUSHING HYDRANTS

A. Type: 2-inch post with traffic break-away coupling
B. Nozzle: 2.5-inch brass NSFT with cap and chain
C. Freeze proof
D. Shut-off valve: Bronze with 2-inch MJ inlet.
E. Approved Manufacturers
   1. M&H
   or Western Water Co. approved equivalent

2.10 VALVE BOXES

A. Type: Cast iron, two-piece adjustable extension, length as required for finish grade.
B. Cover: Cast iron with the word "WATER" cast in.
C. 18" X 18"X 6" deep, concrete pad around valve boxes. Circular concrete pad dimensions must be approved by Western Water Company.
D. No valve boxes are permitted in roadway pavement, sidewalks, driveways etc.

2.11 CURB BOXES

A. Type: Cast iron, two-piece adjustable extension, length as required for finish grade.
B. Cover: Cast iron with the word "WATER" cast in. Held securely by a brass bolt.
C. No curb boxes permitted in sidewalks, driveways, etc.

2.12 TAPPING SLEEVES

A. Type: All metal, with flanged connection to receive a flanged by mechanical joint tapping valve.
B. Design Pressure: 150 PSI.
C. Flange material: Stainless steel, carbon steel or ductile iron.
D. Approved Manufacturers

Manufacturer	Model
Romac Industries	SST
Power Seal	3480
Ford Meter Box	FAST
Smith Blair	662 or 663
JCM	432 (for AWWA C905)

2.13 CASING PIPE

A. Approved Types
   1. Welded steel with 0.375-inch wall thickness
   2. PVC SDR 21 Class 200
   3. PVC AWWA C905 DR 25

B. Size

Nominal Water Line Size (Inches)	Casing Size Inside Diameter (Inches)
2	4
3	6
4	8
6	10
8	14
10	16
12	18
16	24

2.14 SAMPLING STATION

A. Approved type to be placed on every road of development.
   1. Eclipse style #88 or Western Water Co approved equivalent.

2.15 Tracer Wire

A. Tracer wire used to locate the main is required on all installed water mains and long service taps / road bores.
   a. 12 Ga. solid copper with insulated jacket.
   b. Connections to be made with 3M Gel Cap connectors.
   See Detail D-16

2.15 Fire Protection Connection

A. Western Water Company Rule XIII – Fire Policy – Western Water Company's water system is not designed or constructed for the use as a fire protection system and no member shall rely on said system for fire protection in any manner.
B. Members who desires to connect a fire protection / fire suppression system located on the members property to the Western Water Company's water supply will be required to sign the ***Western Water Company Fire Suppression/Protection Acknowledgement, Waiver, Release, Indemnification and Hold Harmless Agreement.***
C. Requests for A Fire protection / suppression connection will be evaluated on a case by case basis.

D. PART III EXECUTION / INSTALLATION

3.1 PIPE, FITTINGS AND VALVES

A. General
   1. Install in accordance with manufacturer's recommendations.
B. Minimum Bending Radius in feet for PVC Pipe

	Nominal Pipe Diameter (Inches)						
Class	2	3	4	6	8	10	12
SDR 26	59	59	75	110	144	179	213
SDR 21	59	75	110	144	179	213	275
C900	59	88	100	150	200	250	300

C. All mechanical joint fittings require restraints, unless noted on plans.
D. Minimum Depth of Bury: 60 inches to top of pipe unless otherwise approved by Western Water Co.
E. Bedding
   1. Suitable Bedding Material: Compacted clean sand or clay free of debris, trash, organic material, frozen material, or rocks larger than 0.75 inches.
   2. Suitable Bedding Material shall extend to a minimum of 6 inches below and on sides of pipe and 8 inches above top of pipe.
   3. Where bedrock or stones larger than 0.75 inches are encountered, over excavate 6 inches below and around pipe and fill with Suitable Bedding Material.
F. Backfill: As required by regulating agency when under roads or in right-of-way.
G. Support valves with cast-in-place or precast solid concrete block. Valves smaller than 6-inch shall be supported by anchoring to rebar driven into ground on each side of valve.
H. Valve boxes shall be centered over operating nut so as not to hinder operation.
I. Notify Western Water Co inspector to schedule filling of water lines. Western Water Company will fill the water main.

3.2 TAPPING WATER LINES

A. Contractors must be pre approved by Western Water Co to perform taps on water lines.
   1. **All taps to be made "wet" with water main filled and pressurized. No dry taps will be permitted.**
B. Tapping Machine
   1. Use only tapping machines designed to tap through the corporation stop. The machine must operate with a cutting tool classified as a core cutting tool or the shell design, which retains the coupon while penetrating the pipe wall.
   2. Equipment using a twist drill, hole saw or auger bit are not allowed.
C. Support tapping sleeves where the tap size is greater than 2-inch on cast-in-place or precast concrete solid block.
D. Sleeves where the tap size is greater than 2-inch shall be pressure tested in accordance with Section 3.6 with no leakage present prior to tapping.

3.3 SERVICES

A. Services from the main line to the meter shall be a single continuous pipe. Couplings are not allowed.
B. Remove blow-offs when disinfection is completed by shutting off the corporation stop and cutting the service line to within 6 inches of the water main line. Cap service line with a compression coupling or insti-tite fitting and a brass plug.
C. Turn corporation stop so that shut off is facing up.
D. Bedding shall comply with Section 3.1.E.

3.4 HYDRANTS

A. Set depth so that breakaway flange is within 6 inches above finished grade.
B. Steamer nozzle shall be facing road.
C. Check each hydrant to ensure there is no leaking at breakaway flange and that water freely drains through weep hole when shut off.
D. Painting
    1. Repaint hydrants after installation. White barrel with Red caps and Dome.

3.5 CASING PIPE

A. Install by bore and jack or open cut as required by local authority.
B. Casing pipe shall extend beyond edge of road a minimum of 5 feet.

3.6 PRESSURE TESTING

A. Test all water lines, hydrants and services together.
B. Conformance: AWWA C605
B. Provide all equipment necessary for test.
C. Test Gauge: Range from 0 to 300 PSI with 5 PSI maximum increments. Gauge shall be approved by Western Water Co. inspector prior to the test.
C. Drums and other equipment used in test shall be clean and free of oil, grease or other contaminants.
D. Time of Test: Test shall commence Monday through Friday between the hours of 8:00 AM and 2:00 PM with a Western Water Co inspector present.
E. Notify Western Water Co inspector at least 72 hours in advance to the test.
C. Test pressure shall be the greater of the following:
    1. 150% of maximum static pressure
    2. 150 PSI
D. Test Duration: 2 hours

E. Compliance
   1. Successful pressure test will meet all the requirements shown below:
      a. Pressure drop shall not exceed 5 PSI
      b. Maximum allowable leakage shall be interpolated from the following table:

	Test Pressure (PSI)		
	150	200	250
Pipe Size (Inches)	Allowable Leakage (Gallons per 1,000 feet per hour)		
2	0.16	0.19	0.21
3	0.25	0.29	0.32
4	0.33	0.38	0.43
6	0.50	0.57	0.64
8	0.66	0.76	0.85
10	0.83	0.96	1.07
12	0.99	1.15	1.28

F. Retests will not be allowed until the problem has been identified and corrected.
G. Air only pressure testing is not permitted. All lines and services will be filled with water.

3.7 DISINFECTION
A. Conformance: AWWA C651
B. Approved methods of chlorination:
   1. AWWA Tablet Method
      a. Calcium hypochlorite in granule form is permitted.
      b. Calcium hypochlorite in tablet form is permitted.
   2. AWWA Continuous Feed Method
   3. AWWA Slug Method
C. Place calcium hypochlorite granules at beginning of main line pipe and at 500-foot intervals according to the following schedule:

Pipe Diameter (Inches)	Calcium Hypochlorite Granules (oz.)
4	1.7
6	3.8
8	6.7
10	10.5
12	15.1
14	D^2 X 15.1

AWWA C651 Table 1

D. Western Water Co will flush lines and perform bacteriological testing after disinfection by the contractor is complete. In the event that the bacteriological tests fail, the contractor shall repeat disinfection of lines again as required until a satisfactory bacteriological test is obtained. Western Water Co personnel shall perform all line flushing.

3.8 Fire Protection Connections

A. Western Water Company Rule XIII – Fire Policy – Western Water Company's water system is not designed or constructed for the use as a fire protection system and no member shall rely on said system for fire protection in any manner.

B. A Member who desires to connect a fire protection / fire suppression system located on the members property to the Western Water Company's water supply will be required to sign the ***Western Water Company Fire Suppression/Protection Acknowledgement, Waiver, Release, Indemnification and Hold Harmless Agreement.***

C. Fire Protection Connections will be considered on a case-by-case basis. All design, materials and installations must be approved by Western Water Company.

3.9 PUNCH LIST

A. Notify Western Water Co inspector for final punch list walk-through. Check and correct the following items prior to notifying Western Water Co for the final walk through.
   1. Valve boxes shall be 2 inches above finished grade.
   2. Valve boxes shall be centered on valve accessible with wrench.
   3. Valve boxes shall be plumb and positioned directly over valve.
   4. Fire hydrants shall be repainted.
   5. Fire hydrants shall have all caps and chains in place.
   6. Fire hydrants shall drain properly.
   7. Fire hydrants shall be facing the proper direction.
   8. Fire hydrants shall not leak at breakaway flange, and breakaway rings shall not be cracked.
   9. Valve operating nuts shall be extended where required.
   10. Valves operate properly.
   11. Watch valves shut down fire hydrant properly.
   12. Phase valves are open or closed as appropriate.
   13. All blow-offs are removed properly.
   14. Mark all Valve and curb boxes with 5-foot steel "T" post or 2" X 4" wood post.
   15. Provide Western Water Co. with Record Drawings in an AutoCAD .Dwg file, preferably tied to the State Plane Coordinate System.

B. Final acceptance will not be granted until all items on the punch list have been addressed to the satisfaction of Western Water Co.

* * END OF SPECIFICATIONS * *

SUBDIVIDERS AGREEMENT

THIS AGREEMENT, executed on this _____day of _____20____, Between_____(**SUBDIVIDER**) as evidenced by the _____Subdivision plat to be filed with the _____ County Recorder, _____ County, Ohio and the **WESTERN WATER COMPANY (WESTERN)** is governed by the following considerations to wit:

SUBDIVIDER is to construct, install or otherwise make all improvements shown and set forth to be done and performed in compliance with the approved engineering water facility drawings and specifications for the subdivision, all of which are a part of this **AGREEMENT. SUBDIVIDER** is to execute a bond, certified check, irrevocable letter of credit, or other approved financial warranties equal to the cost of construction as shown in Exhibit "A" hereto, unless expressly waived by **WESTERN** in writing. All forms of financial warranties must be acceptable to **WESTERN** to insure faithful performance of this **AGREEMENT** and the completion of all improvements in accordance with the requirements of **WESTERN. SUBDIVIDER** shall pay the entire cost and expense of said improvements and financial warrantees.

SUBDIVIDER shall defend, indemnify and save harmless **WESTERN,** and all of its trustees, officers, employees or agents from claims, suits, and actions involving or arising out of this **AGREEMENT.** This includes any and all proceedings which may originate from or on account of any death, injuries or damages to persons or property received or sustained as a consequence of any actions or omissions of any contractor or subcontractor or from any material, including explosives, or any method used in said work or by or on account of any accident caused by negligence or any other act or omission of any contractor or his agents or employees. All water line related improvement construction shall be performed within one-year form the date on which this **AGREEMENT** is executed by **WESTERN**, but an extension of time may be granted if approved by **WESTERN.**

SUBDIVIDER shall have a competent representative who is familiar with the project on site during construction. The representative shall be capable of reading plans and specifications and shall have the authority to execute the plans and specifications and alterations required by **WESTERN**. The representative shall be replaced by **SUBDIVIDER** when, in the opinion of **WESTERN**, his performance is deemed inadequate.

SUBDIVIDER further agrees that any violations of or noncompliance with any of the provisions and stipulations of this **AGREEMENT** shall constitute a breach of contract, and **WESTERN** shall have the right to stop work forthwith and act against the performance surety for the purpose of proper completion of the water line improvements within the subdivision.

Upon acceptance of the water line by **WESTERN**, **SUBDIVIDER** shall warrant and be responsible for the maintenance, repair and reconstruction of any and all defective materials or workmanship and work not performed or constructed as approved by

WESTERN, for a period of one (1) years. **SUBDIVIDER** shall protect the water line and all appurtenances from damage during the warrantee period. Should emergency repair work be required during the warrantee period, **WESTERN** will effect repairs and the **SUBDIVIDER** shall be responsible for reimbursing **WESTERN** all labor, equipment, materials and indirect costs. **SUBDIVIDER**'S bond or certified check or irrevocable letter of credit may be reduced to an amount estimated by **WESTERN** for said repair or maintenance. The reduction may be approved only after **WESTERN** has been provided evidence that all work has been accomplished according to **WESTERN** standards and satisfaction. All work is to be done in accordance with **WESTERN** standards.

SUBDIVIDER shall, within thirty (30) days following the completion of construction and prior to final acceptance, furnish to **WESTERN**, as required, "as built" drawings of the improvements in an AutoCAD .Dwg file, preferably tied to the State Plane Coordinate System, which plans shall become the property of **WESTERN**.

SUBDIVIDER shall, within (30) days of completion of construction, furnish to **WESTERN** an itemized statement showing the cost of improvements and an affidavit that all material and labor costs have been paid. **SUBDIVIDER** shall defend, indemnify and hold harmless **WESTERN** from expense or claims for labor or material incident to said construction of improvements.

SUBDIVIDER shall comply with all rules and regulations and conform to all procedures established by **WESTERN** regarding submission of shop drawings, construction schedules, operation of facilities and other matters incident hereto.

SUBDIVIDER shall obtain all other necessary utility services incident to the construction of the improvements and for their continued operation. **SUBDIVIDER** shall be responsible for all utility charges and installation costs. The utility user charges shall be paid by the **SUBDIVIDER** and maintained in continuous use throughout the construction and testing phases until accepted for operation and maintenance by **WESTERN.**

Should **SUBDIVIDER** become unable to carry out the provisions of this **AGREEMENT, SUBDIVIDERS'S** heirs, successors or assigns shall complete and comply with all applicable terms, conditions, provisions and requirements of this **AGREEMENT.**

SUBDIVIDER shall provide all easements required by **WESTERN** for the continuing operation and maintenance of the water facilities. Upon acceptance by **WESTERN**, all water facilities will become the property of **WESTERN**.

The below-signed covenants that they are the owners of the above-described development or have authority to act on the owner's behalf. In consideration whereof, **WESTERN** hereby grants **SUBDIVIDER** the right and privilege to make the improvements stipulated herein.

WITNESS	**SUBDIVIDER**
	Name Printed
	TITLE
	DATE
	WESTERN WATER COMPANY GENERAL MANAGER
	DATE

EXHIBIT "A"

WATER FACILITY IMPROVEMENTS
COST ESTIMATE $_____.

Western Water Company Standard Easement Statement

The following statement must be added to all subdivision plats where Western Water Company is providing water service:

Easements are specifically granted unto Western Water Company, Inc., its successors or assigns for the location of water lines, valves, and appurtenances within dedicated rights-of-way and designated Utility Easements. Also granted is the right of Western Water Company, Inc. to install, service, and maintain water meter crocks and appurtenances outside of and adjacent to said dedicated right-of-way for public roads or Utility Easements.

Be sure that *Utility Easement* or *Easement* as called out on the plat drawing is the same term used in the Western Water Company standard easement statement.

WESTERN WATER COMPANY FIRE SUPPRESSION/PROTECTION ACKNOWLEDGEMENT, WAIVER, RELEASE, INDEMNIFICATION AND HOLD HARMLESS AGREEMENT

This Agreement ("Agreement") is made and entered into as of this ____ day of _____, 20____, by and between Western Water Company ("Company"), a private, non-profit, water works company, and _____ ("Member"), relating to Member's property located at _____.

WHEREAS, Member desires to connect Member's fire suppression/fire protection system ("System") located on Member's property to the Company's water supply;

WHEREAS, Company Rule XIII, provides:

Fire Policy

a. Western Water Company's water system is not designed or constructed for the use as a fire protection system and no Member shall rely on said system for fire protection in any manner.

WHEREAS, the Company agrees to provide water service to Member subject to the terms and conditions of this Agreement; and

WHEREAS, this Agreement does not alter Member's or Company's obligations under the Company's Code of Regulations, By-Laws, Rules and Water Service Agreement.

WHEREAS, Member has read the terms of this Agreement, understands them and agrees to be bound by these terms, fully understanding the obligations and responsibilities imposed upon Member by this Agreement.

NOW, THEREFORE, intending to be legally bound thereby, for themselves and each of their respective heirs, personal representatives, successors and assigns, the Company and Member agree as follows:

1. The foregoing recitals are hereby incorporated herein by reference as if fully set forth at this place.

2. Member acknowledges Company Rule XIII and understands the Company's water works is not designed or constructed for use as a fire protection system and Member shall not rely on said water works for fire protection in any manner.

3. Member specifically releases, indemnifies and holds Company harmless from any and all claims, demands, costs, obligations or liabilities of any nature whatsoever, including claims for personal injury or property damage, in any way relating to the System installed, or to be installed, on Member's Property and to which the Company is supplying water.

4. Member agrees individually and on behalf of Member's heirs, successors, assigns and insurers that as a condition of the Company supplying water for the System, Member will bring no suit against the Company relating in any way whatsoever to the water supplied by the Company for use in the System, including, but not limited to, the amount, quantity, quality, pressure or sufficiency of the water supplied by the Company for use in the System.

5. Member specifically acknowledges the following:

a. That the pressure in the Company's water system may not be capable of meeting the requirements to start and maintain the System in the event of a fire;

b. That the minimum pressure requirements for fire suppression or sprinkler systems may be higher than that which the Company maintains for domestic water supply;

c. That the water supplied by the Company may not provide adequate and continued flow volume (gallons/minute) to the System;

d. That Company's connection to Member's System must be approved by the Company and must meet the Company's Construction Specifications for Water Line Facilities;

e. That the Company cannot guarantee an adequate supply, volume, or pressure of water to the System. The supply of water may not reach the System for any number of reasons, including but not limited to, line flushing, line break, airlock, drought, pumping station system failure, contamination or termination of service by Company due to non-payment of water bills by Member; and

g. That Member's System is Member's exclusive responsibility, and the Company assumes no obligations with respect to Member's System. Company is under no obligation to inspect, service or maintain Member's System.

6. To ensure the binding effect of this Agreement on successors in interest to Member and Member's insurers, this Agreement shall be recorded in the records office of the county in which the property on which the System will be installed is located.

7. The Company agrees to provide water to the System solely in accordance with the terms of this Agreement and on the specific condition that the Company shall have no liability whatsoever as a result of providing water to the System.

8. The terms set forth in this Agreement are intended by the parties as a final expression of their agreement with respect to such terms and may not be contradicted or supplemented by evidence of any prior agreement or of any contemporaneous oral agreement.

9. This Agreement is intended to be a complete and exclusive statement of the terms of the agreement between the parties with respect to the specific subject matter contained herein, and the terms of this Agreement may not be explained or supplemented by evidence of consistent or inconsistent additional terms.

10. This Agreement may not be amended or modified by any act or conduct of the parties or by oral agreement, unless first reduced to a writing and signed by both of the parties.

11. The individuals who execute this Agreement on behalf of the Company and the Member, respectively, represent and warrant that the parties signing are all of the necessary and proper parties, and that no other signature, act or authorization is necessary to bind such entity to the provisions of this Agreement.

12. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Ohio.

13. In the event any party commences a legal proceeding to enforce any of the terms of this Agreement, the prevailing party in such action shall have the right to recover reasonable attorneys' fees and costs from the non-prevailing party, to be fixed by the court in the same action.

14. The "prevailing party" means the party that prevails in obtaining a remedy or relief which most nearly reflects the remedy or relief which the party sought.

15. This Agreement shall be binding upon and will inure to the benefit of the parties and their respective successors, transferees and assigns.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date and year first above written.

WITNESSES: MEMBER

_____ _____

_____ _____

STATE OF OHIO)
) ss:
COUNTY OF _____)

Sworn to and subscribed before me, a Notary Public, on this _____ day of _____, 20___.

_____
Notary Public

WESTERN WATER COMPANY

By: _____

Its: _____

STATE OF OHIO)
) ss:
COUNTY OF _____)

Sworn to and subscribed before me, a Notary Public, on this _____ day of _____, 20___.

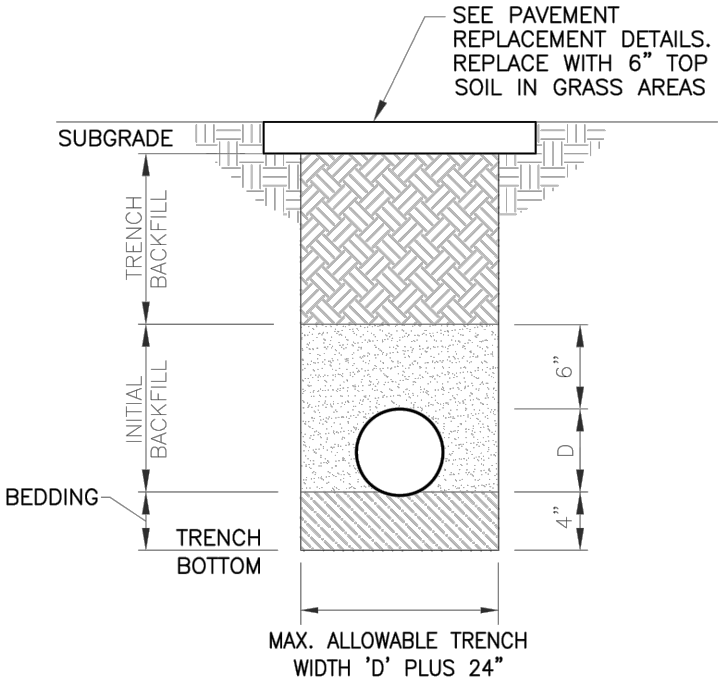
_____
Notary Public

Detail Drawing Index

Western Water COMPANY

DETAIL DRAWING INDEX

REVISED	SCALE	PAGE	
JULY 2022	NTS	1 OF 1	00



NOTES

1. SUITABLE BEDDING AND INITIAL BACKFILL MATERIAL SHALL CONSIST OF NATURALLY OCCURRING SAND OR CLAY FREE FROM TRASH, ROOTS, DEBRIS, EXCESSIVE MOISTURE AND OBJECTS LARGER THAN $\frac{3}{4}$".
2. PIPE TRENCH WALL SHALL BE VERTICAL TO THE TOP OF THE INITIAL BACKFILL.
3. PROVIDE SELECT FILL No. 8 OR No. 57 STONE FOR BEDDING MATERIAL TO THE DEPTH REQUIRED BY THE WATER UTILITY WHEN UNSTABLE TRENCH BOTTOMS ARE ENCOUNTERED, AS DETERMINED BY THE WATER UTILITY.
4. MANUALLY COMPACT EMBEDMENT MATERIAL FILLING ALL VOIDS AROUND PIPE.
5. TRENCH BACKFILL TYPE SHALL BE PER GENERAL NOTES AND SPECIFICATIONS.

Western Water COMPANY

WATER LINE EMBEDMENT

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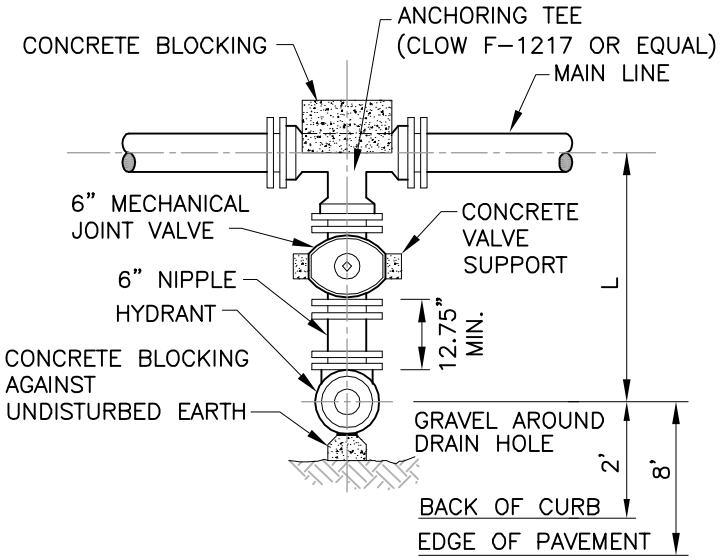

MAIN LINE	DIMENSION L (MINIMUM)
6"	35"
8"	36"
12"	39"
16"	42"

NOTE:

FIRE HYDRANTS SHALL BE SET A MINIMUM OF 6' FROM ALL DRIVEWAY OPENINGS.

Western Water COMPANY

HYDRANT SETTING TYPE A

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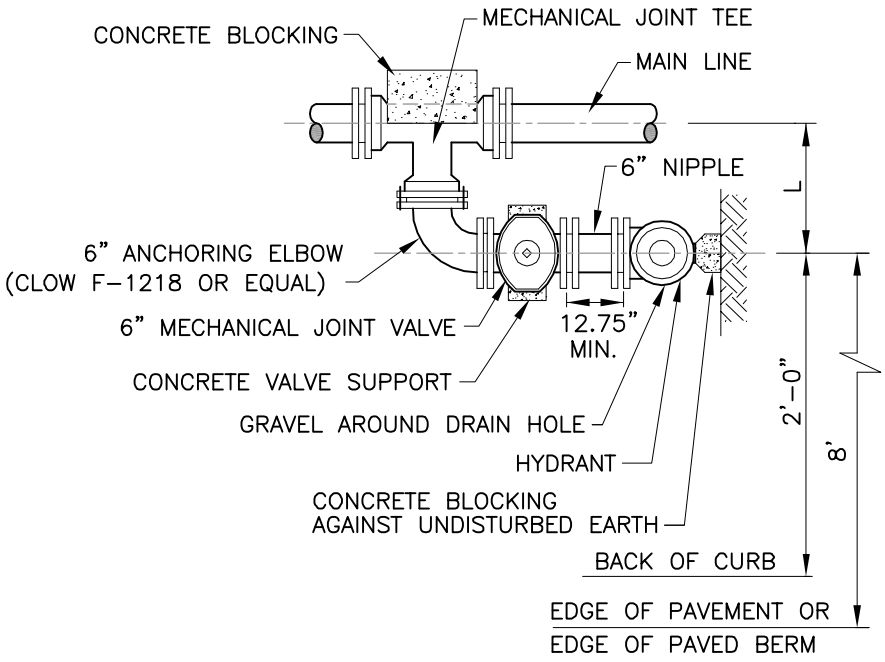
01 DEC 04	NTS		



TYPE B: LONG SIDE BEND TO TEE.

TYPE B MODIFIED: SHORT SIDE BEND TO TEE.

MAIN LINE	DIMENSION L	
	TYPE B	TYPE B MOD.
6"	24"	19"
8"	25"	20"
12"	28"	23"
16"	31"	26"

NOTE:

FIRE HYDRANTS SHALL BE SET A MINIMUM OF 6' FROM ALL DRIVEWAY OPENINGS.

Western Water COMPANY

HYDRANT SETTING TYPE B

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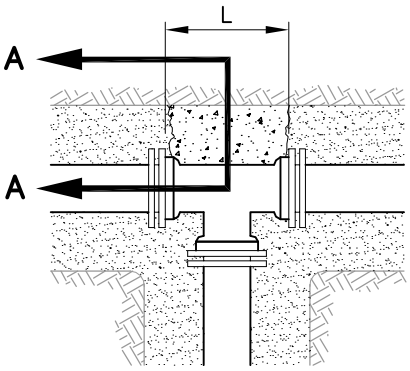
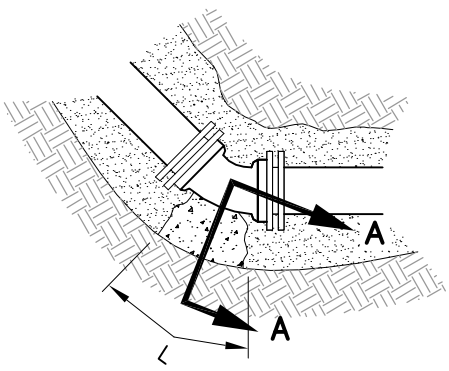
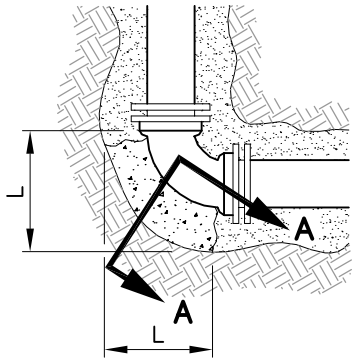


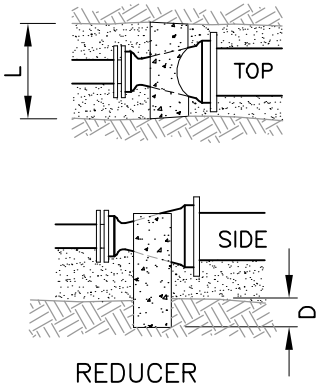
TEE



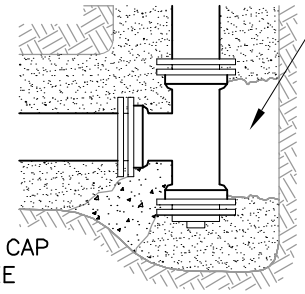
BEND <90°



HORIZONTAL BEND

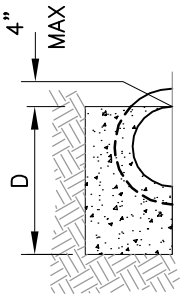


REDUCER

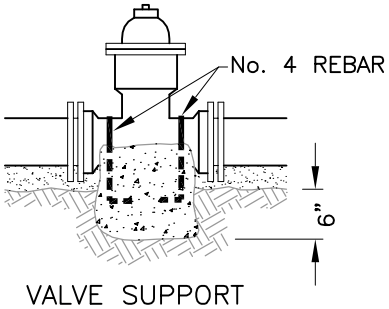


USE END CAP TABLE SIZE FOR RUN

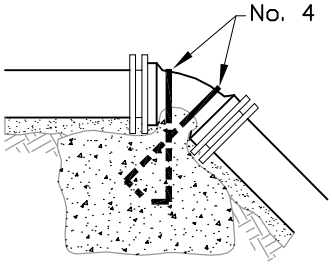
TEE W/ ONE PLUG END



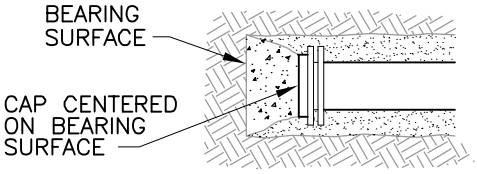
SECTION A–A



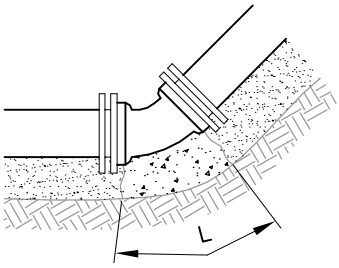
VALVE SUPPORT



VERTICAL OVER BEND



CAP



VERTICAL UNDER BEND

NOTES

1. CONCRETE SHALL NOT LAP ONTO BOLTS.
2. EMBED REINFORCING 12" MIN. INTO CONCRETE HOOK ENDS.
3. ALL FITTINGS TO BE POLYETHELENE WRAPPED

UNDISTURBED GROUND

CONCRETE THRUST BLOCK

SUITABLE BEDDING MATERIAL

Western Water COMPANY

CONCRETE THRUST BLOCKING

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END CAP BLOCKING						
SIZE	2"	4"	6"	8"	12"	16"
BLOCKING AREA	6"x6"	9"x9"	13"x13"	17"x17"	24"x24"	33"x33"

BLOCKING FOR TEES															
RUN	BRANCH														
	4"			6"			8"			12"			16"		
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
4"	11	8	0.8												
6"	11	8	0.8	18	12	1.9									
8"	10	9	0.7	18	12	1.9	23	16	3.5						
12"	8	12	0.8	18	12	1.9	23	16	3.5	38	22	8.7			
16"	6	16	0.8	14	16	2.0	20	18	3.5	38	23	8.7	49	30	13.6

SIZE OF CONCRETE BLOCKING FOR VERTICAL OVERBEND		
PIPE SIZE	SIZE OF BLOCK	VOLUME Cu. Yd.
4"	1.5'x1.5'x1.5	0.13
6"	2.5'x2.5'x2.5'	0.5
8"	3'x3'x3'	1
12"	3.5'x3.5'x3.5'	1.5
16"	4.5'x4.5'x4.5'	3.5

	BLOCKING FOR REDUCERS									
	4"		6"		8"		12"		16"	
	D"	L"	D"	L"	D"	L"	D"	L"	D"	L"
2"	12	6	12	12						
4"			12	12						
6"					12	12				
8"							24	18		
12"									24	24

BLOCKING FOR HORIZONTAL BENDS AND VERTICAL UNDERBENDS												
PIPE SIZE	DEGREE OF BEND											
	11.25°			22.5°			45°			90°		
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4		9	1.7
8"	9	8	0.7	16	9	1.4	24	12	2.7	25	11	4
12"	14	12	1.8	24	14	3.6	36	18	6.8	32	18	10.7
16"	18	16	3.4	32	18	6.7	36	32	13.4	41	26	25.6

VALVE SUPPORTS		
VALVE SIZE	WIDTH	Vc.f.
4"	16"	0.3
6"	17"	0.4
8"	20"	0.4
12"	24"	0.5
16"	30"	0.5

Western Water COMPANY

CONCRETE THRUST BLOCKING

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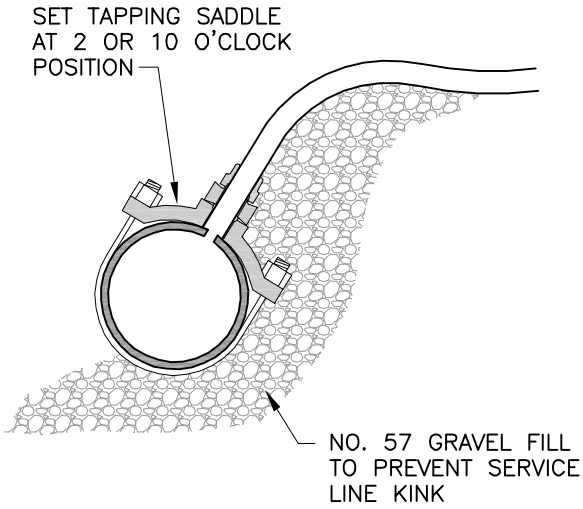

Western Water
COMPANY

TAP SETTING

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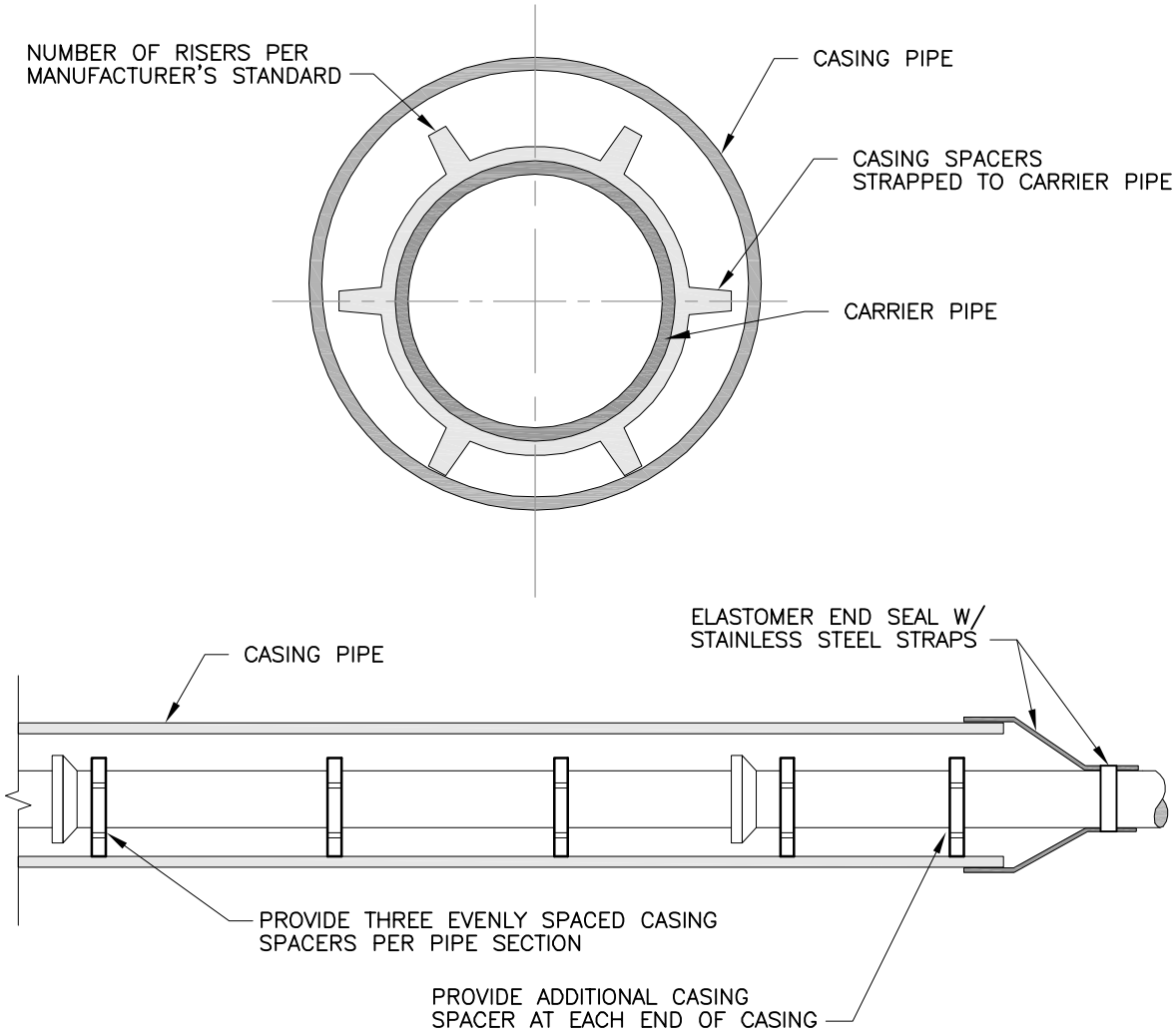

Western Water COMPANY

CASING SPACER & END SEAL

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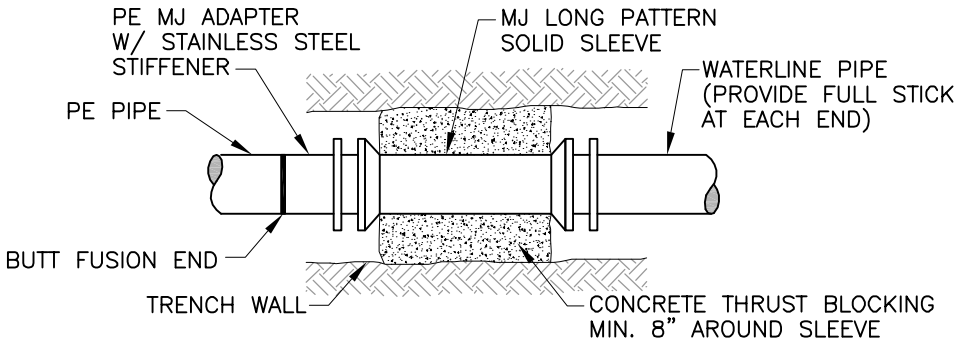
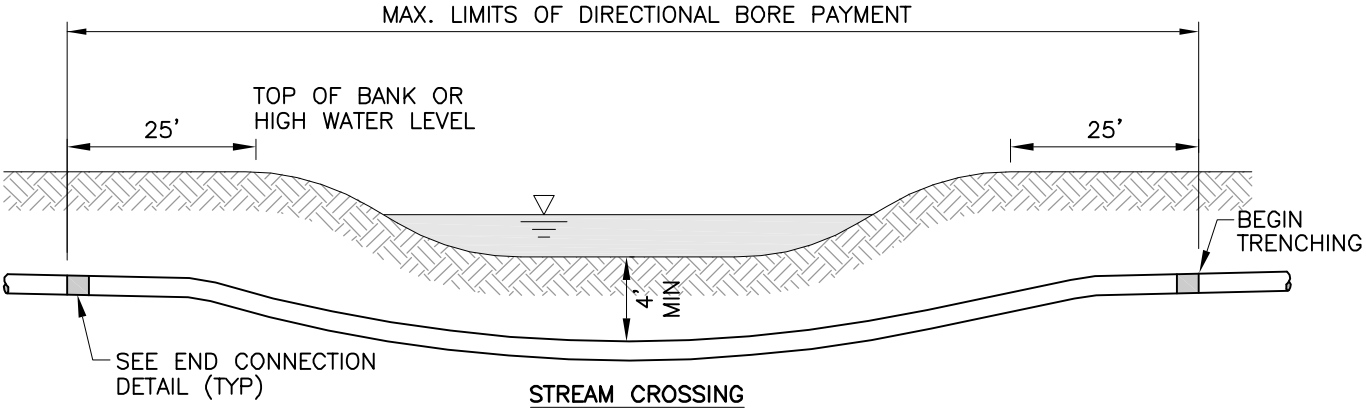


END CONNECTION DETAIL



STREAM CROSSING

Western Water COMPANY

HORIZONTAL DIRECTIONAL DRILLING

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Western Water COMPANY

PRESSURE REDUCING STATION

REVISED JULY 2022

SCALE NTS

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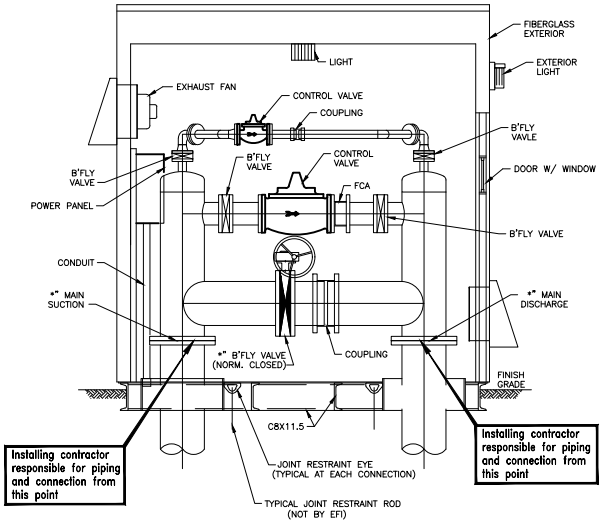
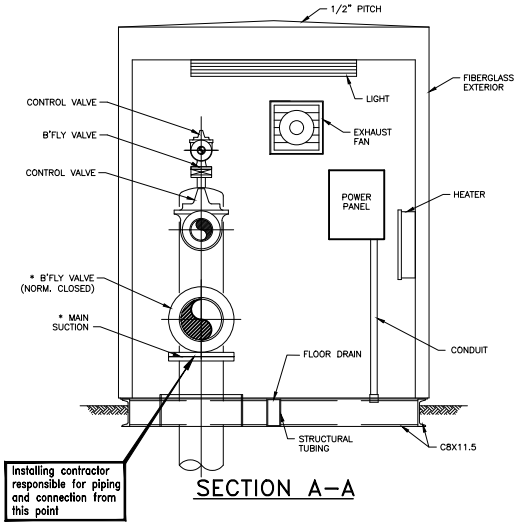
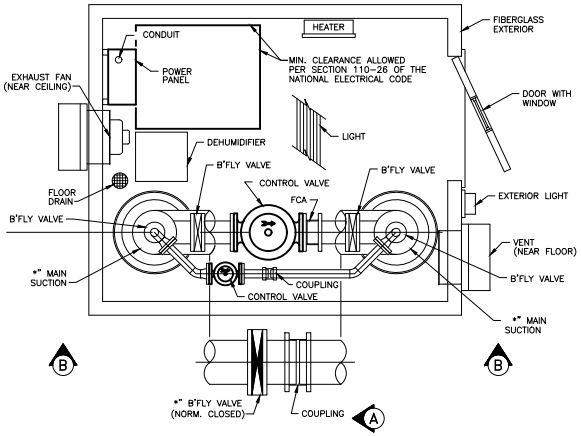


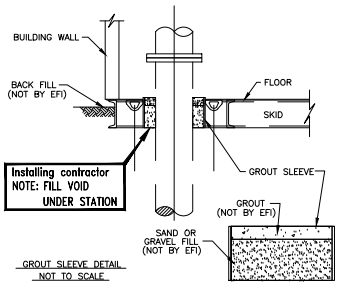
SECTION B–B



SECTION A–A



PLAN



TYPICAL GROUT DETAIL

NOTE: OPTIONAL PIPE EXTENSIONS FURNISHED BY EFI. IF USED, INSTALLATION OF EXTENSIONS WILL BE REQUIRED BY INSTALLING CONTRACTOR.

DIMENSIONS VARY DEPENDING ON PRV SIZE AND APPLICATION. COORDINATE WITH WWC FOR SIZES.

NOTE: FCA – FLANGED COUPLING ADAPTER

Western Water COMPANY

PRESSURE REDUCING STATION

REVISED JULY 2022

SCALE NTS

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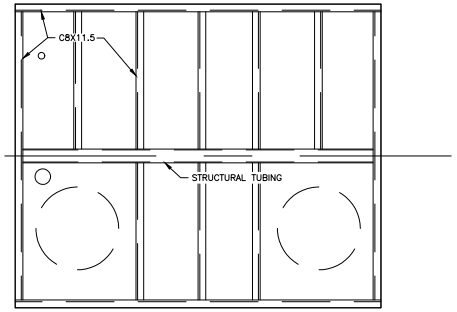
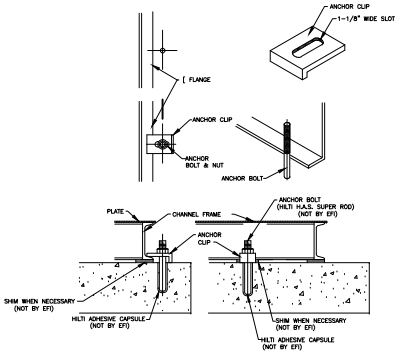


SKID PLAN

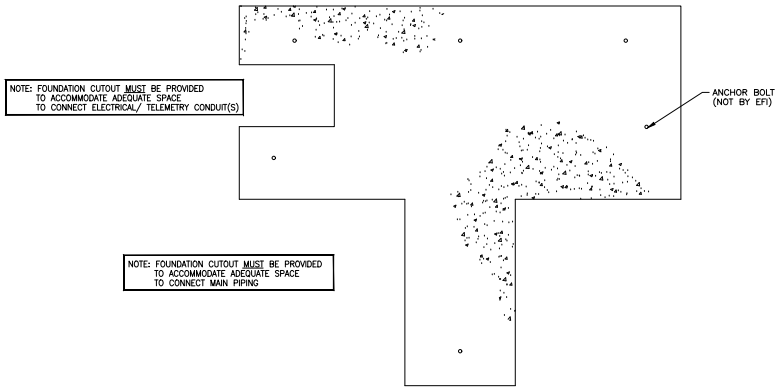


TYPICAL ANCHOR DETAIL

NOTE: ANCHOR CLIPS FURNISHED BY E.F.I.
ANCHOR BOLTS AND NUTS BY INSTALLER

FOUNDATION AND ANCHOR BOLT DESIGN AND DIMENSIONS AS DIRECTED BY ENGINEER

SHIMS MAY BE REQUIRED AROUND PERIMETER OF WATERSHEEP TO ENSURE PROPER LEVEL. WITHOUT PROPER LEVEL ENGINEERED FLUID CANNOT BE RESPONSIBLE FOR PROPER DOOR OPERATION.



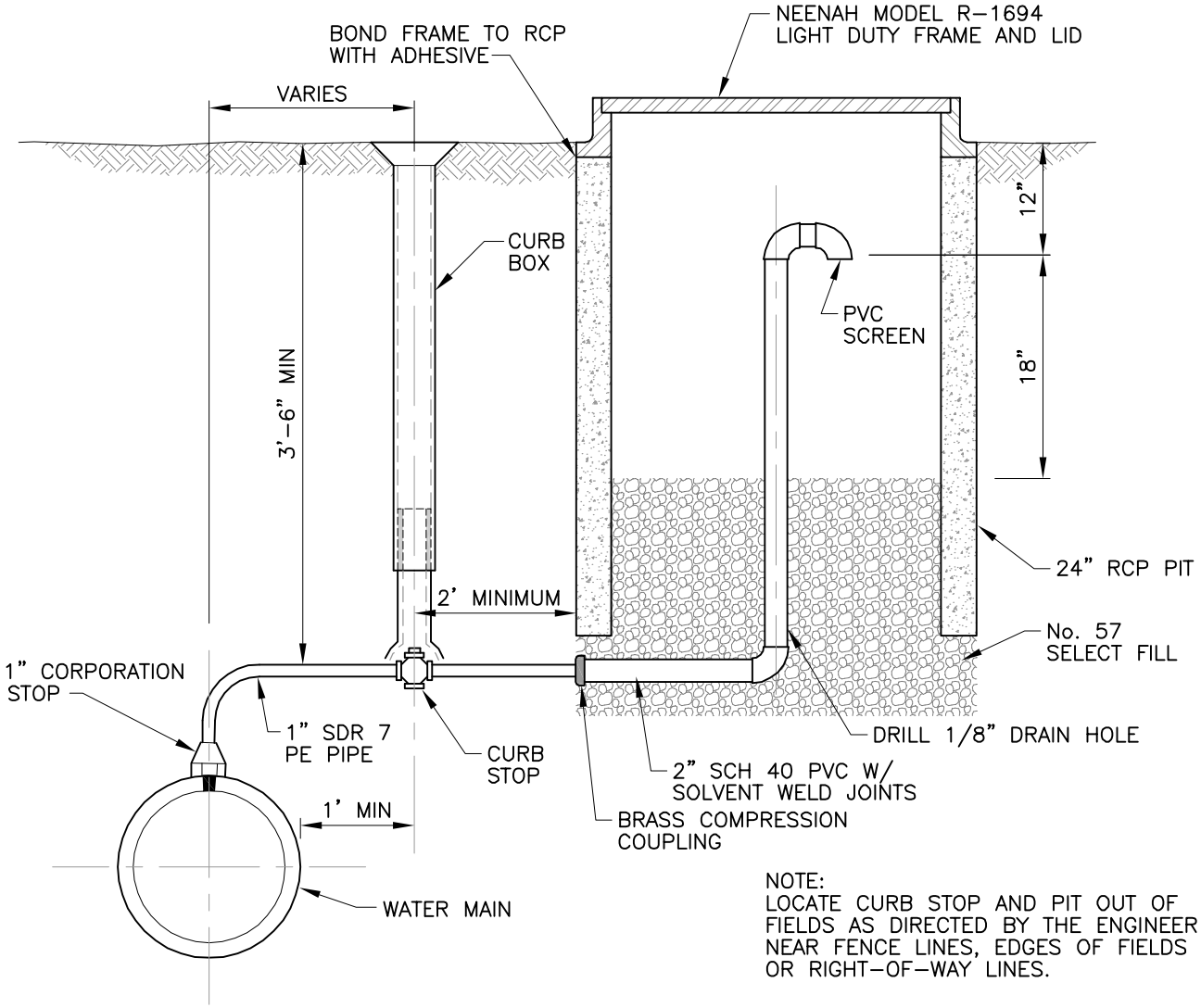
TYPICAL FOUNDATION LAYOUT

(NOT FOR CONSTRUCTION PURPOSES)

FOUNDATION AND ANCHOR BOLT DESIGN AND DIMENSIONS AS DIRECTED BY ENGINEER

DIMENSIONS VARY DEPENDING ON PRV SIZE AND APPLICATION. COORDINATE WITH WWC FOR SIZES.

NOTE: FCA – FLANGED COUPLING ADAPTER

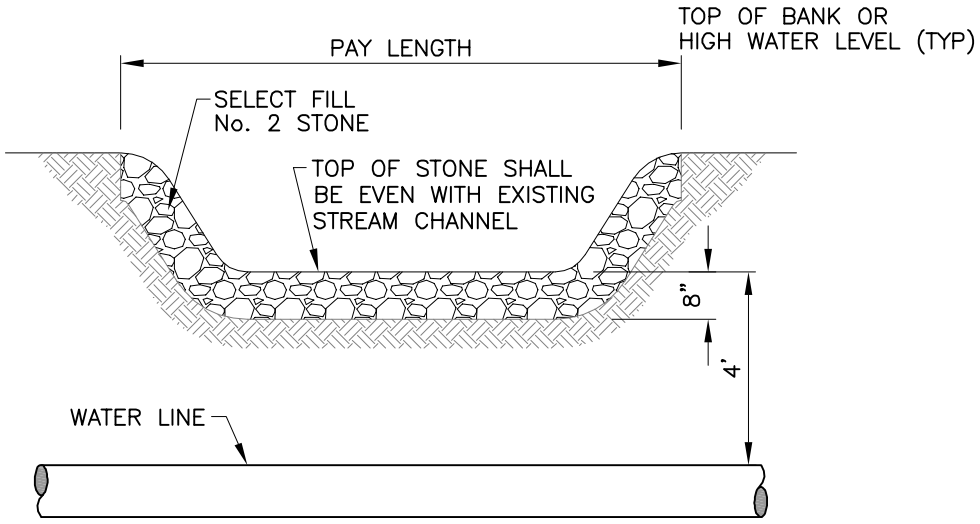


NOTE:
LOCATE CURB STOP AND PIT OUT OF FIELDS AS DIRECTED BY THE ENGINEER NEAR FENCE LINES, EDGES OF FIELDS OR RIGHT-OF-WAY LINES.

MANUAL AIR RELEASE

NTS

Western Water COMPANY	MANUAL AIR RELEASE			
	REVISED 01 DEC 04	**SCALE** NTS	**PAGE** 1 **OF** 1	9



NOTE
PROVIDE WIDTH OF STONE PLACEMENT EQUAL TO TRENCH WIDTH. TWO FEET MIN.

Western Water COMPANY

ROCK CHANNEL PROTECTION

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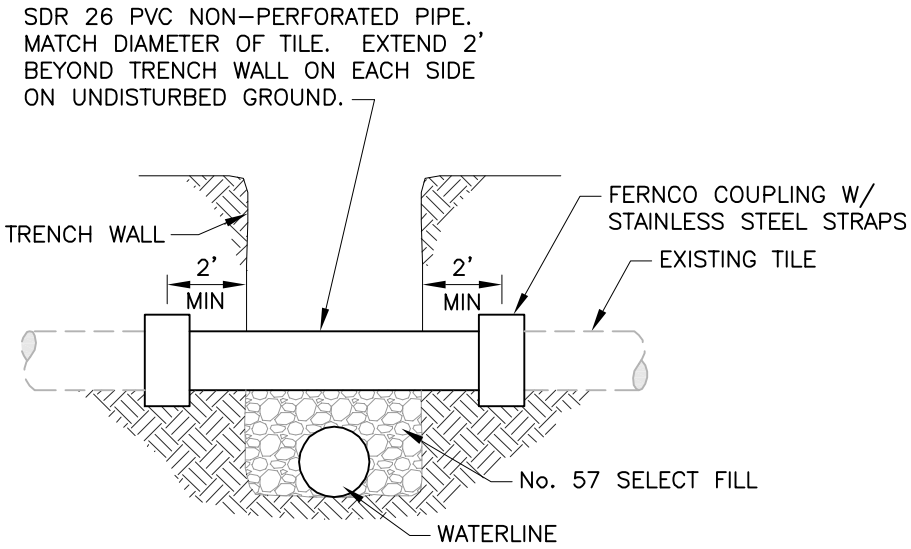

NOTE

DO NOT BACKFILL UNTIL APPROVED BY ENGINEER.

Western Water COMPANY

DRAINAGE TILE REPAIR

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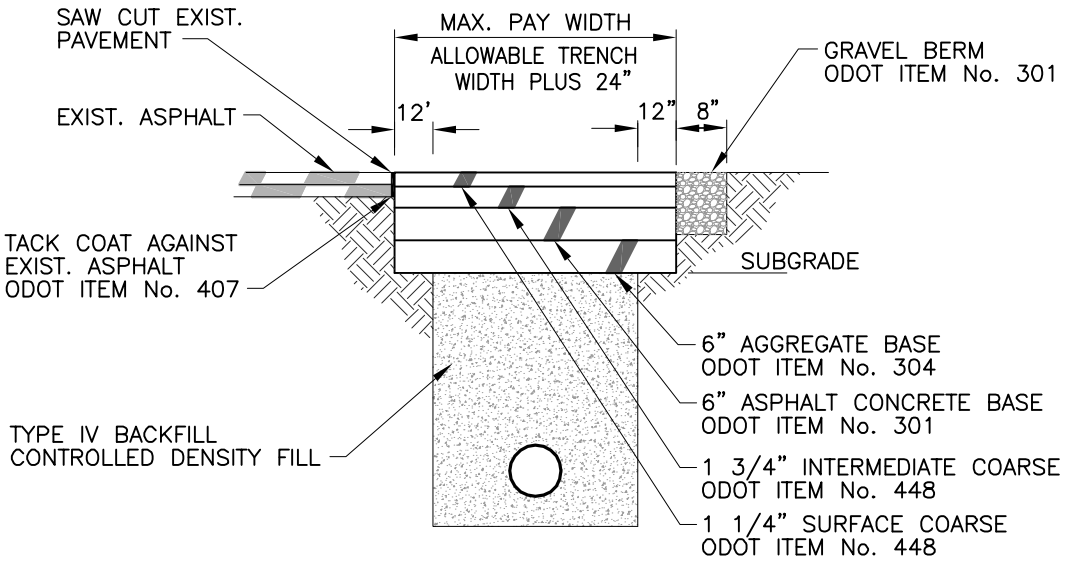

ASPHALT ROADWAY PAVEMENT REPLACEMENT

NTS

Western Water COMPANY

ASPHALT ROADWAY PAVEMENT REPLACEMENT

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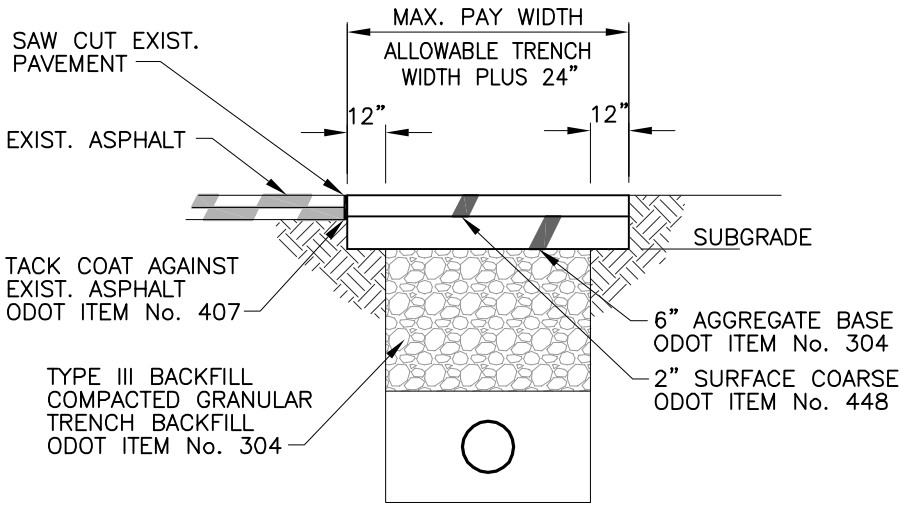

Western Water COMPANY

ASPHALT DRIVEWAY PAVEMENT REPLACEMENT

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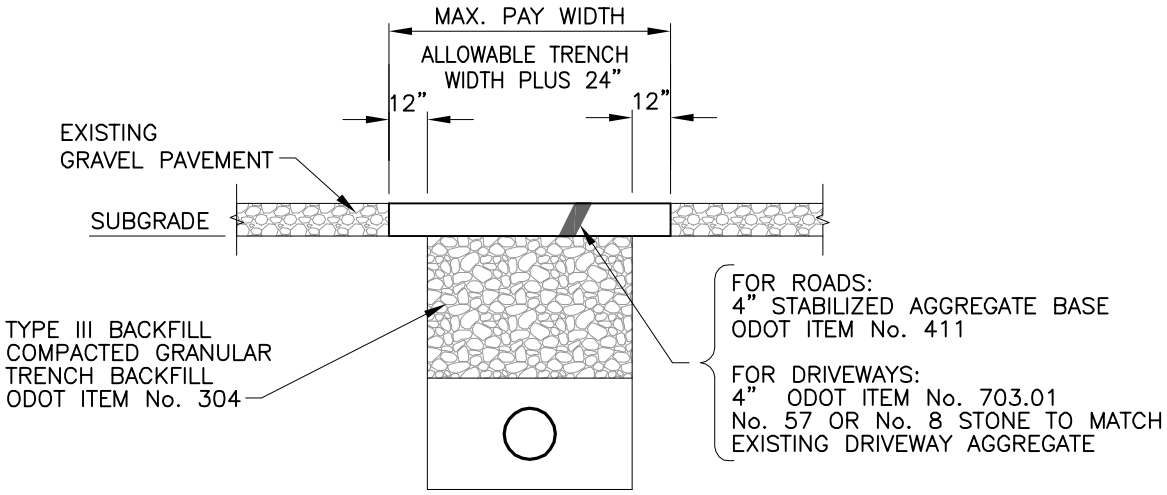

Western Water COMPANY

GRAVEL ROADWAY AND DRIVEWAY PAVEMENT REPLACEMENT

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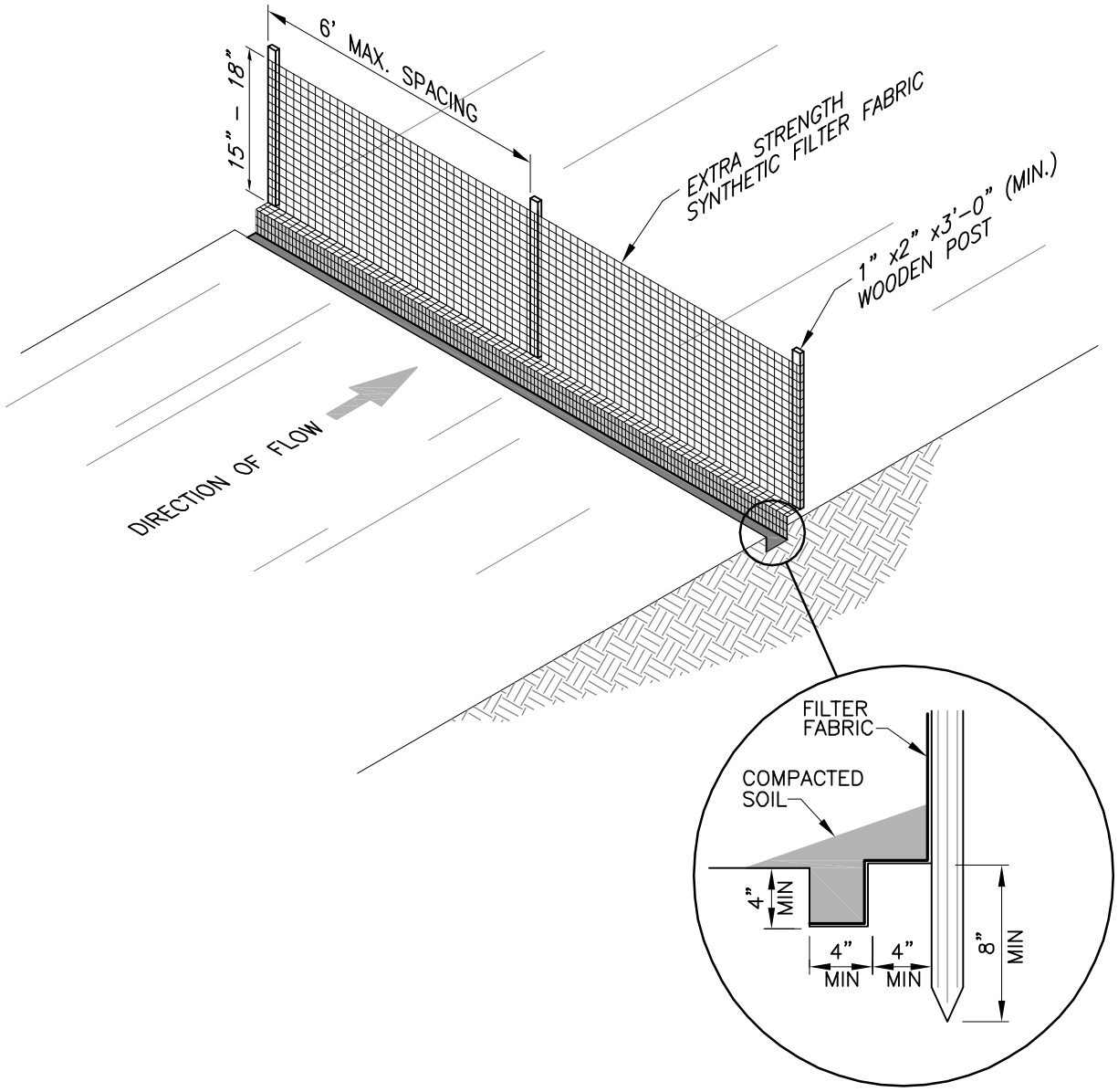

NOTES

FILTER FABRIC SHALL BE FASTENED TO WOODEN POSTS USING 1/2" HEAVY DUTY STAPLES. FILTER FABRIC SHALL BE PLACED IN A CONTINUOUS ROLL TO MINIMIZE THE OCCURRENCE OF JOINTS. WHERE JOINTS CANNOT BE AVOIDED, FABRIC SHALL BE SPLICED TOGETHER AT SUPPORT POSTS, WITH A MINIMUM OF 6 INCH OVERLAP, AND SECURELY SEALED.

ALTERNATELY, A 14 GAUGE WIRE FENCE REINFORCEMENT HAVING A MINIMUM HEIGHT OF 18 INCHES AND A MAXIMUM MESH SPACING OF 6 INCHES MAY BE USED AS A FENCE SUPPORT. IF THE WIRE REINFORCEMENT IS USED, STANDARD STRENGTH SYNTHETIC FILTER FABRIC MAY BE USED AND WOODEN POSTS MAY BE SPACED AT 10 FOOT INTERVALS. THE WIRE REINFORCING SHALL BE BURIED A MINIMUM OF 4 INCHES AND SHALL BE FASTENED TO THE WOODEN POSTS USING 1" HEAVY DUTY STAPLES.

SILT FENCE

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SILT FENCE

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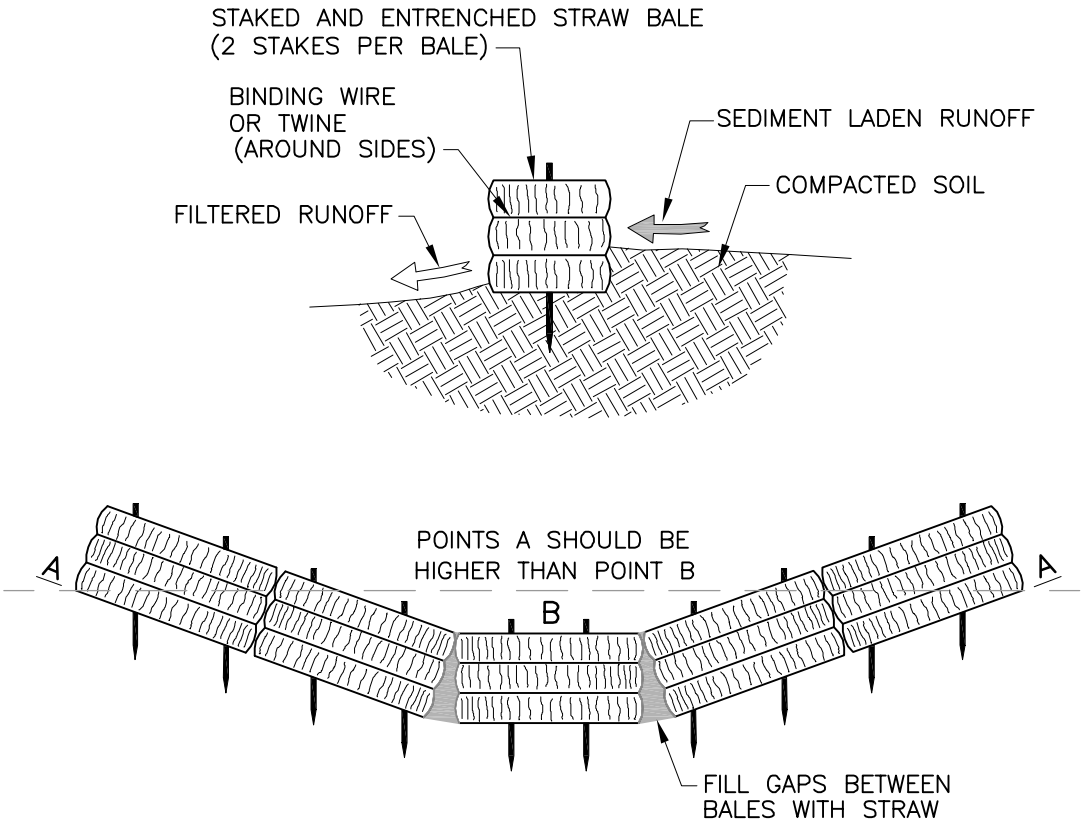

Western Water COMPANY

STRAW BALE BARRIER

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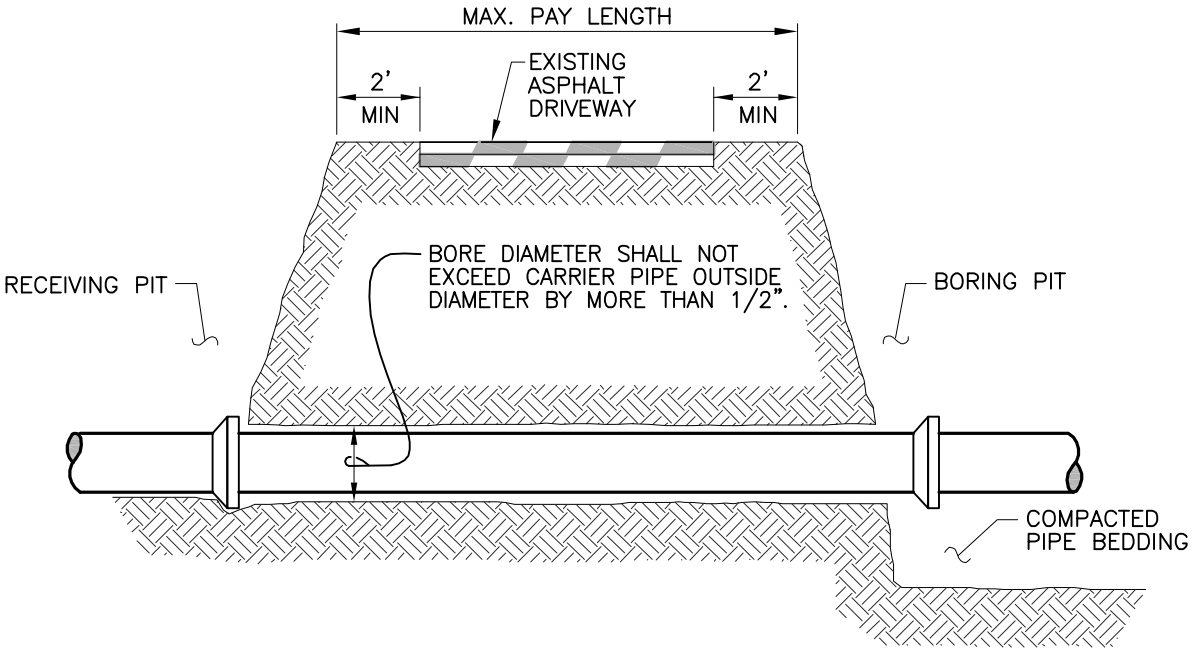

NOTES:

1. COMPLETE FREE BORE. REMOVE AUGER, AND INSERT CARRIER PIPE W/ SPIGOT END.
2. PROVIDE SINGLE PIECE OF CARRIER PIPE FOR ENTIRE SPAN OF FREE BORE WITH NO JOINTS.

Western Water COMPANY

FREE BORE

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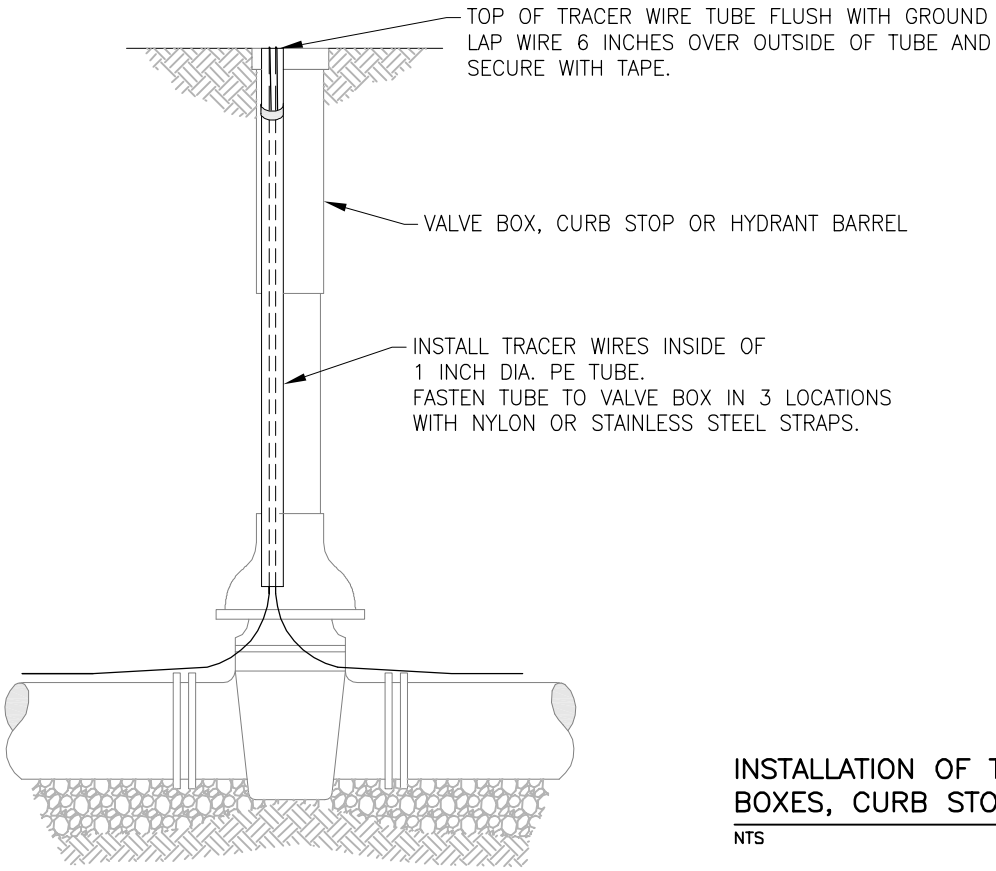
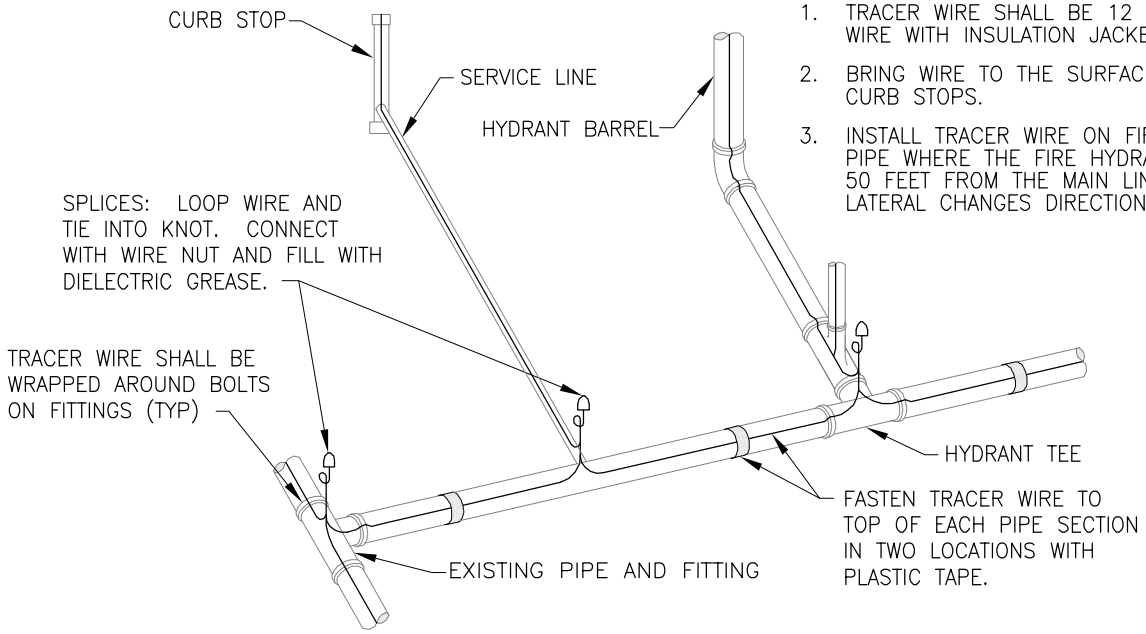


INSTALLATION OF TRACER WIRE AT VALVE BOXES, CURB STOPS & FIRE HYDRANTS

NTS



NOTES

1. TRACER WIRE SHALL BE 12 GAUGE SOLID COPPER WIRE WITH INSULATION JACKET.
2. BRING WIRE TO THE SURFACE AT ALL VALVES AND CURB STOPS.
3. INSTALL TRACER WIRE ON FIRE HYDRANT LATERAL PIPE WHERE THE FIRE HYDRANT IS MORE THAN 50 FEET FROM THE MAIN LINE, OR WHEN THE LATERAL CHANGES DIRECTION.

TRACER WIRE DETAIL

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TRACER WIRE DETAIL

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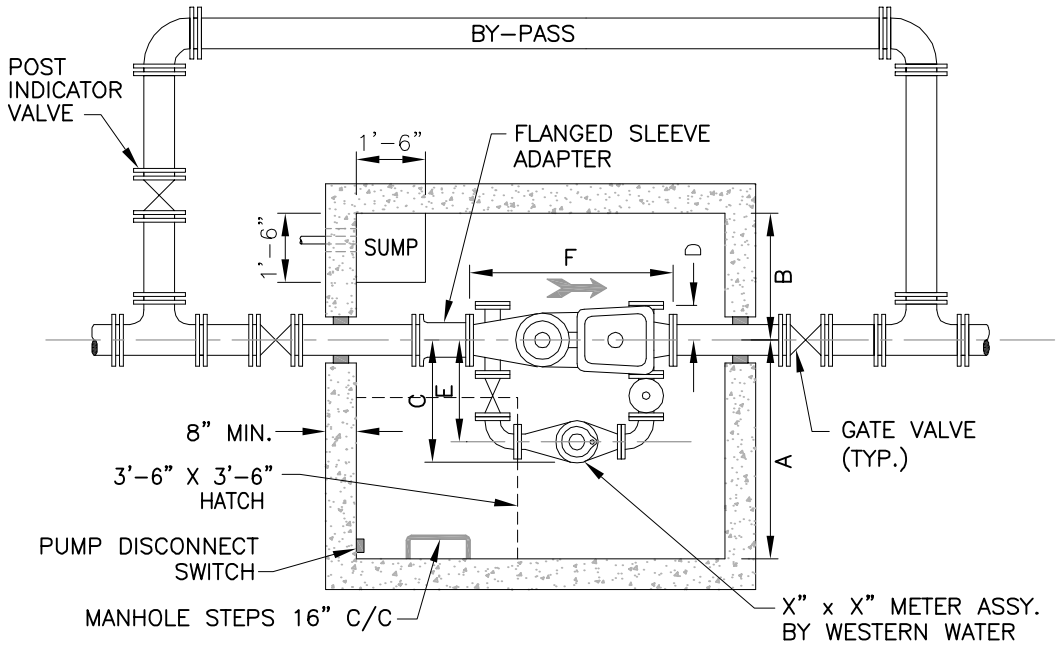

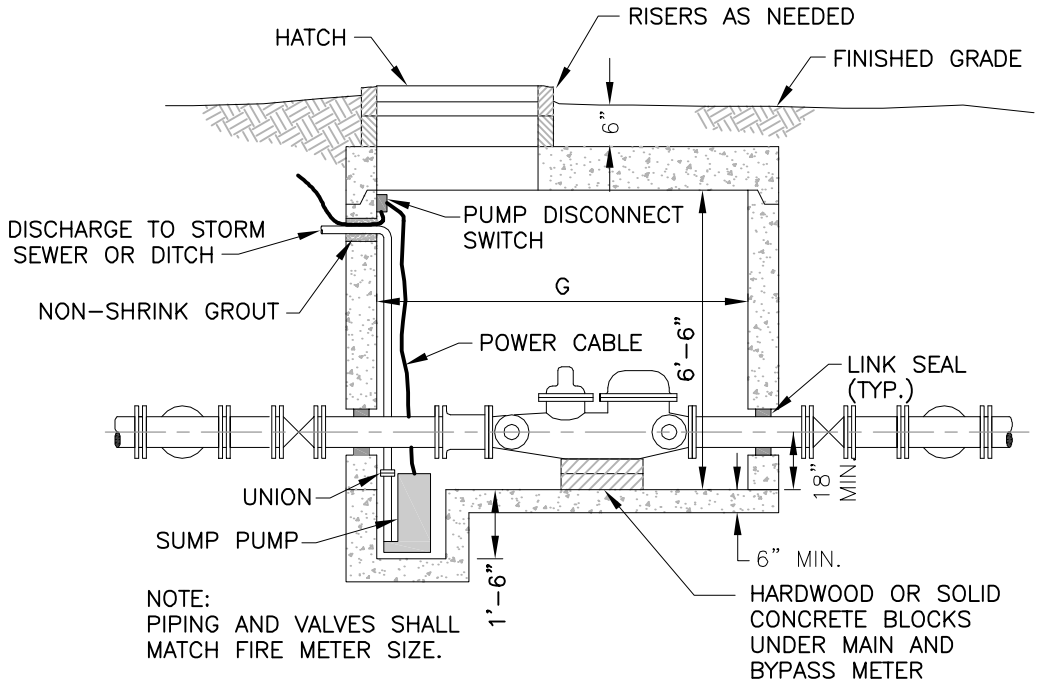

Western Water COMPANY

COMPOUND MASTER METER VAULT

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NOTES:

1. PROVIDE ALL EQUIPMENT AND MATERIALS EXCEPT METER. WESTERN WATER WILL FURNISH METER AT WESTERN WATER'S OFFICE. CONTRACTOR SHALL TRANSPORT THE METER TO THE SITE AND INSTALL IT.
2. PROVIDE ZOLLER MODEL M53 SUMP PUMP WITH FLOAT SWITCH LEVEL CONTROL. POWER TO BE PROVIDED BY PROPERTY OWNER. ALTERNATIVELY, IF GRADING PERMITS, A GRAVITY DRAIN WITH SANITARY CHECK VALVE MAY BE PROVIDED.
3. HATCH SHALL BE BILCO TYPE 'J' WITH LOCKABLE HASP AND STAINLESS STEEL HARDWARE.
4. VAULT SHALL BE WATERTIGHT PRE–CAST OR CAST–IN–PLACE CONCRETE DESIGNED TO SUPPORT AN AASHTO H20 LIVE LOAD.
5. VALVE VAULT, PIPING AND ALL EQUIPMENT SHALL BECOME THE OWNERSHIP OF WESTERN WATER UPON ACCEPTANCE.
6. SUBMIT SHOP DRAWINGS TO WESTERN WATER FOR APPROVAL. INCLUDE ALL MATERIALS OF CONSTRUCTION AND PROVIDE STRUCTURAL DESIGN CERTIFICATION BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.

METER SIZE						
SIZE	3"x 2"	4" x 2"	6"x3"	8"x4"	10"x6"	10"x12"x6"
A	46"	47"	51"	57"	66"	66"
B	30"	31"	32"	33"	38"	38"
C	20 7/8"	21 7/8"	26 3/4"	32 7/8"	42"	42"
D	6 1/8"	7 1/8"	8 1/4"	10 3/8"	13 1/2"	13 1/2"
E	16 3/4"	17 3/4"	21 5/8"	26 1/2"	33 3/4"	33 3/4"
F	33"	33"	45"	53"	68"	68"
G	77"	77"	89"	96"	112"	112"

Western Water COMPANY

COMPOUND MASTER METER VAULT

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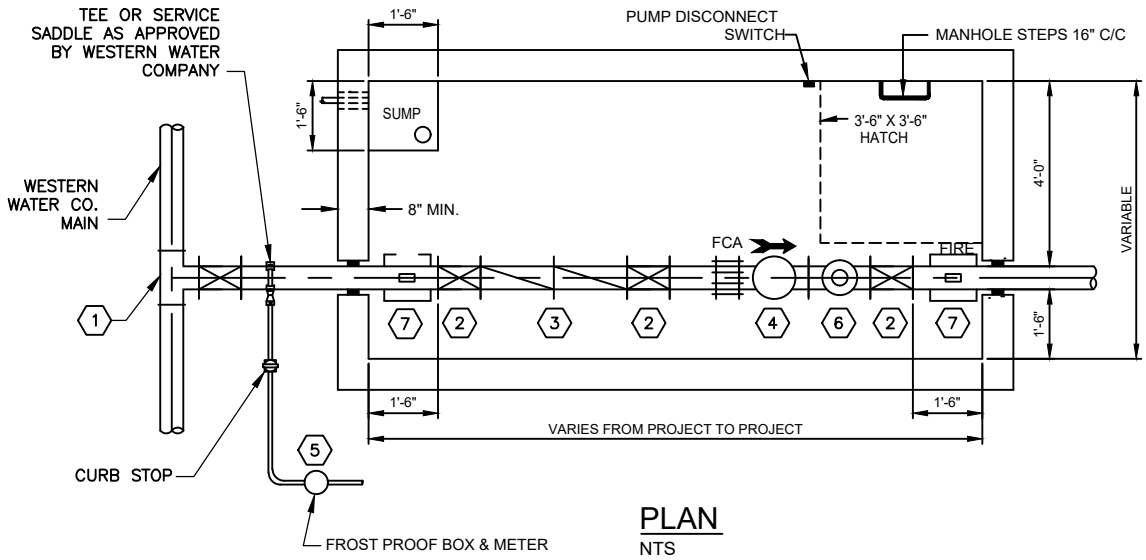
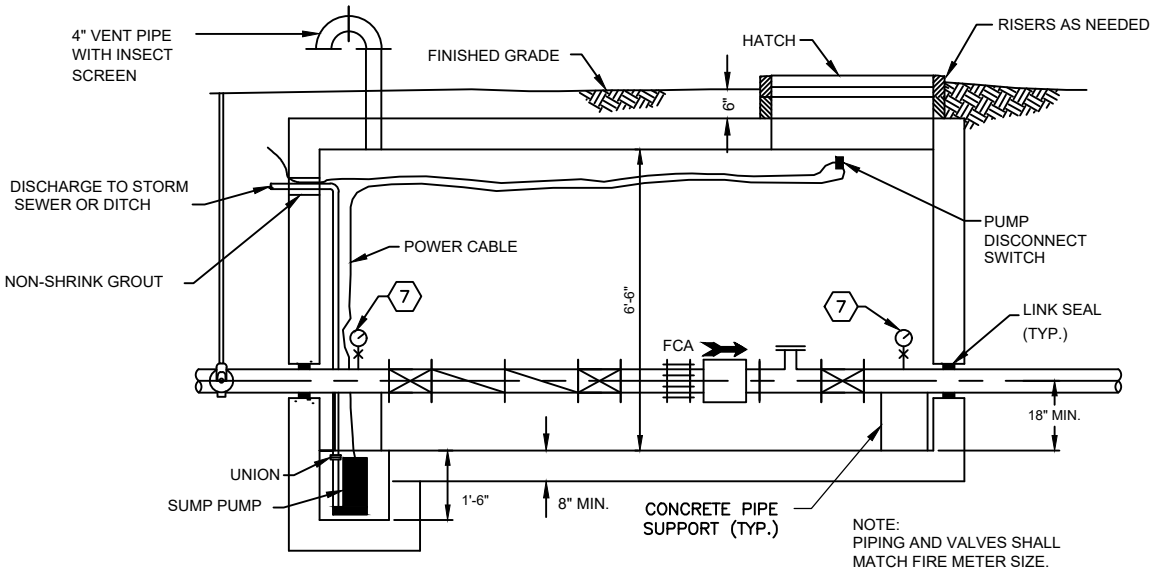


PLAN
NTS



SECTION
NTS

CODED NOTES:

1. TAPPING SLEEVE AND BURIED GATE VALVE WITH VALVE BOX AND LID.
2. HANDWHEEL GATE VALVE
3. DUAL BACKFLOW PREVENTER
4. NFPA APPROVED METER
5. DOMESTIC METER
6. FIRE DEPARTMENT CONNECTION, IF REQUIRED
7. PRESSURE GAUGE. ASHCROFT MODEL 1279 ASL, OR EQUAL.

NOTES:

1. CUSTOMER IS RESPONSIBLE TO PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS (INCLUDING ALL METERS).
2. PROVIDE ZOLLER MODEL M53 SUMP PUMP WITH FLOAT SWITCH LEVEL CONTROL. POWER TO BE PROVIDED BY PROPERTY OWNER. ALTERNATIVELY, IF GRADING PERMITS, A GRAVITY DRAIN WITH SANITARY CHECK VALVE MAY BE PROVIDED.
3. HATCH SHALL BE BILCO TYPE 'J' WITH LOCKABLE HASP AND STAINLESS STEEL HARDWARE.
4. VAULT SHALL BE WATERTIGHT PRE-CAST OR CAST-IN-PLACE CONCRETE DESIGNED TO SUPPORT AN AASHTO H20 LIVE LOAD.
5. VALVE VAULT, PIPING AND ALL EQUIPMENT SHALL BECOME THE OWNERSHIP OF WESTERN WATER UPON ACCEPTANCE.
6. SUBMIT SHOP DRAWINGS TO WESTERN WATER FOR APPROVAL. INCLUDE ALL MATERIALS OF CONSTRUCTION AND PROVIDE STRUCTURAL DESIGN CERTIFICATION BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.
7. ALL PIPE SHALL BE DUCTILE IRON, PRESSURE CLASS 250.

Western Water COMPANY

FIRE METER VAULT & DOMESTIC WATER SERVICE TO STRUCTURE

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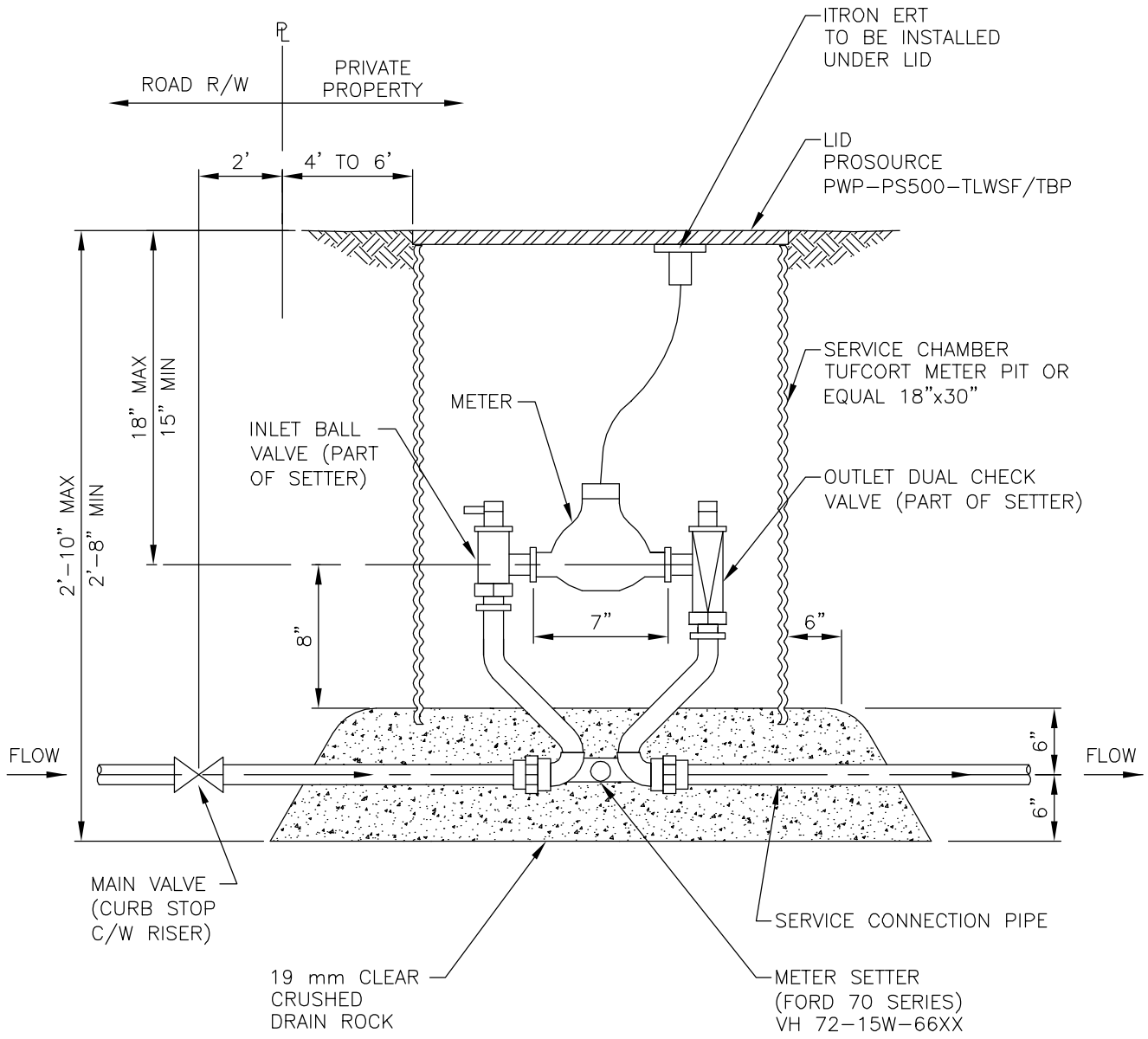

METER CHAMBER

NTS

Western Water COMPANY	METER CHAMBER			
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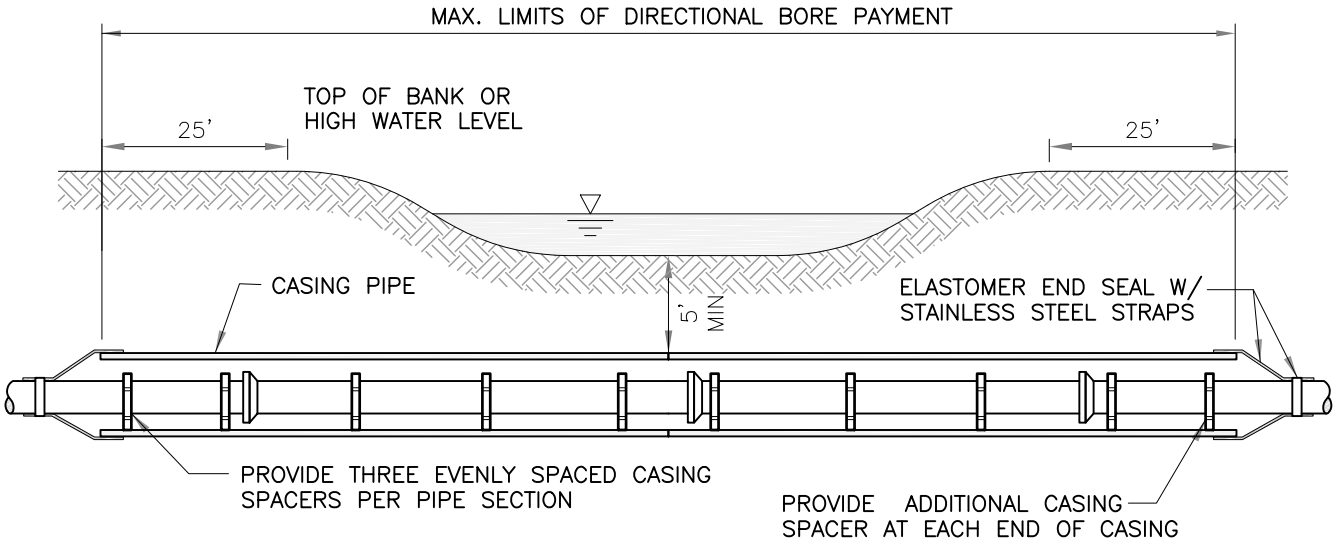
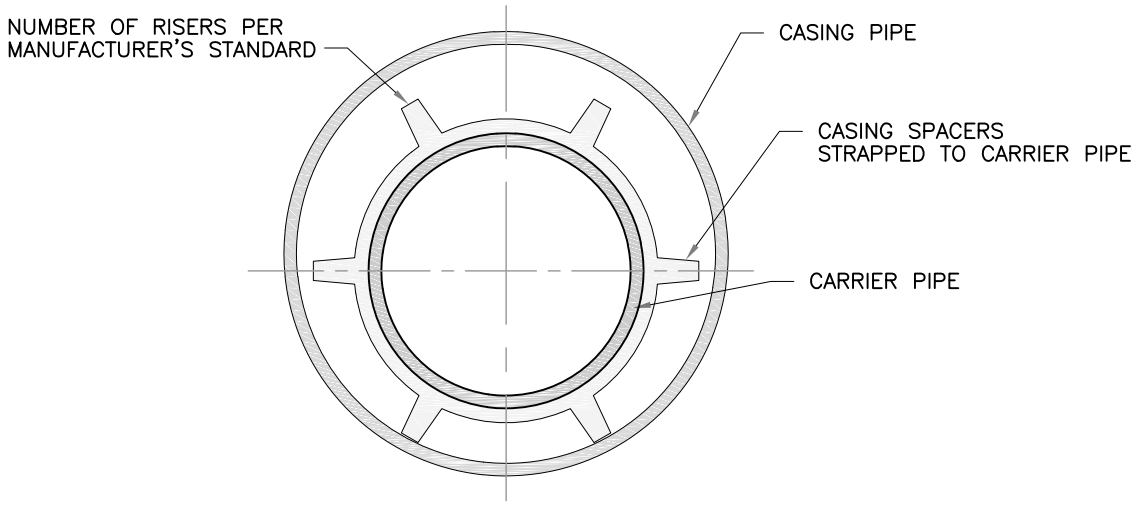


STREAM CROSSING

PROVIDE CASING PIPE FOR ALL STREAM CROSSINGS UNLESS OTHERWISE APPROVED BY WWC. CASING PIPE SHALL BE STEEL PIPE WITH 0.375–INCH WALL THICKNESS. INSIDE DIAMETER OF THE CASING PIPE SHALL NOT EXCEED 3 INCHES OF THE OUTSIDE DIAMETER OF THE CARRIER PIPE AND CASING SPACERS.



Western Water COMPANY

CASING DETAIL – STREAM CROSSING

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Western Water COMPANY

CREEK CROSSING/CONCRETE ENCASEMENT

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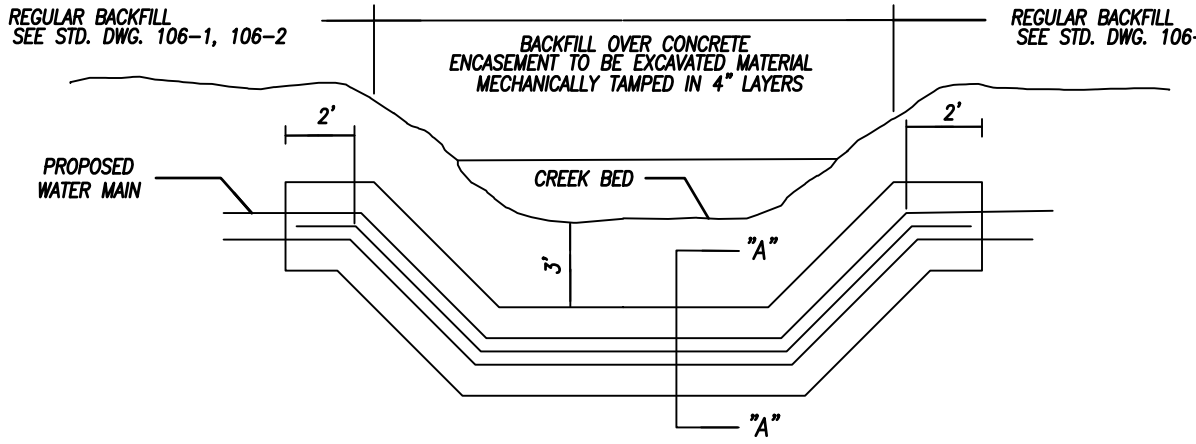
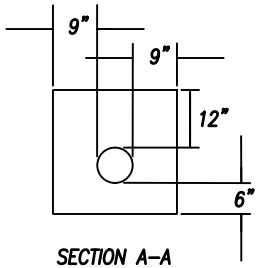
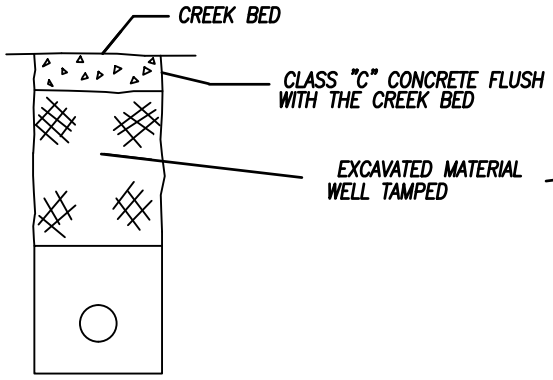




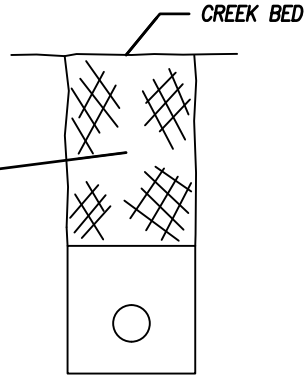
SECTION A-A

MATERIAL

CONCRETE CLASS "C" - ITEM 1110
INTERMEDIATE GRADE - ITEM 509

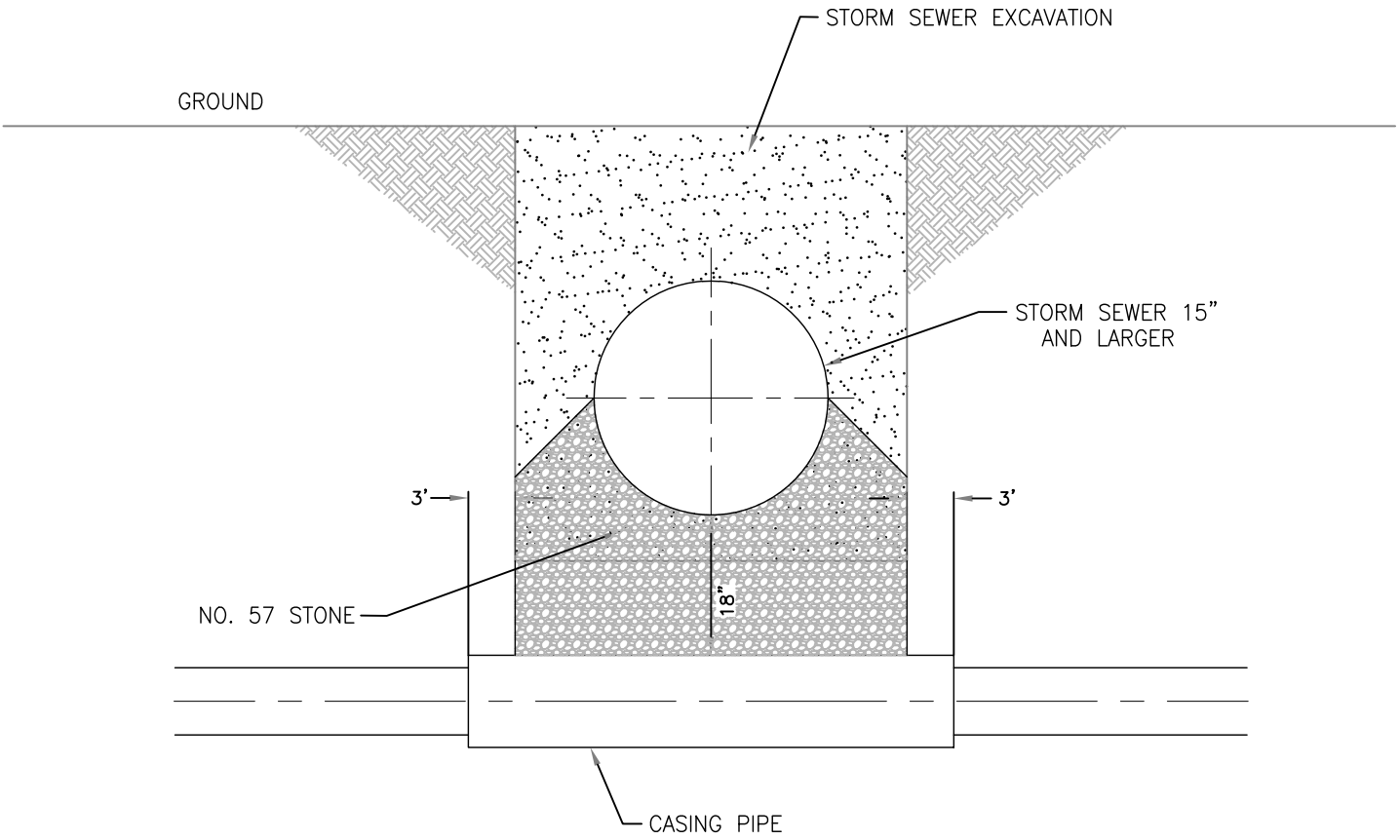


BACKFILL AND RESTORATION
IN ROCK EXCAVATION



BACKFILL AND RESTORATION
IN NORMAL EXCAVATION

NOTE: 6" CONCRETE PAD TO EXTEND
TO WIDTH OF CREEK BED ONLY



NOTES:

CASING PIPE SHALL BE SDR 26 OR GREATER AND SHALL BE SIZED SO THAT PIPE CAN BE EASILY REMOVED IF NECESSARY.

DO NOT INSTALL CASING SPACERS OR END SEALS.

Western Water COMPANY

STORM CROSSING CASING PIPE DETAIL

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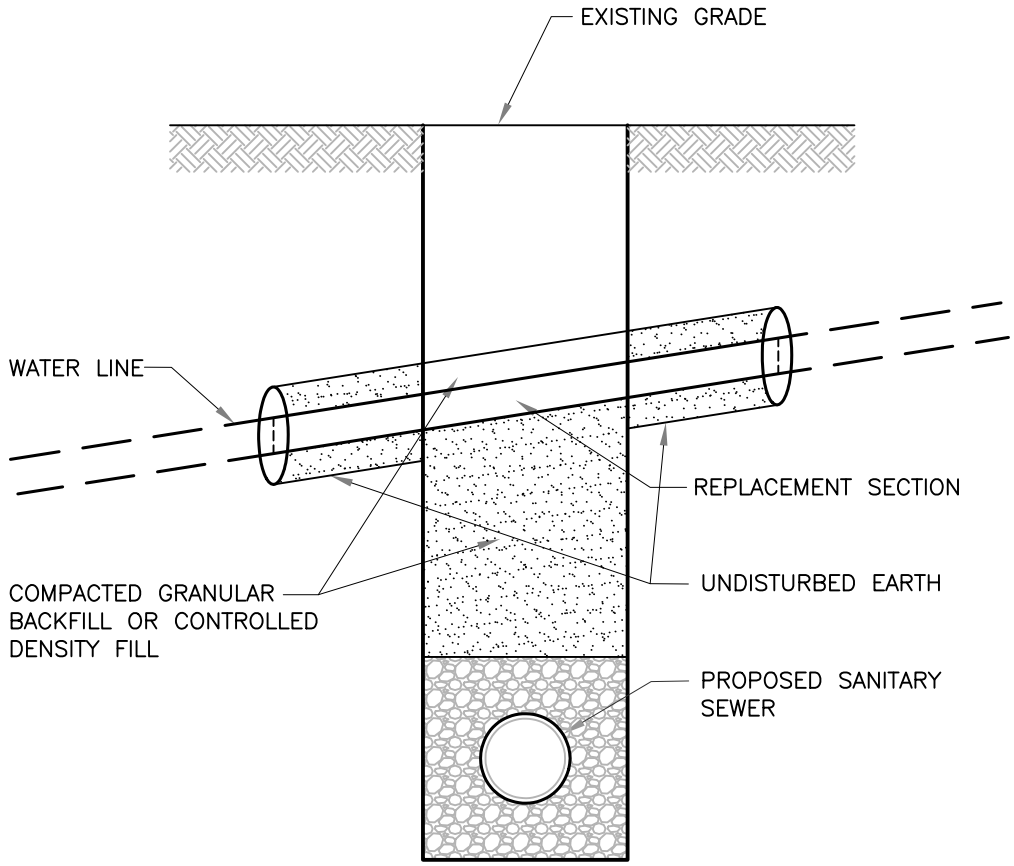

NOTE:

IF THE EXISTING WATER LINE IS DAMAGED OR REMOVED DURING CONSTRUCTION IT SHALL BE REPLACED ACROSS THE SEWER TRENCH SUCH THAT ALL JOINTS ARE ON UNDISTURBED GROUND.

Western Water COMPANY

WATER LINE CROSSING DETAIL

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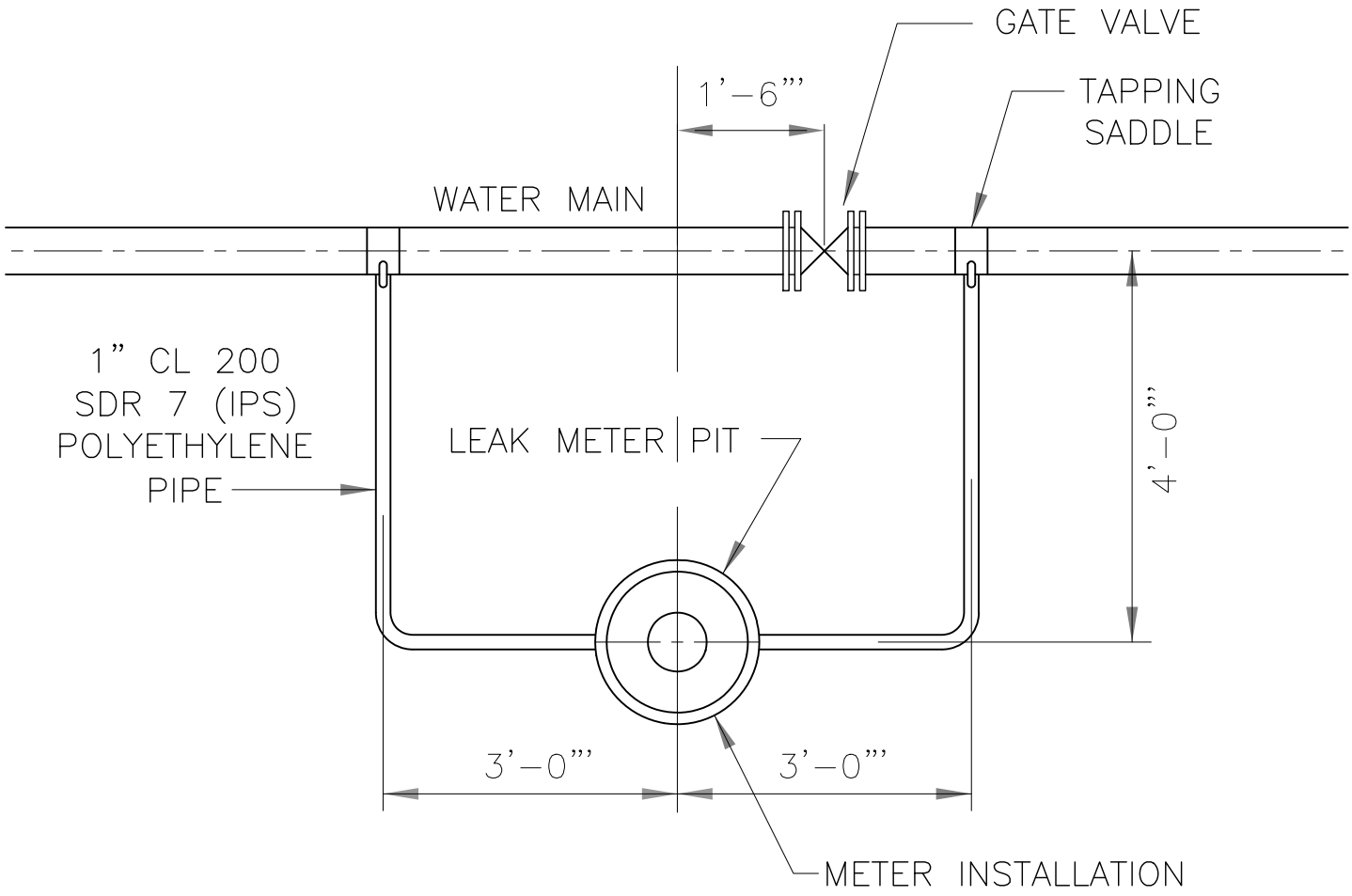

LEAK METER DETAIL

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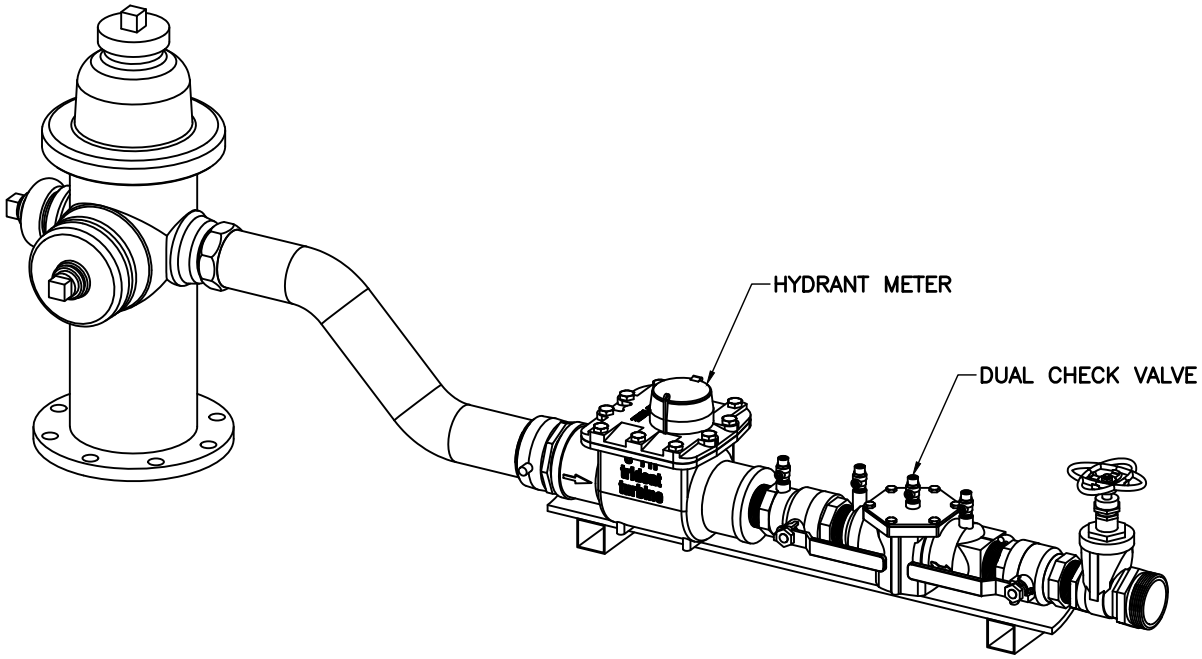

CALL WESTERN WATER CO. FOR AVAILABILITY.
DEPOSIT IS REQUIRED.

Western Water
COMPANY

TEMPORARY WATER – HYDRANT METER

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