

CITY of DALLAS

Standard Drawings

& Oregon Standard Drawing Amendments

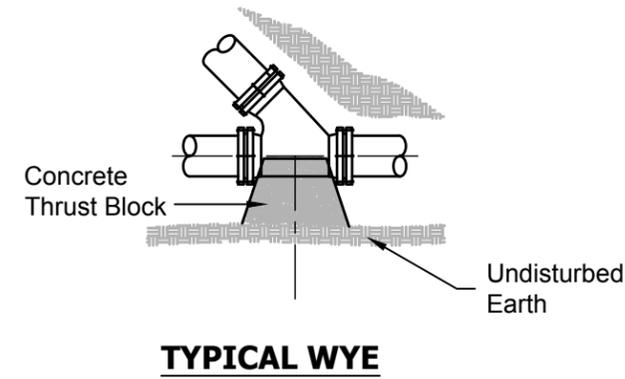
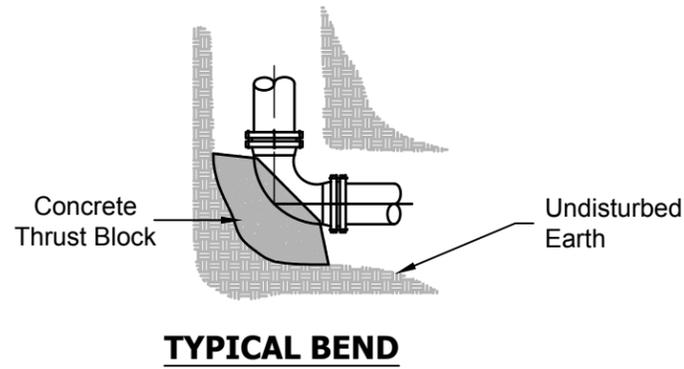
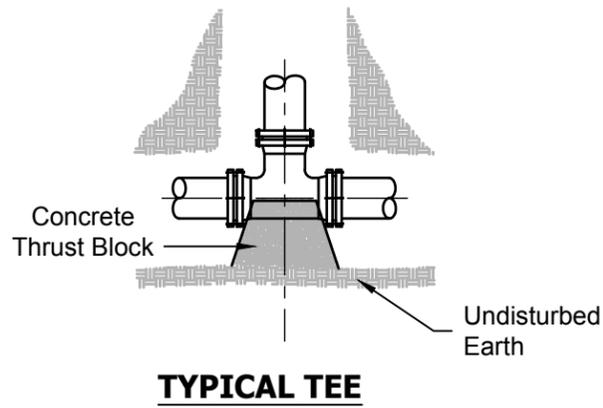
Water Drawings

- RD250 (A) - Thrust Blocking
- RD254 (A) - Hydrant Installation
- RD258 (A) - Valve Box and Operator Extension Assembly
- RD262 (A) - Standard Blowoff Details
- RD270 (A) - Combination Air-Vacuum Release Valve
- RD274 (A) - $\frac{3}{4}$ " - 2" Water Service Connection
- RD275 - Domestic Water Service - Customer Connection
- RD278 (A) - Water Meter Assembly (Larger than 2")
- RD280 - Typical Waterline Undercrossing
- RD285 - Cathodic Protection



April 2016





THRUST COLLAR DIMENSIONS			
PIPE SIZE	H	W	L
12" - Under	1'-6"	2'-0"	1'-6"
16"	2'-0"	2'-0"	2'-6"
20"	2'-6"	2'-0"	2'-9"
24"	3'-0"	2'-0"	3'-0"

THRUST BLOCKS

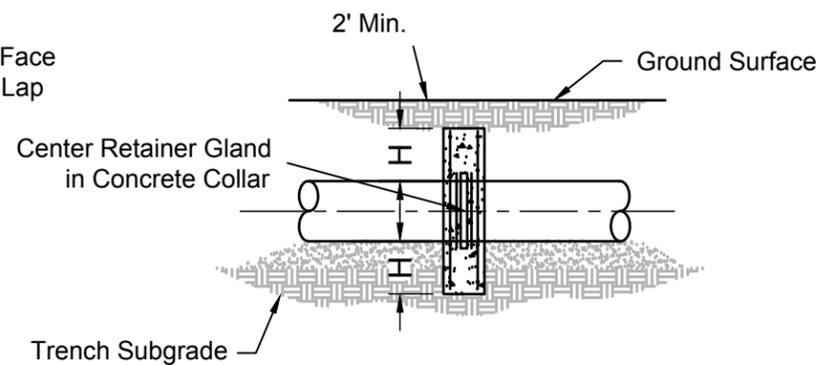
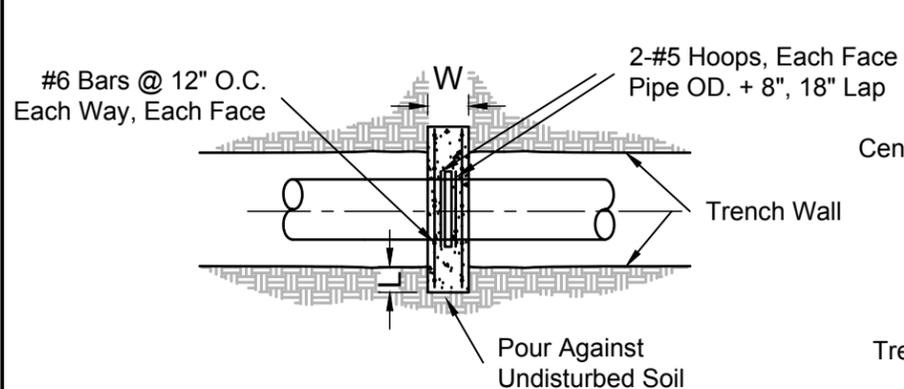
NOTES:

1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINTS AND ACCESSORIES.
3. CONCRETE SHALL MEET MIN. STRENGTH REQUIREMENT OF 3,500 PSI. MINIMUM OF 5-DAY CURE TIME ON CONCRETE BEFORE WATER MAIN IS CHARGED WITH WATER.
4. THE REQUIRED THRUST BEARING AREAS FOR SPECIAL CONNECTIONS ARE SHOWN ENCIRCLED ON THE PLANS: E.G. 15 INDICATES 15 SQ. FT. OF BEARING AREA REQUIRED.
5. IF NOT SHOWN ON PLANS, REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED IN CHART TO THE RIGHT. ADJUSTMENT MAY BE NECESSARY TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE, SOIL BEARING STRESS(ES) STATED IN THE SPECIAL PROVISIONS.
6. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON THE PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.

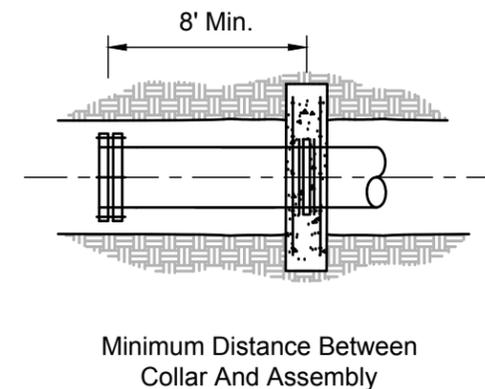
Bearing Area of Thrust Blocks In Sq. Ft.

Fitting Size	TEE, WYE And Hydrant	90° Bend, Plugged Cross, TEE Plugged On Run	45° Bend	22 1/2° Bend	11 1/4° Bend
4	1.4	1.9	1.0	-	-
6	2.8	4.0	2.1	1.1	-
8	4.8	6.8	3.7	1.9	1.0
10	7.3	10.3	5.6	2.8	1.4
12	10.3	14.5	7.9	4.0	2.0
16	17.8	25.2	13.6	7.0	3.5

NOTE: ABOVE BEARING AREAS BASED ON THE GREATER OF 1 1/2 TIMES WORKING PRESSURE OR 150 PSI AND ALLOWABLE SOIL BEARING STRESS OF 2,000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREA FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150)x(2000/SOIL BEARING STRESS)x(TABLE VALUE).



THRUST COLLARS



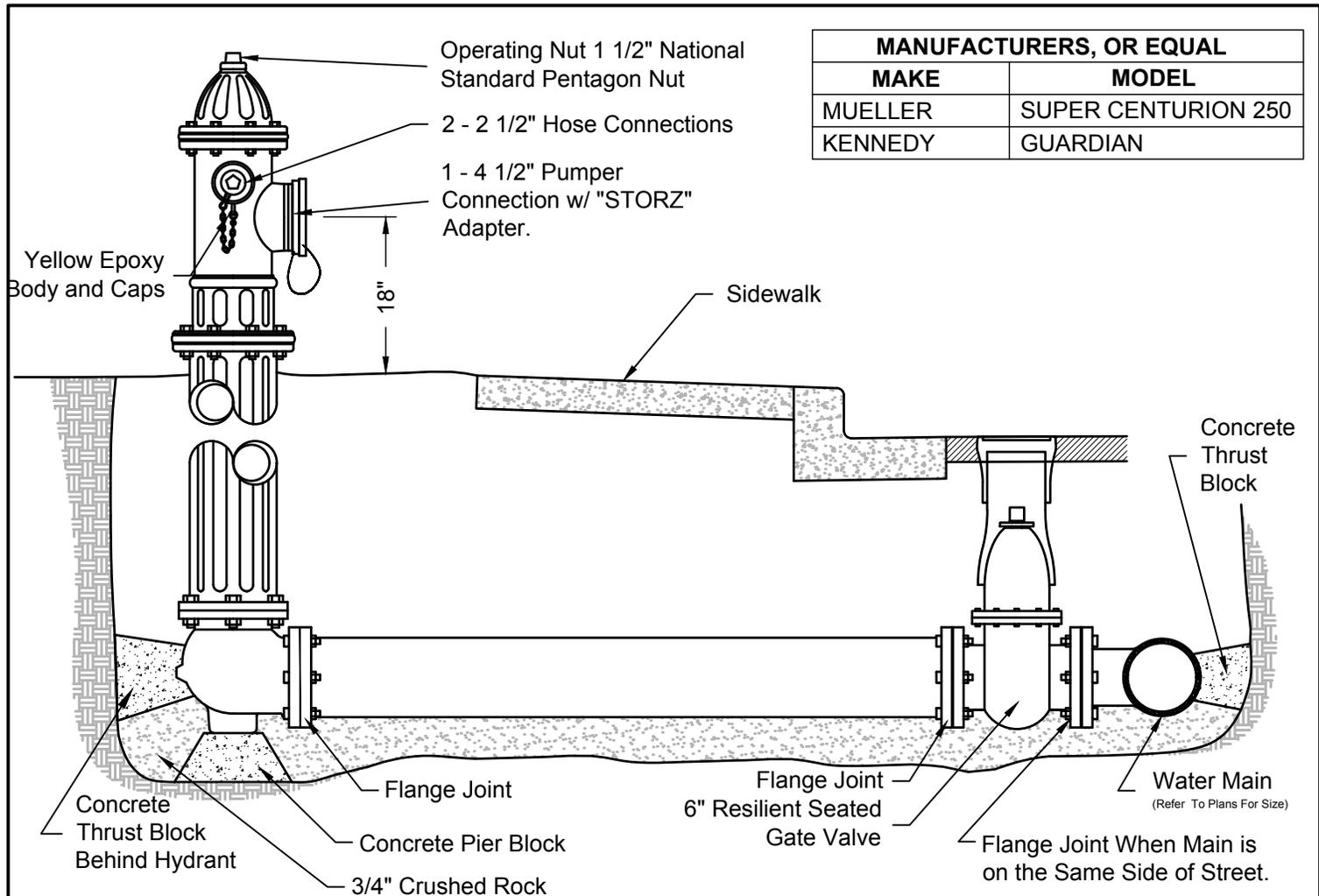
MODIFICATIONS TO RD250:

1. DETAILS, DIMENSIONS AND SPECIFICATIONS SHOWN HERE AMEND THE DETAILS SHOWN ON OREGON STANDARD DRAWING RD250.
2. FOR ADDITIONAL DETAILS AND DETAILS NOT SHOWN HERE, SEE OREGON STANDARD DRAWING RD250.

CITY OF DALLAS OREGON
STANDARD DRAWING AMENDMENT

THRUST BLOCKING

NO.	REVISIONS	BY	DATE		DRAWING NO. RD250 (A)
0	Adoption of Standard Drawings	CTG	4/11/2016		



MANUFACTURERS, OR EQUAL	
MAKE	MODEL
MUELLER	SUPER CENTURION 250
KENNEDY	GUARDIAN

MJ Joint is Allowed When Main is on Opposite Side of Street
(See Note 7)

NOTES:

- HYDRANTS SHALL BE PLUMBED WITH STEAMER PORT PERPENDICULAR TO STREET.
- FIRE HYDRANT VALVES SHALL BE OPENED DURING WATER PRESSURE TEST.
- FIRE HYDRANT INSTALLED ON OPPOSITE SIDE OF STREET FROM WATER MAIN SHALL BE NO MORE THAN 24" FROM BACK OF WALK.
- FIRE HYDRANT VALVES ARE TO BE LOCATED OUT OF SIDEWALK AND CURB/GUTTER AREAS.
- DO NOT PLUG HYDRANT DRAIN WITH CONCRETE FROM THRUST BLOCK BEHIND FIRE HYDRANT.
- 3/4" CRUSHED ROCK SHALL BE PLACED TO ELEVATION 6" ABOVE FIRE HYDRANT DRAIN.
- ALL MJ JOINTS ON HYDRANT LINE SHALL BE MEGALUGGED. DUCTILE IRON SHALL HAVE FIELD LOCKS WHEN MAIN IS ON OPPOSITE SIDE OF STREET.
- COLOR SHALL BE FACTORY 'YELLOW' EPOXY COATING ON FIRE HYDRANTS.
- FIRE HYDRANT SHALL BE 24" FROM THE BACK OF WALK, MEASURED AT THE CENTER OF THE FIRE HYDRANT.
- FIRE HYDRANTS SHALL BE PLACED TO PROVIDE A MINIMUM OF 5' CLEARANCE FROM ANY STRUCTURE.
- WRAP HYDRANT BARREL WITH 2 LAYERS OF POLYETHYLENE FILM WHERE IN CONTACT WITH CONCRETE.

MODIFICATIONS TO RD254:

- DETAILS, DIMENSIONS AND SPECIFICATIONS SHOWN HERE AMEND THE DETAILS SHOWN ON OREGON STANDARD DRAWING RD254.
- FOR ADDITIONAL DETAILS AND DETAILS NOT SHOWN HERE, SEE OREGON STANDARD DRAWING RD254.

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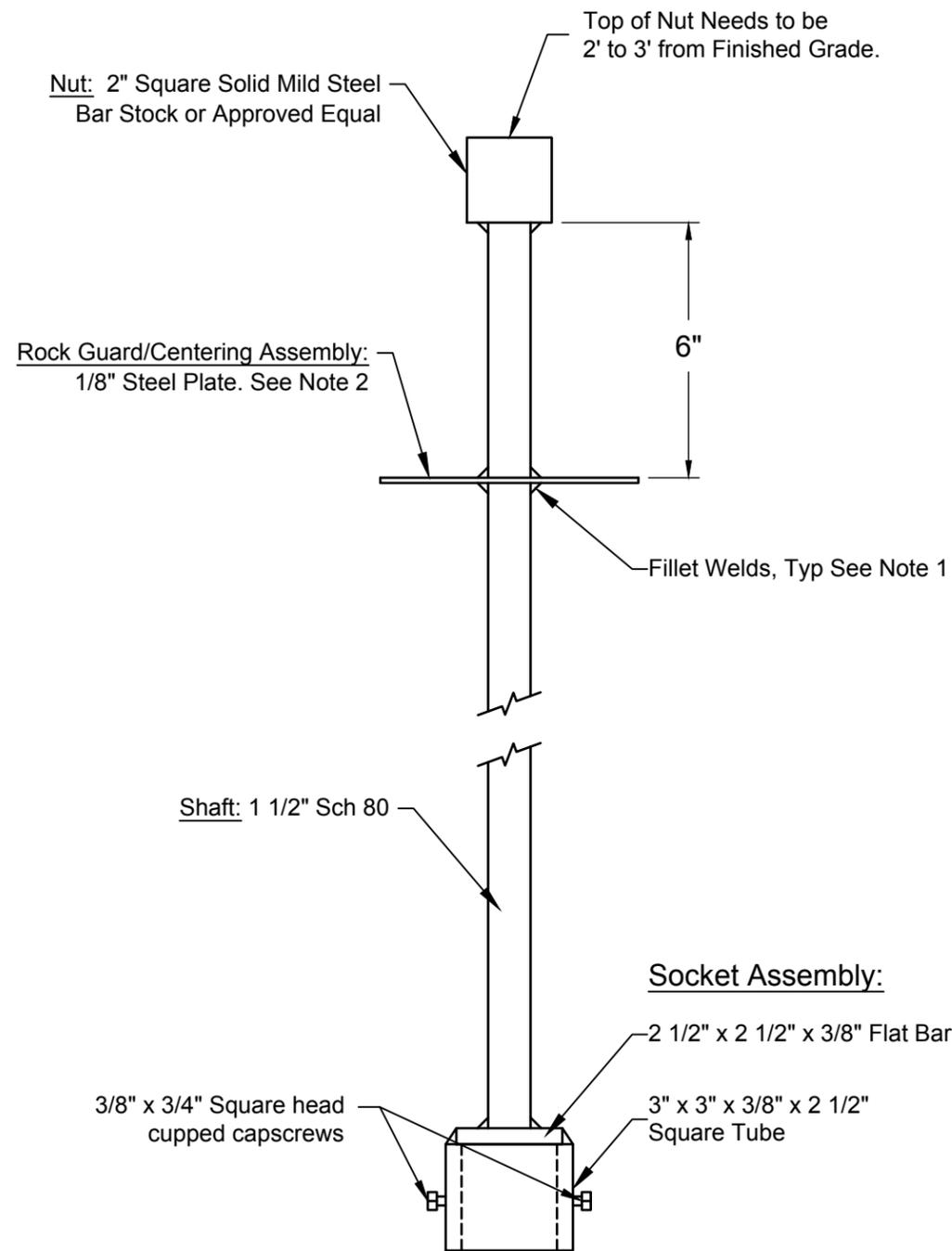
NO.	REVISIONS	BY	DATE
0	Adoption of Standard Drawings	CTG	4/11/2016



CITY OF DALLAS OREGON
STANDARD DRAWING AMENDMENT
HYDRANT INSTALLATION

DRAWING NO.
RD254
(A)

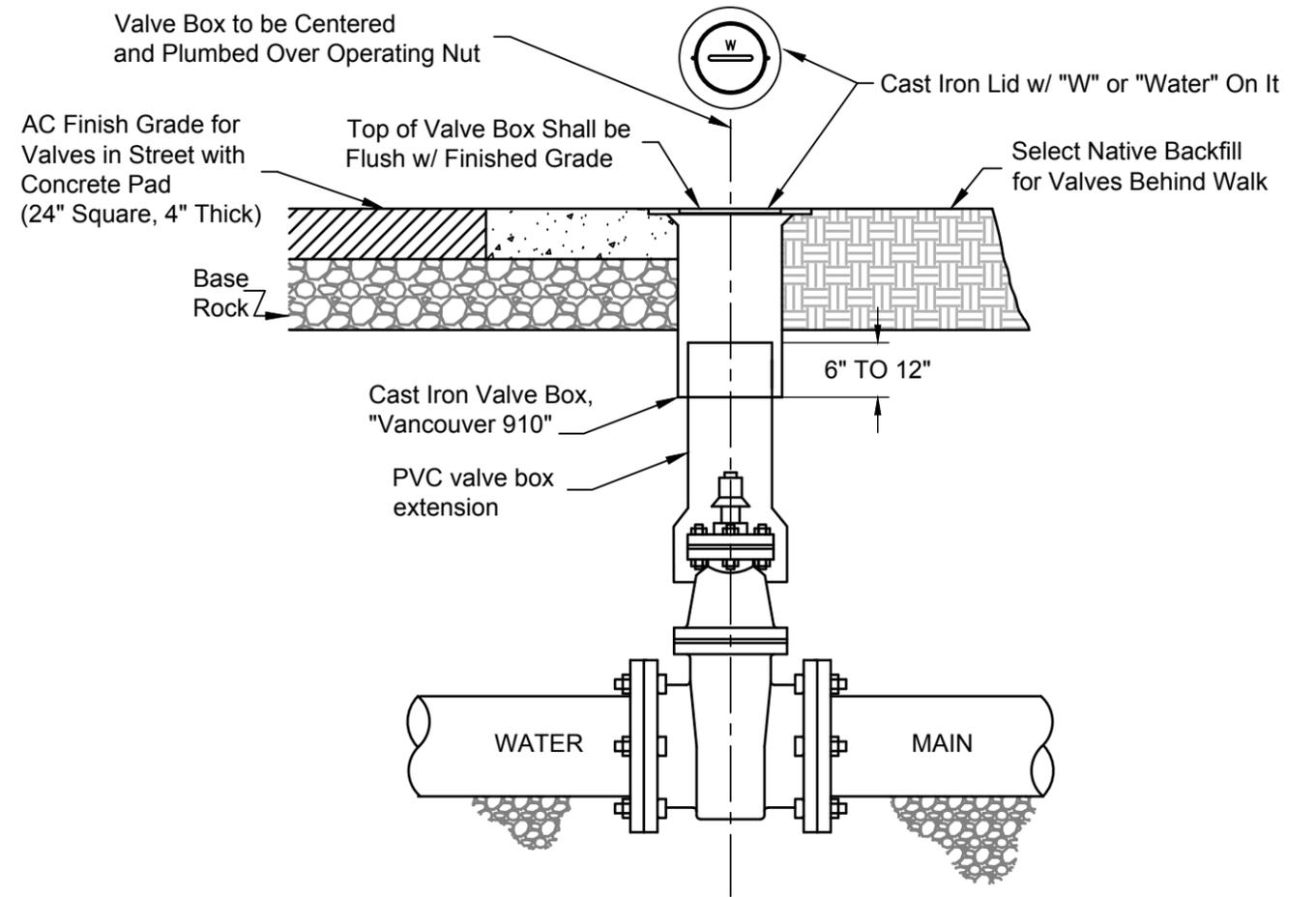
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STANDARD VALVE EXTENSION

VALVE EXTENSION NOTES:

1. ALL WELDS SHALL BE 1/4" FILLET WELDS FOR FULL LENGTH OF CONTACT BETWEEN COMPONENTS.
2. DIAMETER OF CENTERING PLATE ASSEMBLY SHALL BE 1/4" LESS THAN THE INSIDE DIAMETER OF THE VALVE BOX RISER SECTION.
3. MINIMUM OVERALL LENGTH IS 12".



STANDARD WATER VALVE

STANDARD WATER VALVE NOTES:

1. 4" TO 10" GATE VALVES ARE TO BE RESILIENT SEATED GATE VALVES.
2. 12" AND LARGER VALVES ARE TO BE BUTTERFLY VALVES. PRATT GROUNDHOG, DRESSER "450", OR MUELLER LINESEAL ARE APPROVED BUTTERFLY VALVES.
3. VALVES 12" AND LARGER SHALL BE SET ON PRECAST CONCRETE PIER BLOCKS. PIER BLOCKS SHALL BE MIN. 6" THICK AND SET ON COMPACTED ROCK BASE.
4. BACKFILL REQUIREMENTS:
 -PIPE ZONE: 3/4" MINUS ROCK COMPACTED.
 -BEHIND SIDEWALK: COMPACTED SELECT MATERIAL AND 3/4" MINUS ROCK IN PIPE ZONE.
 -UNDER SIDEWALK OR STREET AREA: COMPACTED FULL 3/4" MINUS ROCK BACKFILL.
5. VALVE BOXES WILL BE "VANCOUVER 910" CAST IRON BOXES. TOP AND BOTTOM SECTIONS SHALL BE CAST IRON.
6. ALL VALVES ARE TO BE LOCATED OUT OF SIDEWALK AND CURB/GUTTER AREAS.
7. THE USE OF MULTIPLE CAST IRON BASES OR APPROVED CAST/DUCTILE IRON SOIL PIPE MAY BE REQUIRED FOR DEEP VALVES.
8. IF VALVE BURY IS MORE THAN 4 FEET, OPERATING NUT EXTENSION SHALL BE INSTALLED.

MODIFICATIONS TO RD258:

1. DETAILS, DIMENSIONS AND SPECIFICATIONS SHOWN HERE AMEND THE DETAILS SHOWN ON OREGON STANDARD DRAWING RD258.
2. FOR ADDITIONAL DETAILS AND DETAILS NOT SHOWN HERE, SEE OREGON STANDARD DRAWING RD258.

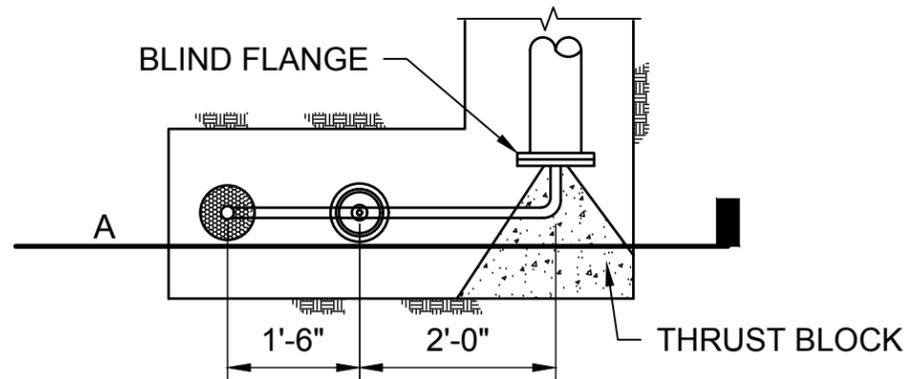
CITY OF DALLAS OREGON
 STANDARD DRAWING AMENDMENT
 VALVE BOX AND OPERATOR EXTENSION
 ASSEMBLY

NO.	REVISIONS	BY	DATE
0	Adoption of Standard Drawings	CTG	4/11/2016

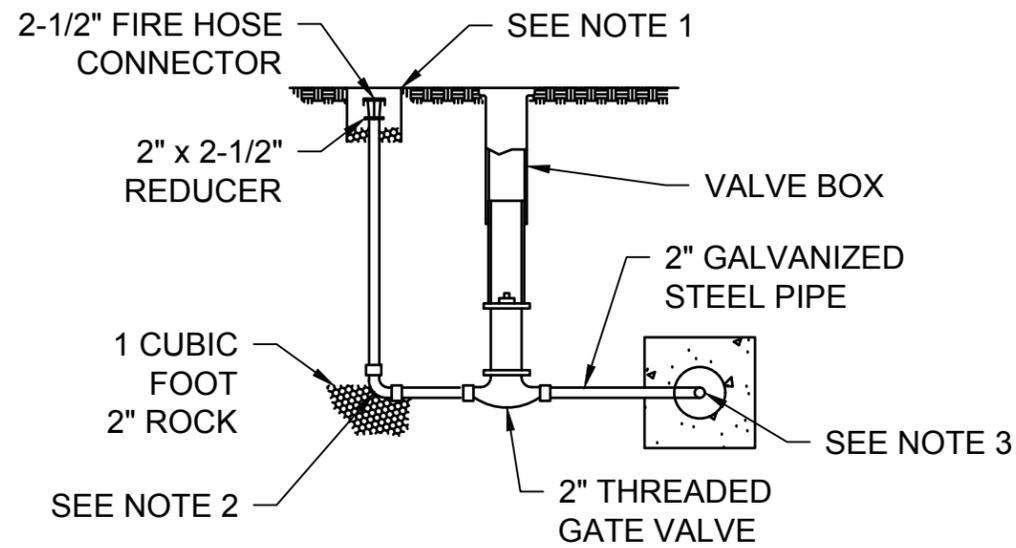


DRAWING NO.
RD258
(A)

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PLAN VIEW

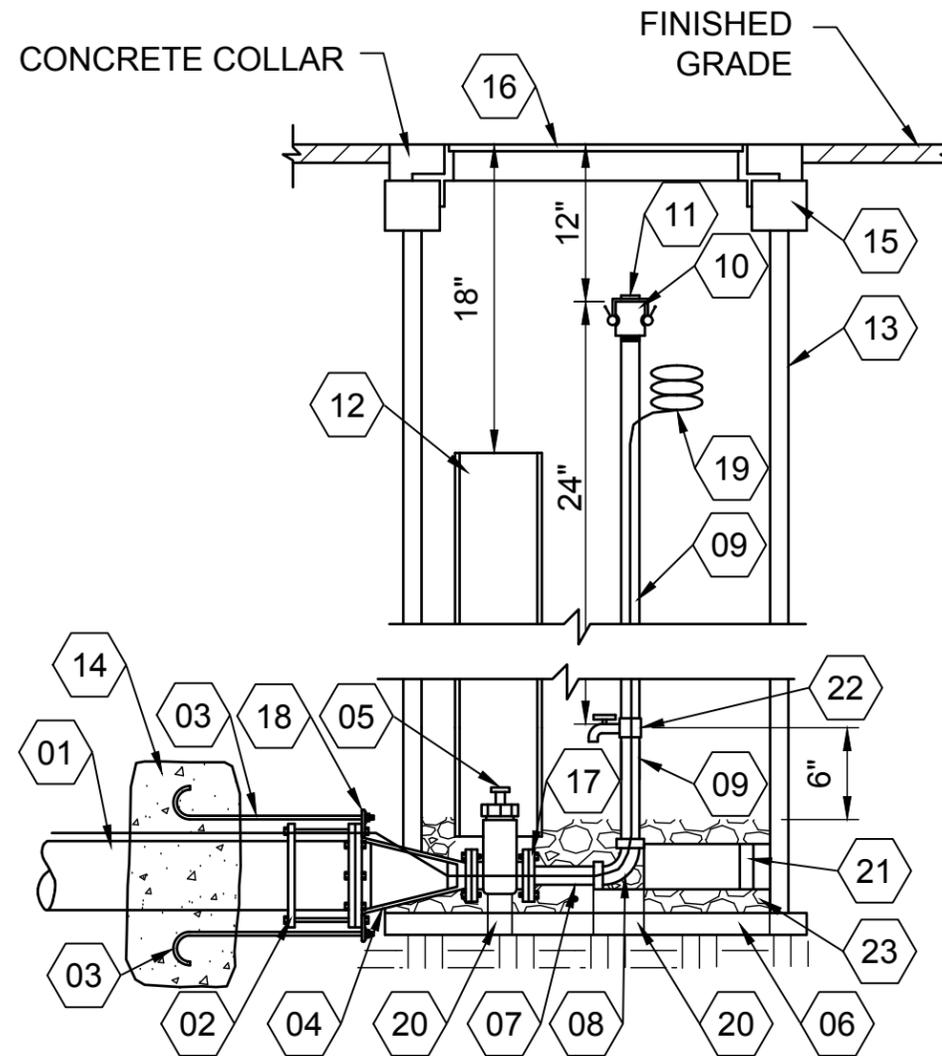


SECTION A

DEAD END PIPE BLOWOFF

DEAD END PIPE BLOWOFF NOTES:

1. 12"Ø x 18" DEEP CAST IRON BOX (FILL TO COUPLING WITH 3/4" GRAVEL) WITH TRAFFIC RATED LID.
2. DRILL 1/8" WEEP HOLE AT THE BOTTOM OF THE ELBOW.
3. 2" GSP THREADED INTO BLIND FLANGE.
4. IF IT IS A TEMPORARY DEAD END BLOWOFF, A MAIN LINE SIZE GATE VALVE SHALL BE INSTALLED FOR OPERATING THE BLOWOFF.



4" BLOWOFF ASSEMBLY

4" BLOWOFF ASSEMBLY NOTES:

1. IF IT IS A TEMPORARY DEAD END BLOWOFF, A MAIN LINE SIZE GATE VALVE SHALL BE INSTALLED FOR OPERATING THE BLOWOFF.
2. ALL PRODUCTS LISTED OR APPROVED SUBSTITUTION.
3. WHEN CONSTRUCTING THIS BLOWOFF AS TEMPORARY USE, INSTALL A 3' LENGTH OF PIPE INTO THE BELL END OD THE LAST LENGTH OF MAIN.
4. IF IT IS A TEMPORARY DEAD END BLOWOFF, A MAIN LINE SIZE GATE VALVE SHALL BE INSTALLED FOR OPERATING THE BLOWOFF.

Legend

- 01 Water Main (size Varies). Bell End Required For temporary Installation With 18" Pipe Section.
- 02 Uni-flange Retainer Series 1300 For Pvc Pipe.
- 03 3/4" ± Rods 2 Required On 6" And Smaller, 3/4" ± Rods 4 Required On 8" And Larger.
- 04 Main Size Mj X 4" Reducer. If 4" Main, Gate Valve To be Mj X Flange.
- 05 4" Gate Valve Resilient Wedge Flange X Flange.
- 06 Pre-cast Grade 2" Ring Used To Support Cmp (x35"o.d.) Concrete.
- 07 4" X 6" Threaded Galvanized Nipple.
- 08 4" Threaded Galvanized 90° Elbow.
- 09 4" Threaded Galvanized Pipe.
- 10 4" Threaded X Alum. Kam-lock Quick Coupling Male adapter.
- 11 4" Kam-lock Cap.
- 12 Plastic Valve Box Bottom Section.
- 13 30" Cmp Cut To Field Length.
- 14 Hammerhead Thrust Block 10.3 Sq. Ft.
- 15 4" X 35" O.d. Pre-cast Concrete Grade Ring Min. 1-4" grade Ring, Max. 1-4" Grade Ring And 1-2" Grade Ring (otherwise Cmp Extension And Cmp Band).
- 16 Water Manhole Ring And Lid.
- 17 4" Companion Flange Cap Tapped 4" F.i.p..
- 18 Eye-bolts.
- 19 Locator Wire-long Enough To Be Pulled Up And out to Above Ground Level.
- 20 Pre-cast Concrete Blocks.
- 21 Pre-cast Concrete Blocks Wedged In Place, Fill void between Tile And Blocks.
- 22 1/4" Drain Valve With Saddle (1/4 Turn To Open).
- 23 Approximately 6" Deep Layer Of 6" Minus Gravel.

MODIFICATIONS TO RD262:

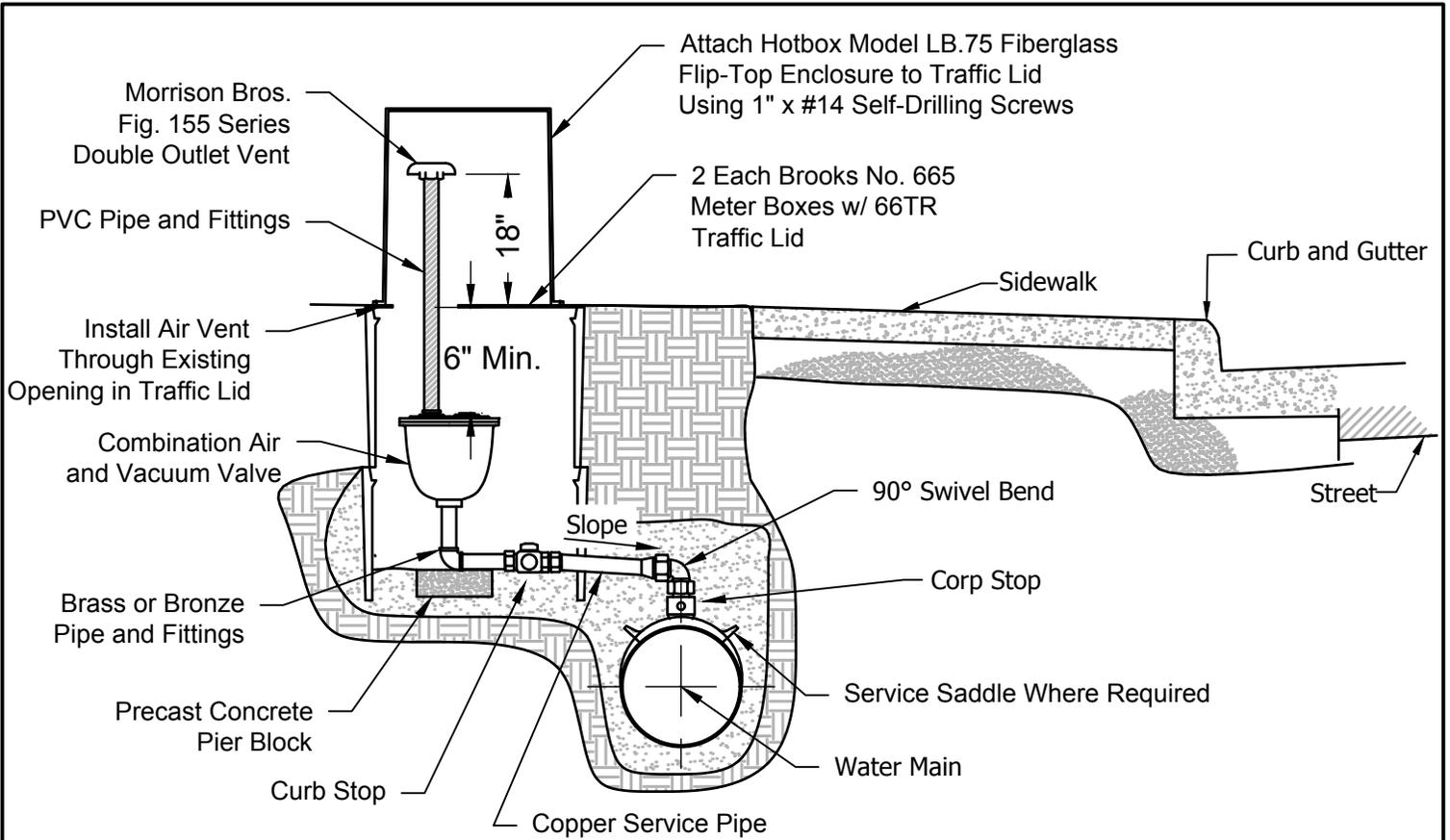
1. DETAILS, DIMENSIONS AND SPECIFICATIONS SHOWN HERE AMEND THE DETAILS SHOWN ON OREGON STANDARD DRAWING RD262.
2. FOR ADDITIONAL DETAILS AND DETAILS NOT SHOWN HERE, SEE OREGON STANDARD DRAWING RD262.

CITY OF DALLAS OREGON
STANDARD DRAWING AMENDMENT

STANDARD BLOWOFF DETAILS

DRAWING NO.		RD262	
		(A)	
0	Adoption of Standard Drawings	CTG	4/11/2016
NO.	REVISIONS	BY	DATE





NOTES:

1. ALL FITTINGS SHALL BE BRONZE.
2. ALL WATER SERVICE PIPE SHALL BE TYPE "K" SOFT COPPER.
3. PIPE AND FITTINGS SHALL BE SIZED AS FOLLOWS: 1" COMPONENTS FOR 12" AND SMALLER WATER LINES AND 2" COMPONENTS FOR 12" AND LARGER WATER LINES.
4. CORPORATION STOP SHALL BE TAPPED ON TOP OF THE MAIN WITH A 90° SWIVEL FITTING.
5. THE AIR/VACUUM VALVE SHALL BE SET PLUMB AND CENTERED EACH WAY IN THE METER BOX.
6. AIR VENT SHALL EXTEND ABOVE GRADE TO PREVENT BACKFLOW CONTAMINATION. LOCATION OF THE VENT SHALL BE SITE SPECIFIC AND WILL BE DETERMINED BY ENGINEER.
7. VENT PIPE EXTENDED ABOVE GRADE SHALL BE PVC SCHEDULE 40 PIPE.

MODIFICATIONS TO RD270:

1. DETAILS, DIMENSIONS AND SPECIFICATIONS SHOWN HERE AMEND THE DETAILS SHOWN ON OREGON STANDARD DRAWING RD270.
2. FOR ADDITIONAL DETAILS AND DETAILS NOT SHOWN HERE, SEE OREGON STANDARD DRAWING RD270.

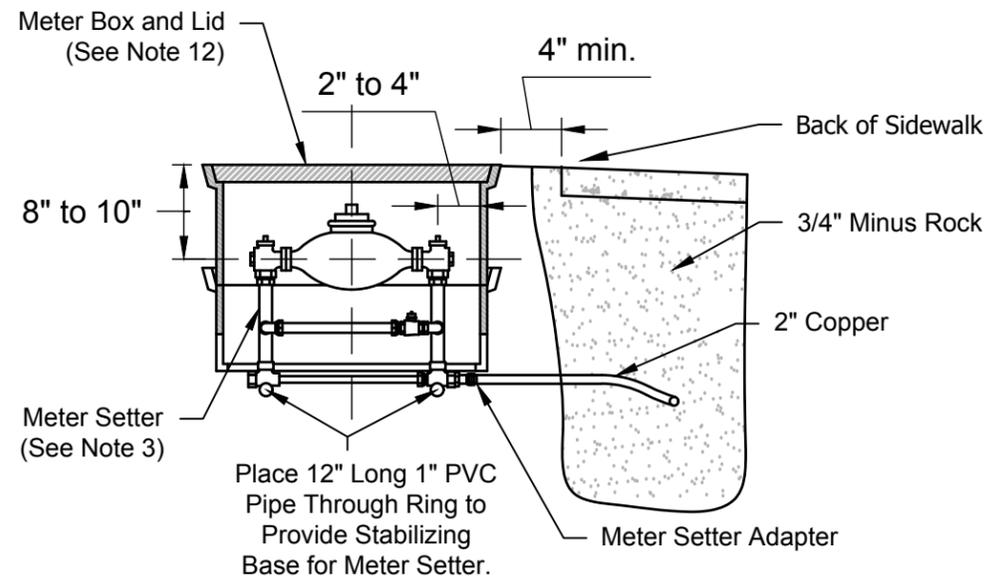
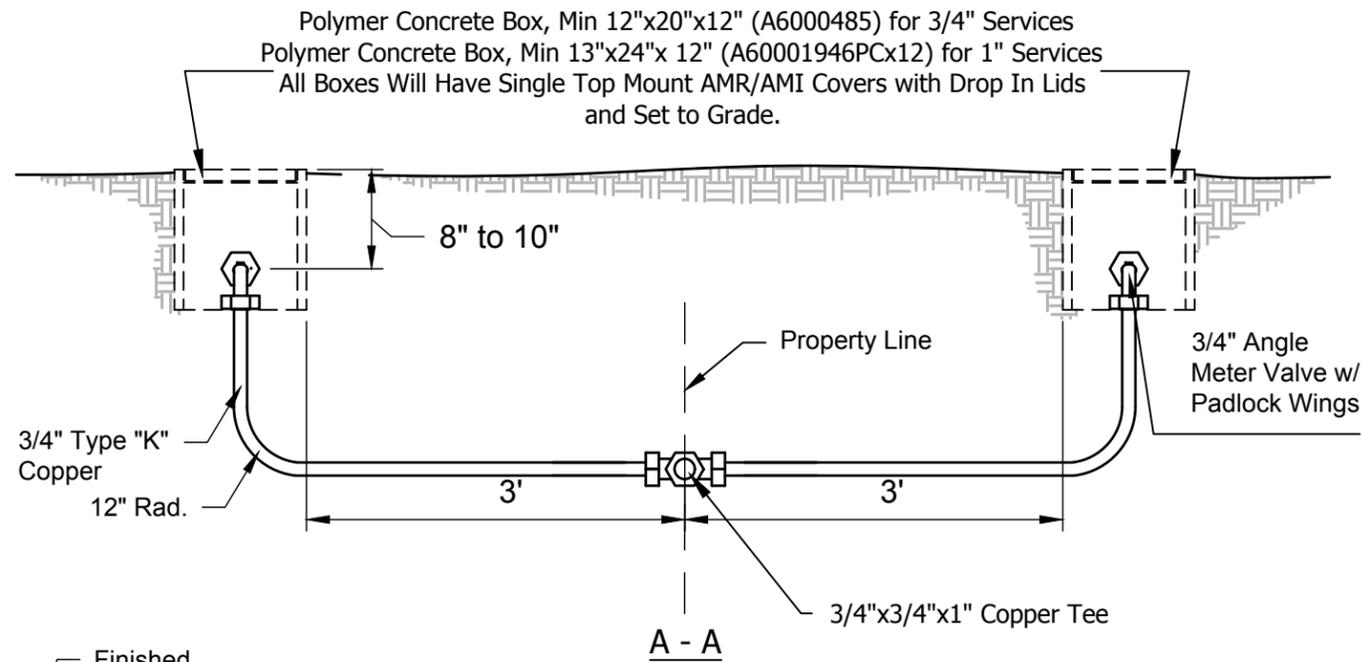
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0	Adoption of Standard Drawings	CTG	4/11/2016
NO.	REVISIONS	BY	DATE



CITY OF DALLAS OREGON
 STANDARD DRAWING AMENDMENT
 COMBINATION AIR-VACUUM RELEASE VALVE
 (2-INCH AND SMALLER)

DRAWING NO.
RD270
(A)

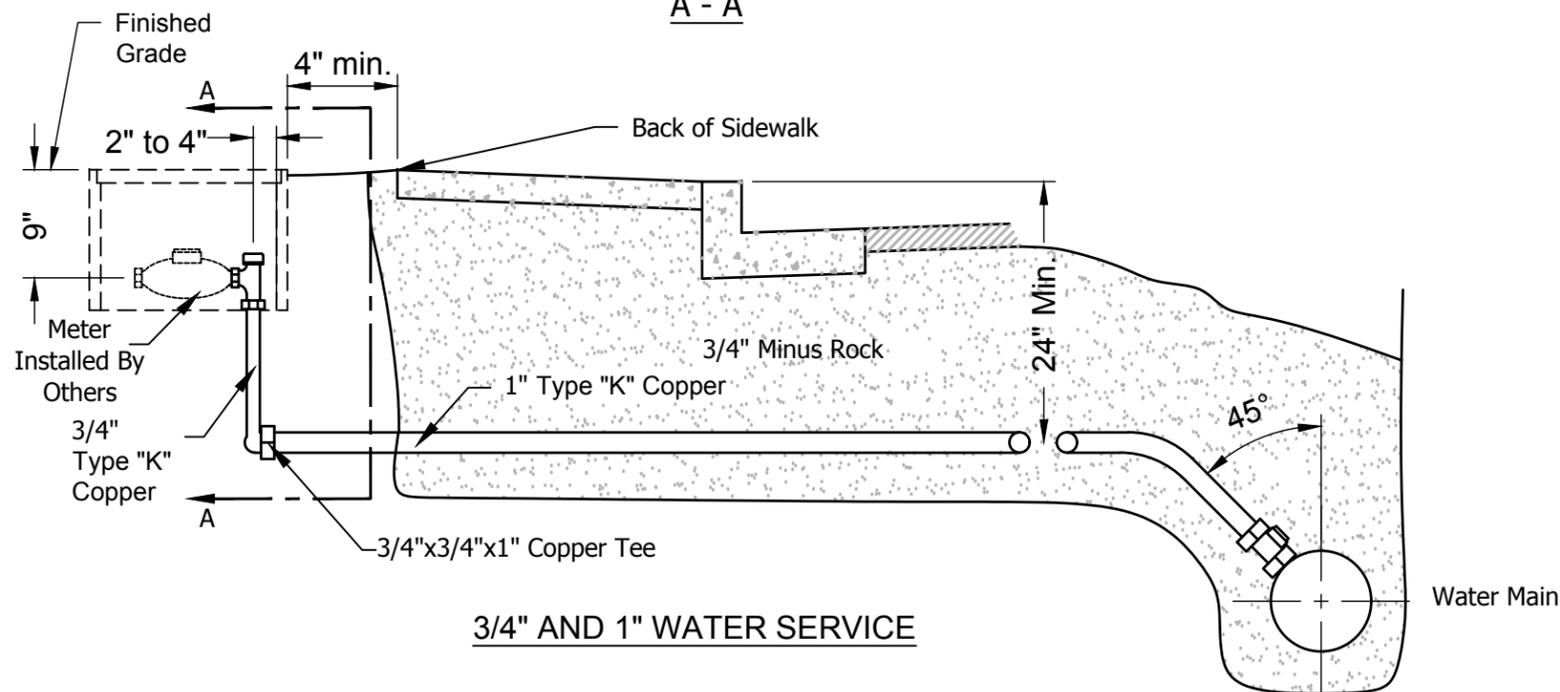


1 1/2" AND 2" WATER SERVICE

TABLE 1-A

METER DIMENSIONS (2" METER)	
METER LENGTH:	15-1/4"
STRAINER LENGTH:	7"
OVERALL LENGTH (INCLUDING 3(18)" GASKETS):	22-5/8"
HEIGHT	9-3/4"
WIDTH	11-1/4"

(ALL DIMENSIONS ARE BASED UPON MASTER METER PRODUCTS, ADJUST AS REQUIRED FOR DIFFERENT METER)



3/4" AND 1" WATER SERVICE

NOTES:

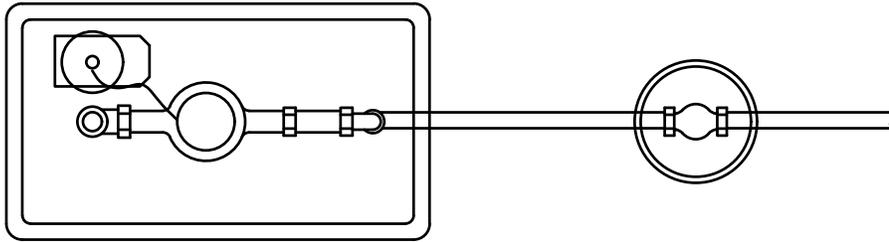
1. ALL WATER SERVICE PIPE SHALL BE TYPE "K" SOFT COPPER OR PEX AS APPROVED BY CITY ENGINEER.
2. METER SETTERS SHALL BE USED FOR 1 1/2" AND 2" METERS.
3. METER SETTERS SHALL HAVE THE HIGH BY-PASS OPTION, W/ AN ANGLE VALVE. ANGLE VALVES NEED TO BE 1 1/2" AND 2" FLANGED KEY METER VALVE TYPE.
4. PRE-MADE METER SETTERS MAY BE USED IN PLACE OF SECTION A-A.
5. ALL BRASS FITTINGS SHALL BE Q-COMPRESSION TYPE ONLY.
6. ANGLE VALVES NEED TO BE 1 1/2" AND 2" FLANGED KEY METER VALVE TYPE.
7. A 3/4" SERVICE LINE CAN BE USED FOR A SINGLE SERVICE ON THE OPPOSITE SIDE OF STREET FROM MAIN.
8. CORPORATION STOPS TAPPED ON TOP OF MAINS NEED TO HAVE A 90° SWIVEL FITTING.
9. ALL METER BOXES SHALL BE SET 3' FROM PROPERTY LINE, MEASURED FROM PROPERTY LINE TO NEAREST EDGE OF METER BOX.
10. ITEMS WITHIN METER BOXES WILL ONLY BE: WATER METER, CITY SHUTOFF VALVE, CUSTOMER GLOBE VALVE, & AMR/AMI MTU. PRIVATE PRV'S OR ANY OTHER PRIVATE FITTINGS WILL NEED TO BE INSTALLED IN A SEPARATE BOX SUPPLIED BY BUILDER OR OWNER.
11. BOXES MUST HAVE SINGLE TOP MOUNT AMR/AMI LID.
12. USE TWO STACKED METER BOXES. BOXES SHALL BE POLYMER CONCRETE BOX, MIN 17"x30"x12"/18" (A6001640PLX12/18) FOR 1 1/2" AND 2" METERS. IF TWO BOXES ARE STACKED, THE TOP BOX SHALL NOT HAVE PIPE ENTRY PORTS CUT OUT.
13. SERVICE TAPS SHALL BE A MINIMUM OF 18" FROM ANY JOINT OR FITTING.

MODIFICATIONS TO RD274:

1. DETAILS, DIMENSIONS AND SPECIFICATIONS SHOWN HERE AMEND THE DETAILS SHOWN ON OREGON STANDARD DRAWING RD274.
2. FOR ADDITIONAL DETAILS AND DETAILS NOT SHOWN HERE, SEE OREGON STANDARD DRAWING RD274.

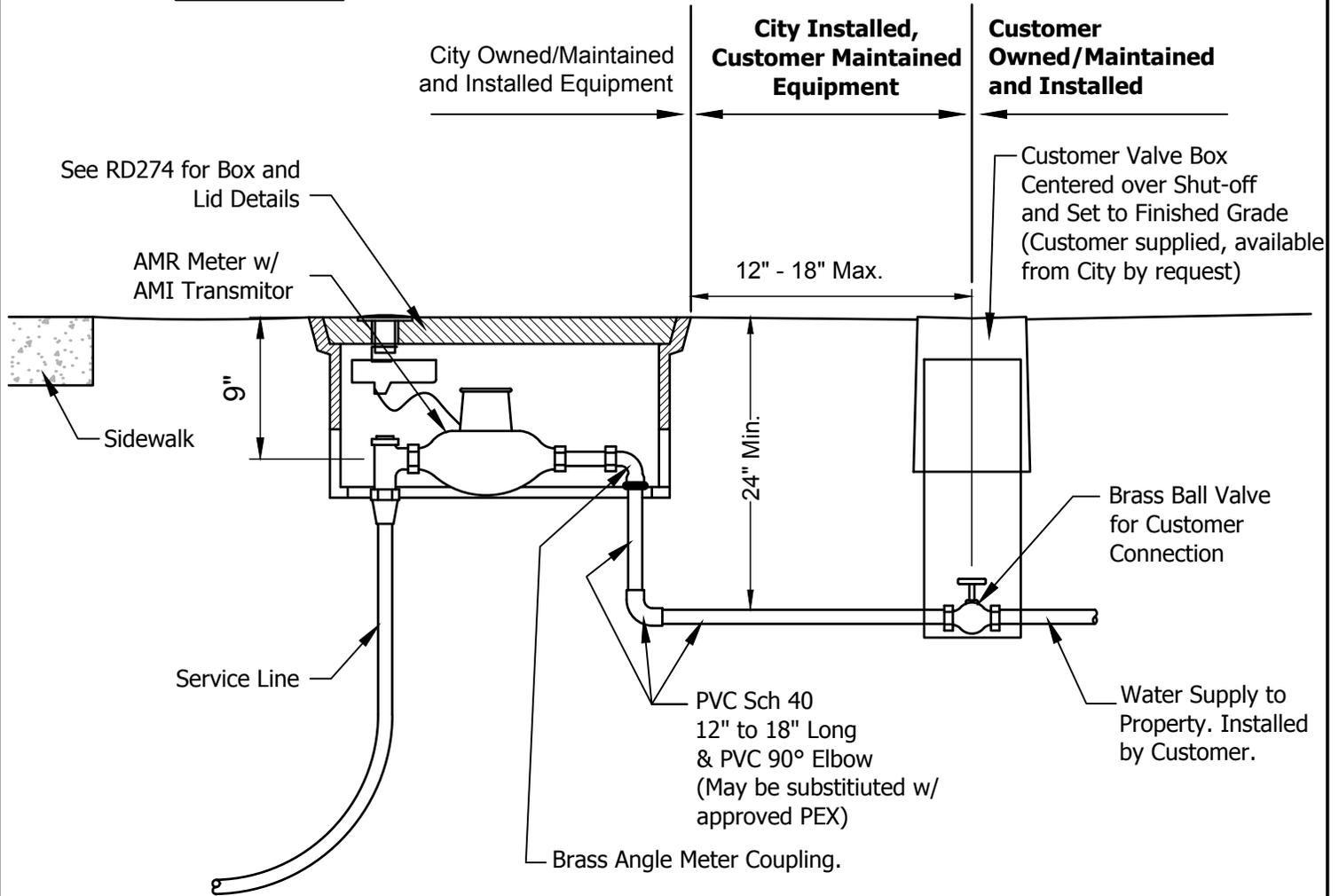
CITY OF DALLAS OREGON
 STANDARD DRAWING AMENDMENT
 3/4" - 2" WATER SERVICE CONNECTION

NO.	REVISIONS	BY	DATE		DRAWING NO. RD274 (A)
0	Adoption of Standard Drawings	CTG	4/11/2016		



PLAN VIEW

NOTE:
 Meter box and Customer valve configuration may vary due to existing site conditions with prior approval from City of Dallas Engineering Department.



PROFILE VIEW

NOTES:

1. CUSTOMER TO CONNECT TO THE PROVIDED VALVE, IF THE BRASS VALVE IS REMOVED, IT WILL BE REPLACED AT OWNERS EXPENSE. CUSTOMER SHALL NOT ENTER OR DISTURB THE METER BOX AND WILL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THE METER BOX OR ANY OF THE EQUIPMENT INSIDE.
2. CITY FORCES REPLACING OLD WATER METERS WILL UPGRADE ALL COMPONENTS TO THIS STANDARD DETAIL. SOME MODIFICATION OF VALVE PLACEMENT OR BOX ORIENTATION MAY BE REQUIRED DEPENDING ON EXISTING CONDITIONS.
3. WHEN AN ACTIVE CATHODIC PROTECTED SYSTEM IS ENCOUNTERED, SCHEDULE 40 PVC SHALL BE INSTALLED ACCORDING TO STANDARD DRAWING RD285.
4. ALL FITTINGS SHALL BE COMPRESSION TYPE.

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0	Adoption of Standard Drawings	CTG	4/11/2016
NO.	REVISIONS	BY	DATE



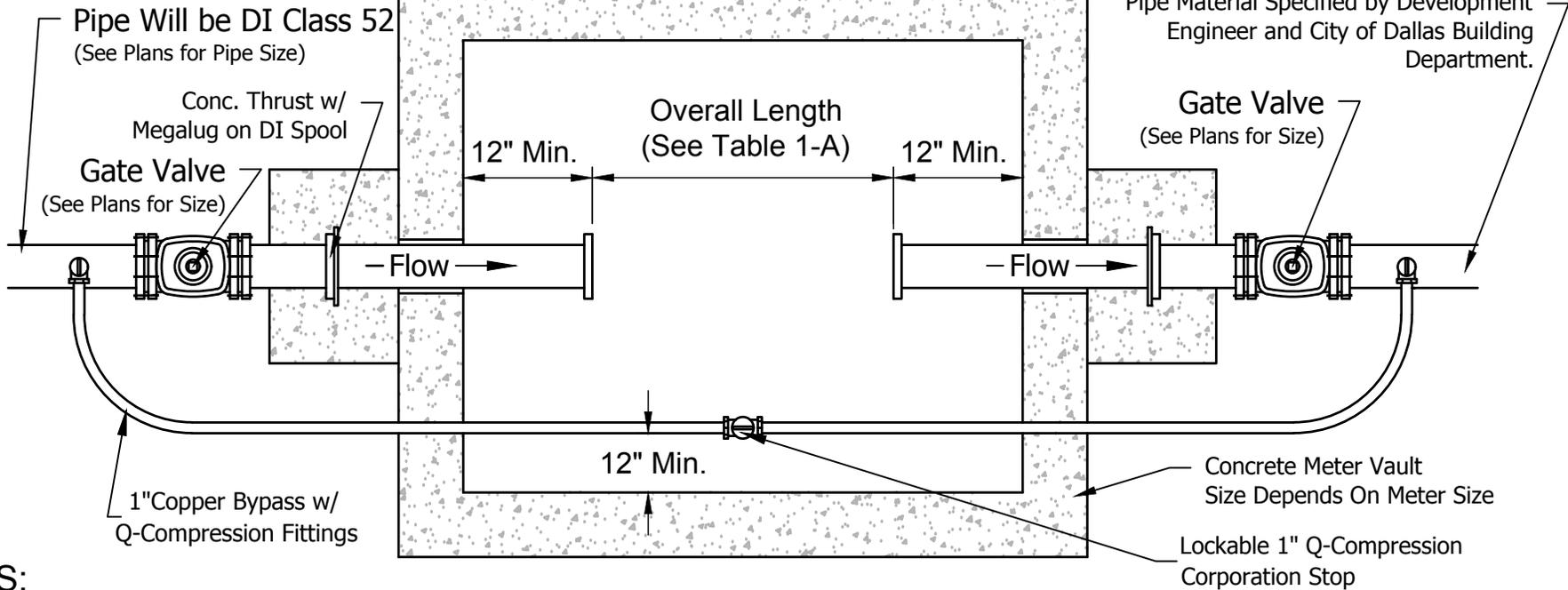
**CITY OF DALLAS OREGON
 STANDARD DRAWING
 DOMESTIC WATER SERVICE
 CUSTOMER CONNECTION**

DRAWING NO.

RD275

CITY OF DALLAS SIDE

Development Side



NOTES:

1. A MINIMUM 11"x18" METER READING LID NEEDS TO BE INSTALLED IN CONCRETE VAULT LID ASSEMBLY. THE METER READING LID WILL NEED TO BE CENTERED OVER THE METER DIALS OF THE WATER METER.
2. THE TOP OF THE DIAL WILL BE NO MORE THAN 24" FROM THE TOP OF THE VAULT.
3. THE 1" COPPER BYPASS LINE WILL NEED TO BE 6" DOWN AND AWAY FROM THE WATER METER ASSEMBLY.
4. ALL 1" FITTINGS WILL BE Q-COMPRESSION TYPE FITTINGS.
5. USE TYPE "K" SOFT COPPER FOR BYPASS.
6. DI PIPE WILL BE USED BETWEEN METER AND CITY MAIN. PIPE MATERIAL BETWEEN METER AND DEVELOPMENT WILL BE SPECIFIED BY CITY OF DALLAS, BUILDING DEPARTMENT.
7. METER VAULT WILL NEED TO BE WATER TIGHT.
8. METER VAULTS ARE TO BE SET OUT OF STREET, SIDEWALK AN DRIVEWAY AREAS.

MODIFICATIONS TO RD278:

1. DETAILS, DIMENSIONS AND SPECIFICATIONS SHOWN HERE AMEND THE DETAILS SHOWN ON OREGON STANDARD DRAWING RD278.
2. FOR ADDITIONAL DETAILS AND DETAILS NOT SHOWN HERE, SEE OREGON STANDARD DRAWING RD278.

TABLE 1-A

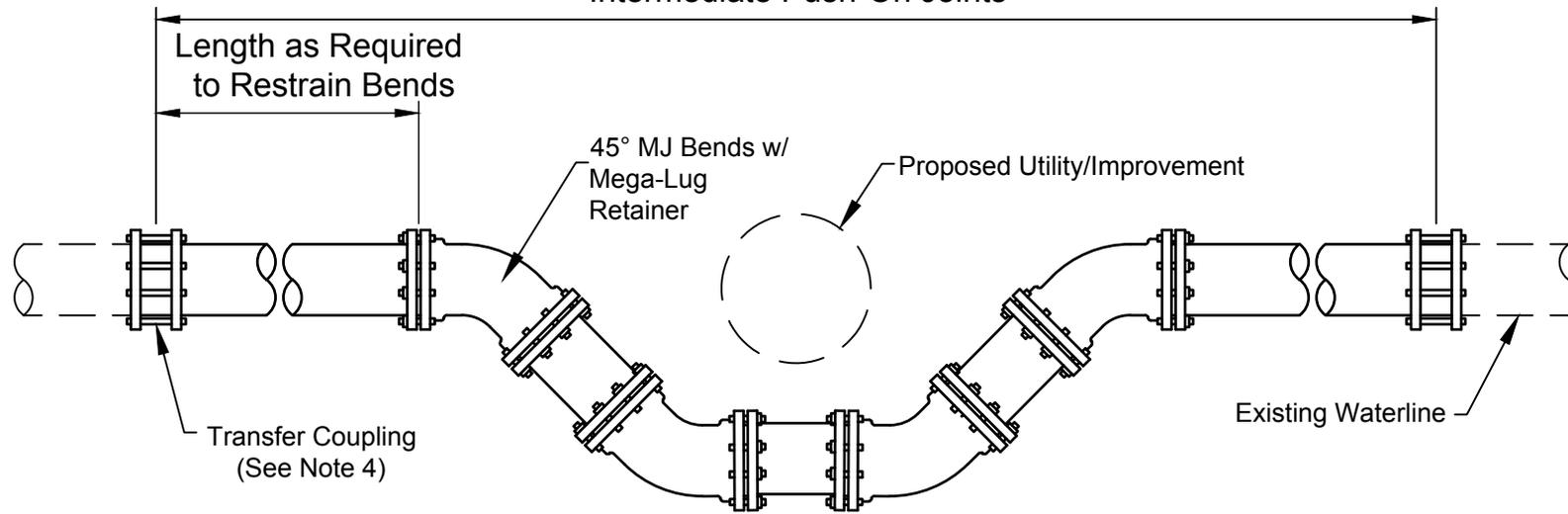
COMPOUND METER DIMENSIONS			
	3" METER	4" METER	6" METER
METER LENGTH:	17"	20"	24"
STRAINER LENGTH:	6"	7.5"	8.9"
OVERALL LENGTH (INCLUDING (3) 3/8" GASKETS):	23-3/8"	27-7/8"	33.275"
HEIGHT:	8-3/4"	9-1/4"	13"
WIDTH:	13-1/4"	16-1/4"	20"

(ALL DIMENSIONS ARE BASED UPON MASTER METER PRODUCTS, ADJUST AS REQUIRED FOR OTHER METERS)

CITY OF DALLAS OREGON STANDARD DRAWING WATER METER ASSEMBLY (LARGER THAN 2-INCH)			
0	Adoption of Standard Drawings	CTG	4/11/2016
NO.	REVISIONS	BY	DATE

DRAWING NO.
RD278
(A)

Install Mega-Lug Retainers on all MJ Connections and Locking Gaskets in all Intermediate Push-On Joints



NOTES:

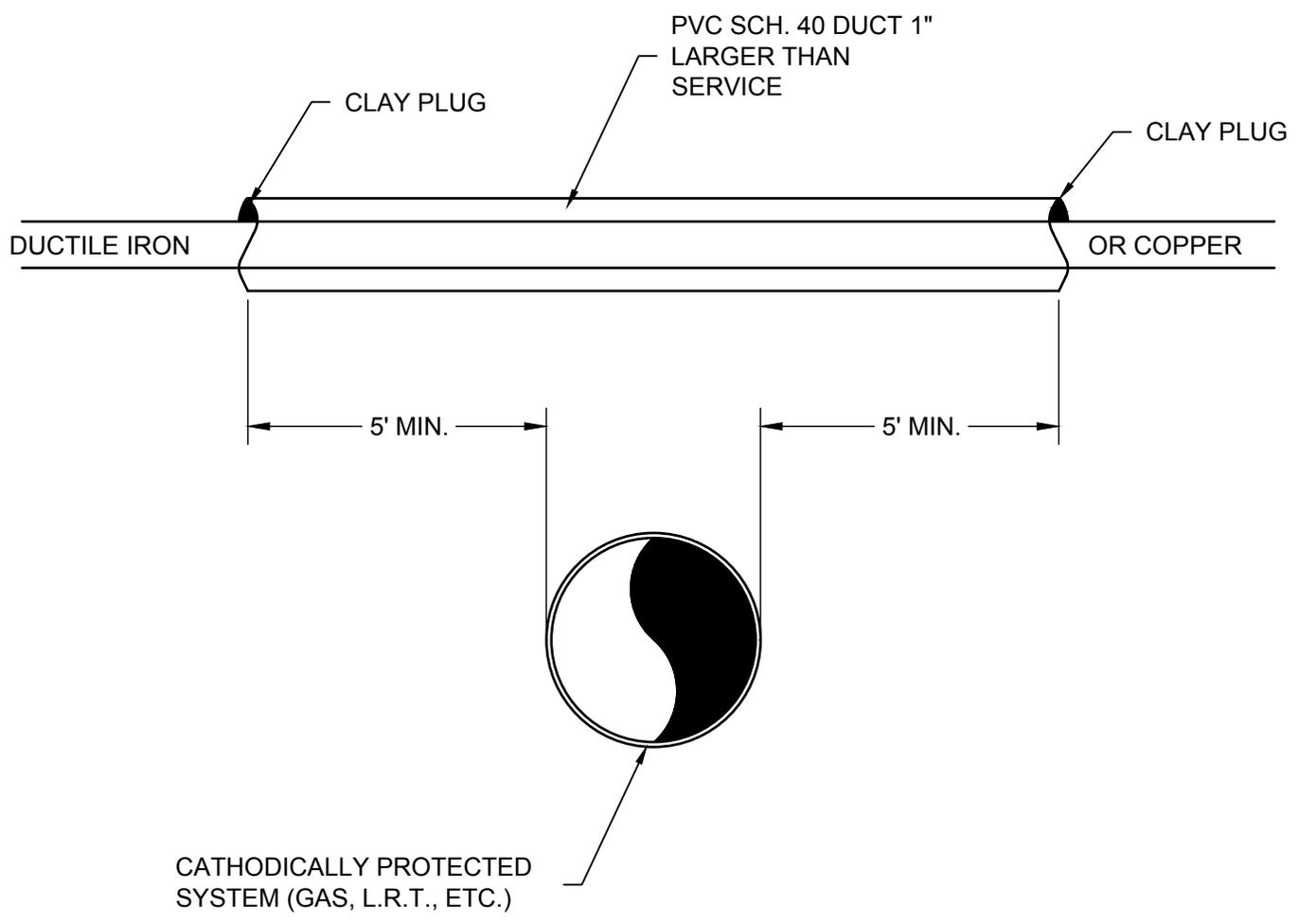
1. THIS DETAIL DRAWING GENERALLY APPLIES TO SITUATIONS WHERE AN EXISTING WATERLINE NEEDS TO BE RELOCATED UNDER A PROPOSED IMPROVEMENT. THE NEED FOR ADDITIONAL REQUIREMENTS, SUCH AS VALVES, ASSEMBLIES, ETC., WILL BE DETERMINED BY THE CITY ENGINEER ON A CASE BY CASE BASIS.
2. ALL NEW MATERIALS SHALL BE CLEANED AND DISINFECTED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS.
3. NEW PIPE WORK INSTALLED IN EXISTING WATERLINES WILL BE VISUALLY CHECKED FOR LEAKS AT LINE PRESSURE. VERIFICATION OF RESTRAINT REQUIREMENTS AND VISUAL INSPECTIONS WILL BE PERFORMED BY THE CITY ENGINEER.
4. WHEN EXISTING WATERLINE IS DUCTILE OR CAST IRON, USE A DUCTILE IRON SOLID SLEEVE MJ COUPLING TO MAKE CONNECTION TO EXISTING WATERLINE.
5. WHEN WATERLINE IS TO PASS UNDER AN EXISTING OR NEW SANITARY SEWER MAIN, THE INSTALLATION MUST ADHERE TO OREGON HEALTH DIVISION OAR 333-061-0050(9)

CITY OF DALLAS OREGON STANDARD DRAWING			
TYPICAL WATERLINE UNDERCROSSING			
0	Adoption of Standard Drawings	CTG	4/11/2016
NO.	REVISIONS	BY	DATE

DRAWING NO.

RD280

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0	Adoption of Standard Drawings	CTG	4/11/2016
NO.	REVISIONS	BY	DATE



CITY OF DALLAS OREGON
STANDARD DRAWING
CATHODIC PROTECTION

DRAWING NO.
RD285