

Eugene Water & Electric Board

# Water Distribution System Design Standards Detail

Construction by Developer Guidance

Water Engineering and Planning Department  
1-1-2017

## Table of Contents

WC 10 Typical pipe location and field marks

WC 20 Thrust blocks

WC 30 1" and 2" combination air/vacuum relief valve

WC 40 2" Blow off

WC 50 4", 6", 8" and 12" Blow off

WC 60 2" Tap off of various sized mains

WC 70 4" and larger taps (EWEB ONLY)

WC 80 Fire hydrants

WC 90 1" & 2" Taps

WC 100 1" Copper chlorination service

WC 109 Typical meter box location

WC 110 1" Services

WC 120 1.5" and 2" Services

WC 130 3" Services

WC 140 4" through 8" Services

WC 150 Typical valve box installation

WC 160 Typical valve box retrofit asphalt/concrete surface rebuild

WC 170 Typical valve box retrofit street rebuild w/ multi-lift asphalt or cold plane

WC 171 Typical valve box retrofit when circular cut is required

WC 180 Water sampling station

WC 190 Auto-flush between pressure zones (EWEB ONLY)

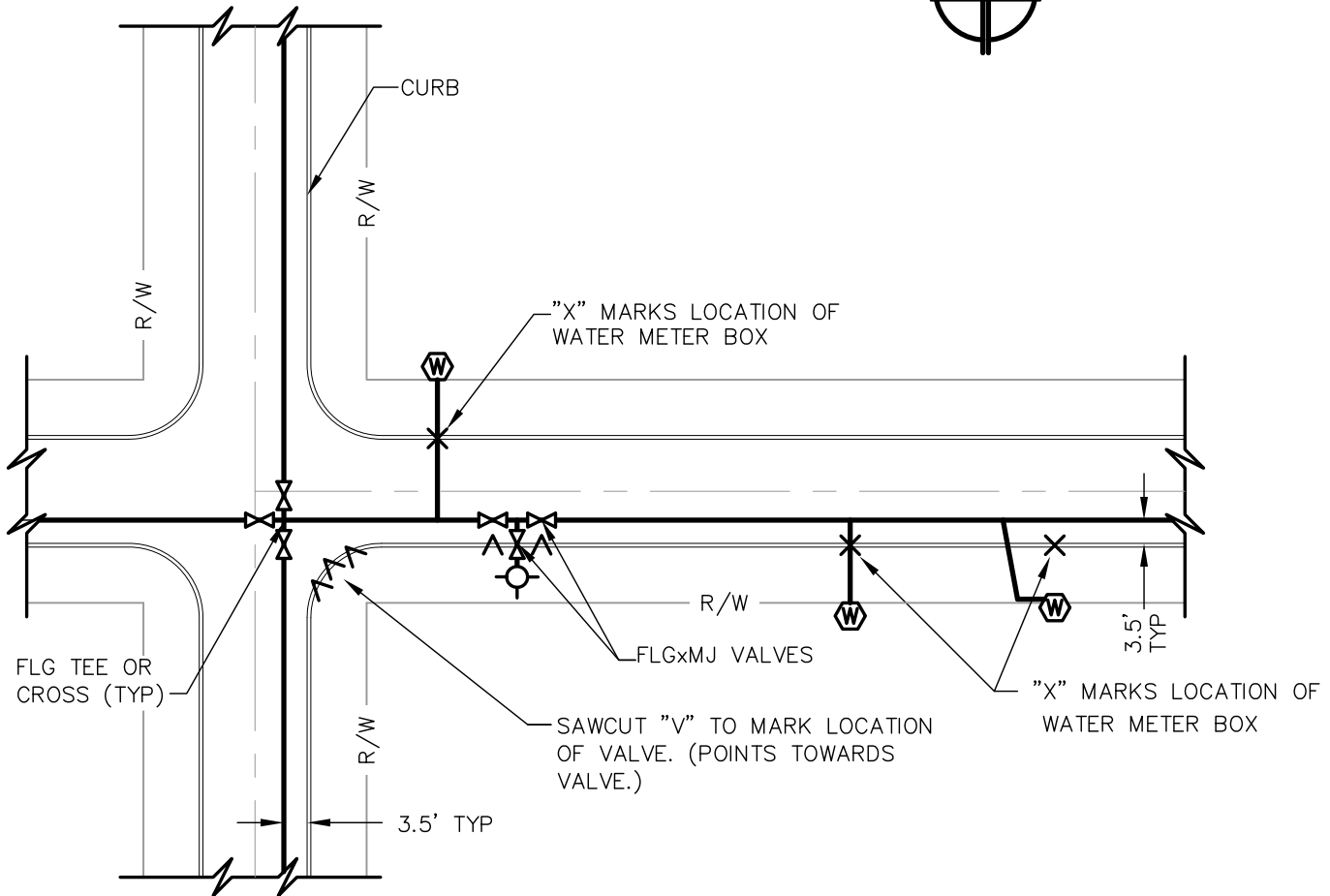
WC 200 Auto-flush for deadend mains

WC 210 Typical pressure reducing valve vault

WC 211 Typical pressure reducing valve vault with no bypass

WC 220 Typical trench section

WC 230 Concrete cap trench section



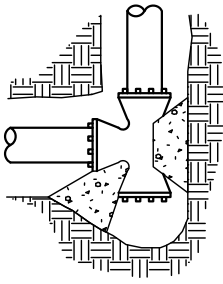
**NOTES:**

1. STREET CROSSING SERVICE TAPS, VALVES AND WATER METER BOX LOCATIONS SHALL BE MARKED WITH A SAW CUT INTO THE TOP SURFACE OF CURB.
2. SAW CUTS SHALL BE 1/8" WIDE AND 1/8" TO 3/16" DEEP.
3. VALVES SHALL NOT BE LOCATED IN SIDEWALK ACCESS RAMPS.
4. WHEN A VALVE IS ABANDONED, THE "V" THAT MARKS THE LOCATION SHALL BE TRANSFORMED INTO AN "A" WITH A SAW CUT.

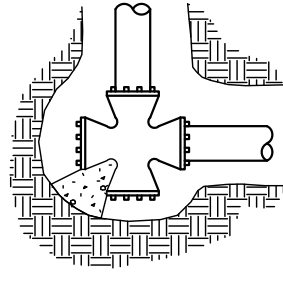
FUNC	BY	CHK	APP
DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

WATER STANDARDS  
 CONSTRUCTION  
 WATER DISTRIBUTION FACILITY  
 TYPICAL PIPE LOCATION AND FIELD MARKINGS  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

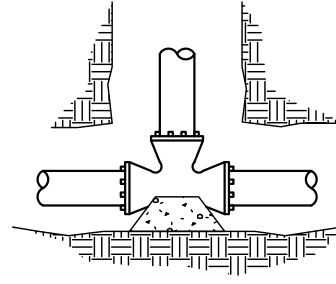
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09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC10			1



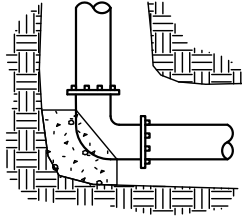
TEE



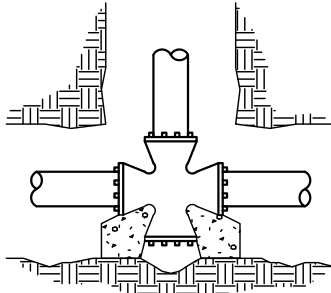
CROSS



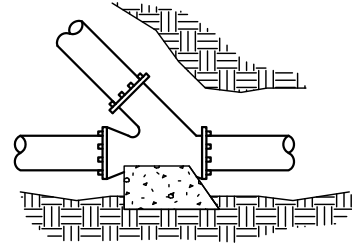
TEE



BEND



CROSS



WYE

**NOTES:**

1. USE ONLY WHEN SPECIFIED.
2. CONCRETE CAST AGAINST UNDISTURBED SOIL.
3. KEEP CONCRETE CLEAR OF FITTING ENDS.
4. DESIGN BASED ON 150 PSIG INTERNAL PRESSURE, FITTINGS AT 3' DEPTH WITH BAR RUN.  
ANGLE OF INTERNAL FRICTION = 34°
5. SOIL BEARING PRESSURE = 2000 LB/SQ FT.
6. WHERE ASSUMED CONDITIONS ARE NOT VALID, ENGINEER SHALL DESIGN THRUST BLOCK.
7. PIPES LARGER THAN 16" REQUIRE THRUST BLOCKS TO BE DESIGNED BY AN ENGINEER.

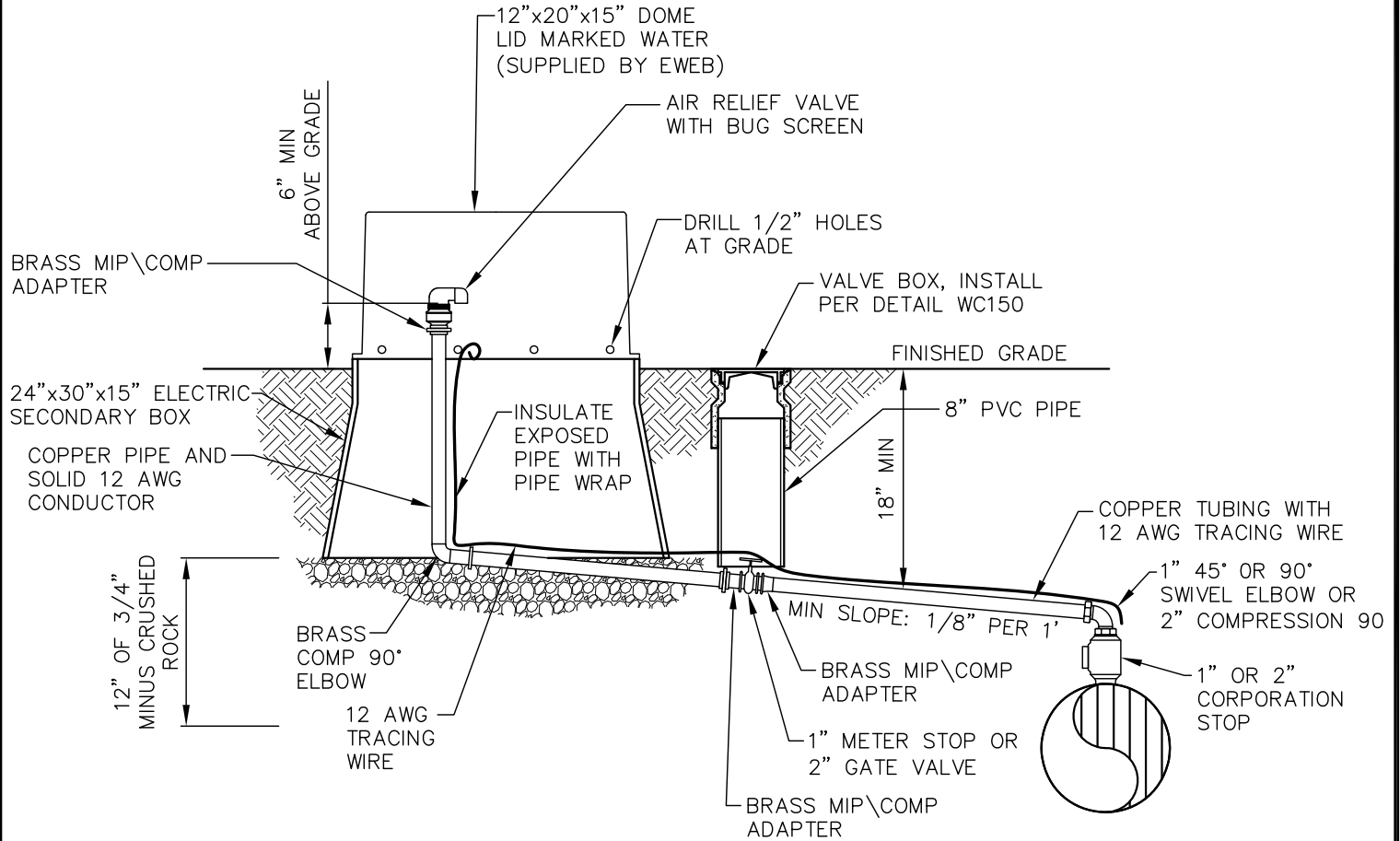
**BEARING AREA IN SQUARE FEET**

PIPE SIZE	PLUG, CAP, TEE, WYE, VALVE	90° BEND, PLUGGED CROSS	45° BEND	22.5° BEND	11.25° BEND
4"	1	2	1	1	0
6"	2	3	2	1	0
8"	4	6	3	2	1
10"	6	9	5	3	1
12"	9	13	7	4	2
16"	16	23	13	6	3

FUNC	BY	CHK	APP
DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

WATER STANDARDS  
 CONSTRUCTION  
 GENERAL  
 THRUST BLOCKS  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

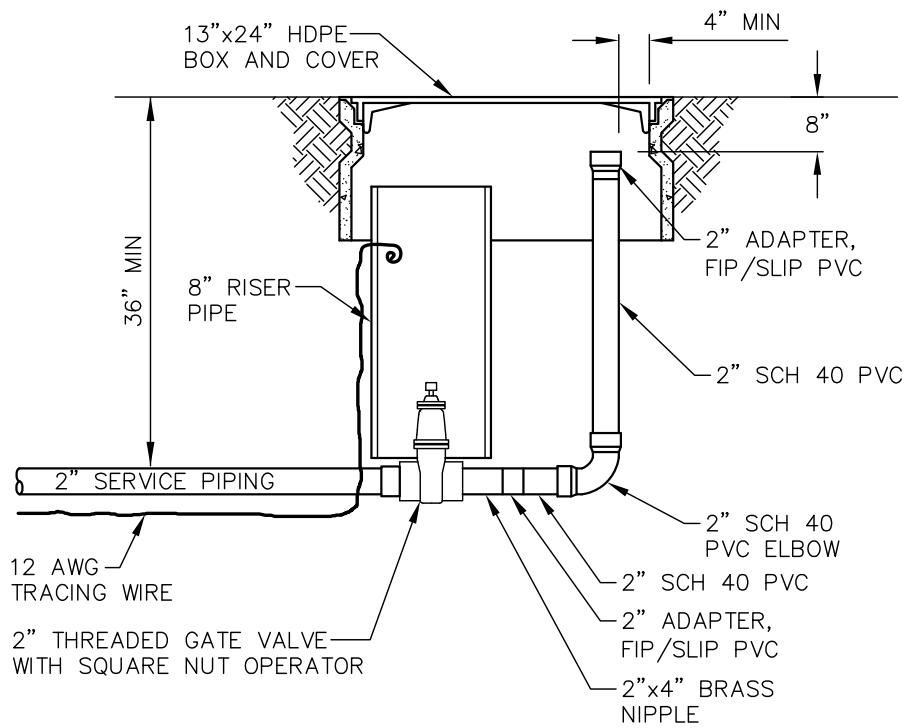
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09/23/15	ESR		
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DWG NO			REV
WC20			1



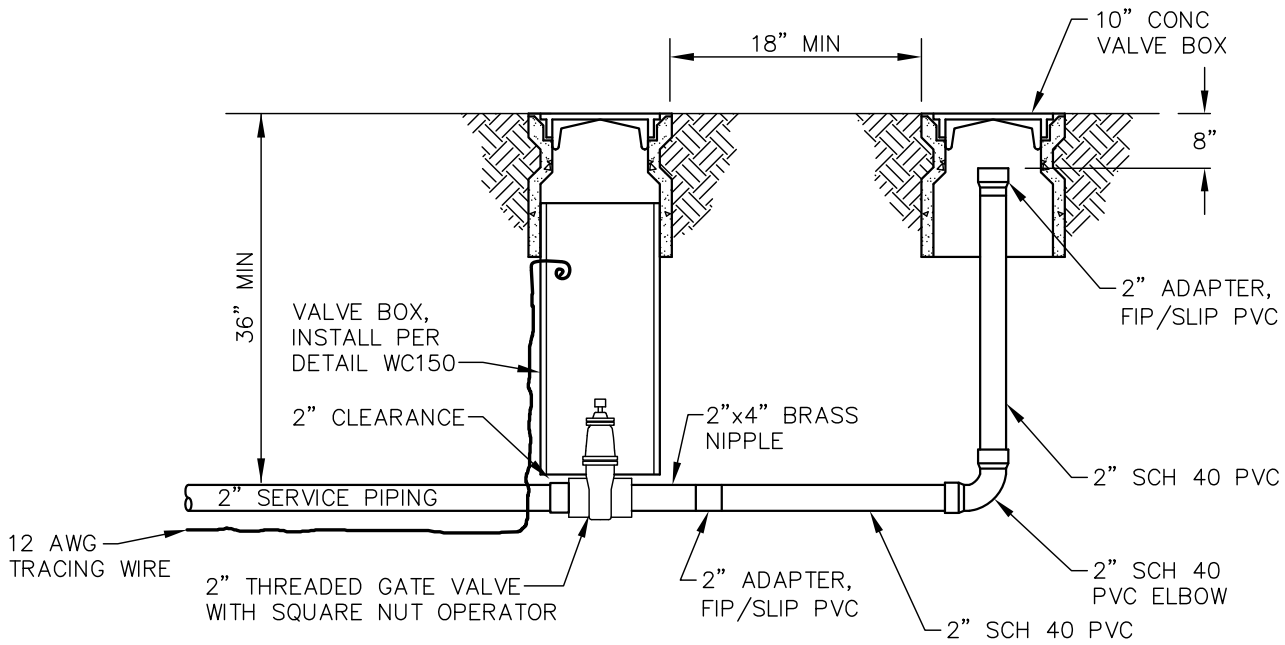
**NOTES:**

1. USE CORROSION CONTROL IF ON NON METALLIC MAIN – INSTALL POLYETHYLENE COATED OR WRAPPED COPPER PIPE AND WRAP ALL METALLIC FITTINGS WITH WAX TAPE, OR INSTALL CATHODIC PROTECTION.
2. LARGER AIR RELIEF VALVES TO BE DESIGNED ON A CASE BY CASE BASIS.

FUNC	BY	CHK	APP	<b>WATER STANDARDS CONSTRUCTION</b>  <b>1" AND 2" COMBINATION AIR/VACUUM RELIEF VALVE</b>  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: NTS			
DES	WADE	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	SLA	WM		09/23/15	ESR		
SPONSOR					REFORMAT AND UPDATE			
DATE: 06/11/10				DWG NO				REV
				WC30				3



**LANDSCAPE APPLICATION**

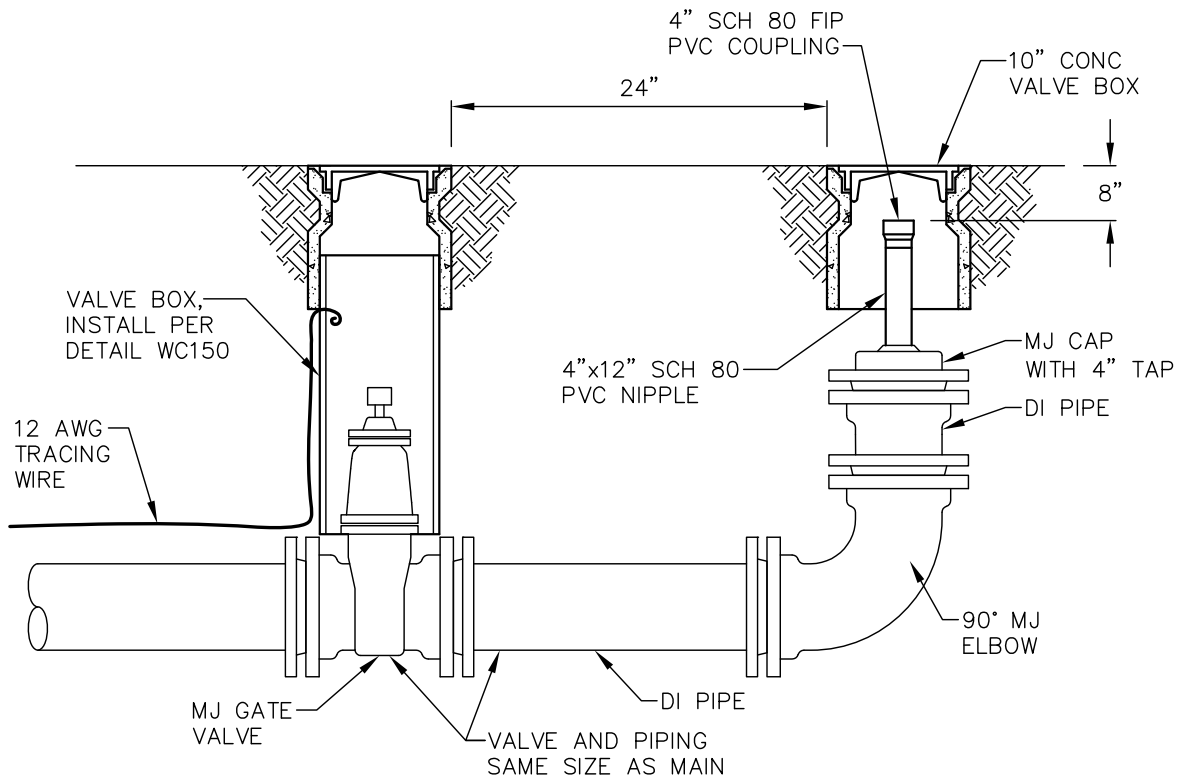


**STANDARD INSTALLATION**

FUNC	BY	CHK	APP
DES	WADE	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

**WATER STANDARDS  
CONSTRUCTION**  
  
**2" BLOW OFF**  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

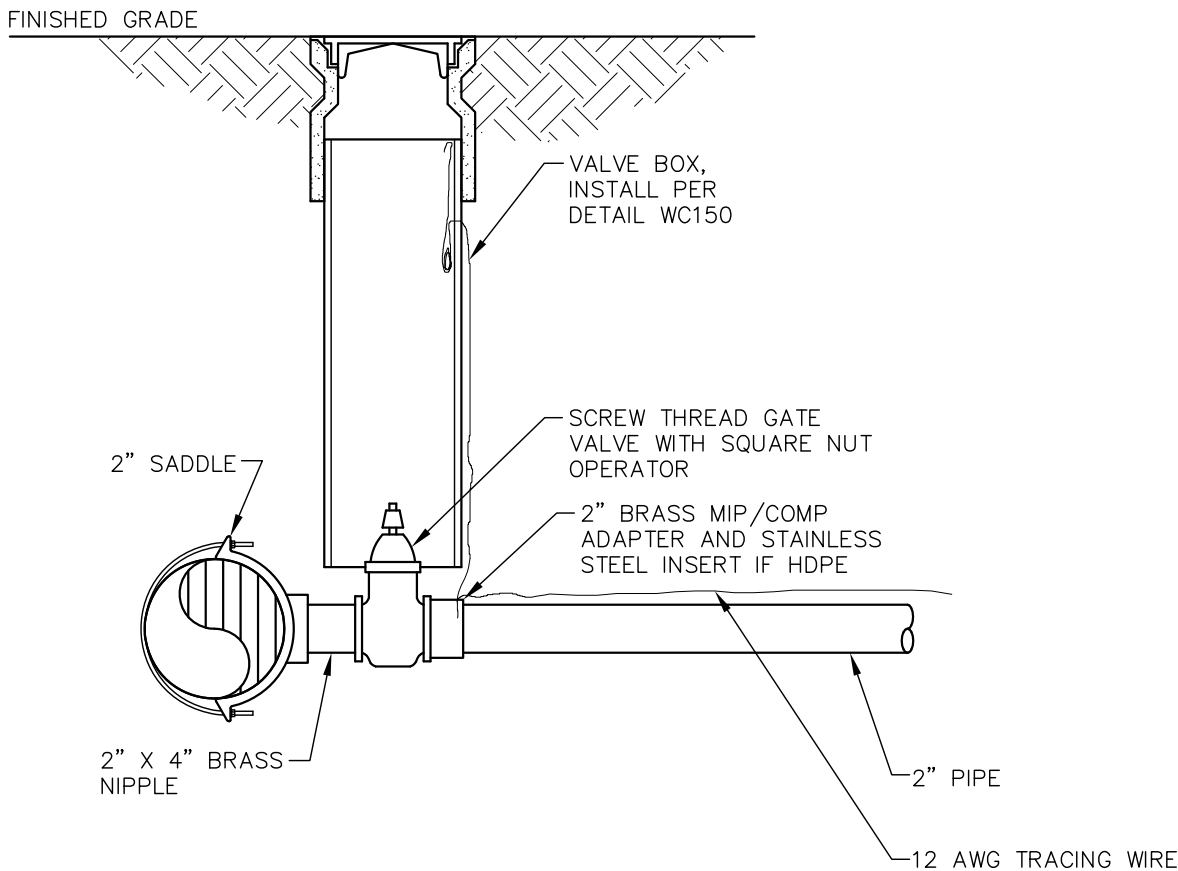
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09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC40			2



**NOTES:**

1. 12" AND LARGER PIPING BLOW OFF REQUIREMENTS WILL BE DETERMINED ON A CASE BY CASE BASIS.
2. MECHANICALLY RESTRAIN ALL JOINTS.
3. FOR PERMANENT BLOW OFFS INSTALL TRACING WIRE PER VALVE BOX DETAIL WC150.
4. FOR TEMPORARY BLOW OFF INSTALLATIONS LEAVE 25' MINIMUM OF TRACING WIRE BELOW OPERATING NUT.

FUNC	BY	CHK	APP	<b>WATER STANDARDS CONSTRUCTION 4", 6", 8" AND 12" BLOW OFF</b>  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: NTS			
DES	BIGELOW	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	SLA	WM		09/23/15	ESR		
SPONSOR					REFORMAT AND UPDATE			
DATE: 06/11/10					DWG NO			REV
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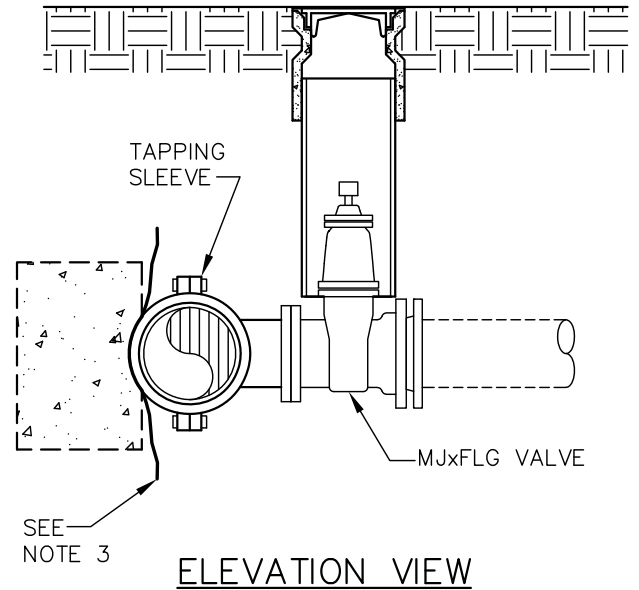
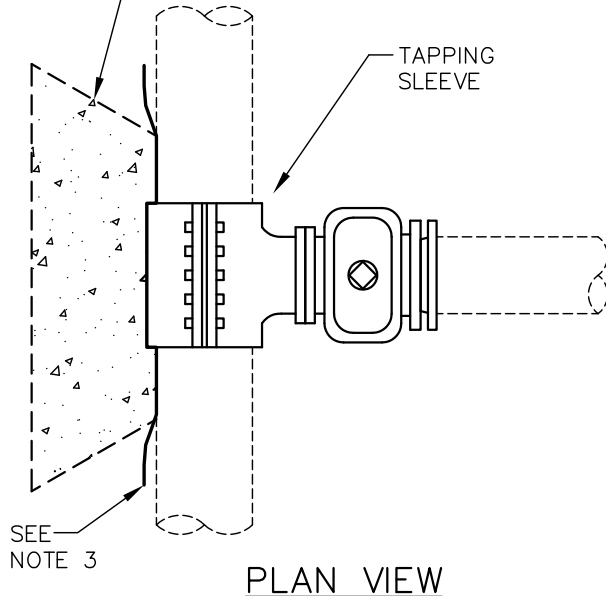
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DES	WADE	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

**WATER STANDARDS  
CONSTRUCTION**  
  
**2" TAP OFF OF VARIOUS SIZED MAINS**  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC60			2



CONSTRUCT THRUST BLOCK PER DETAIL WC20 FOR TEE INSTALLATION



**NOTES:**

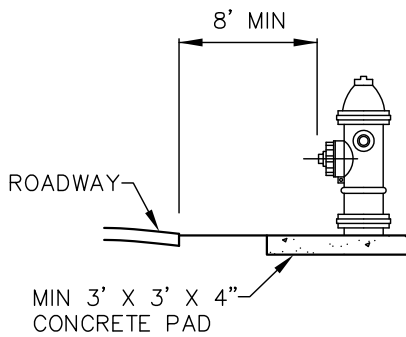
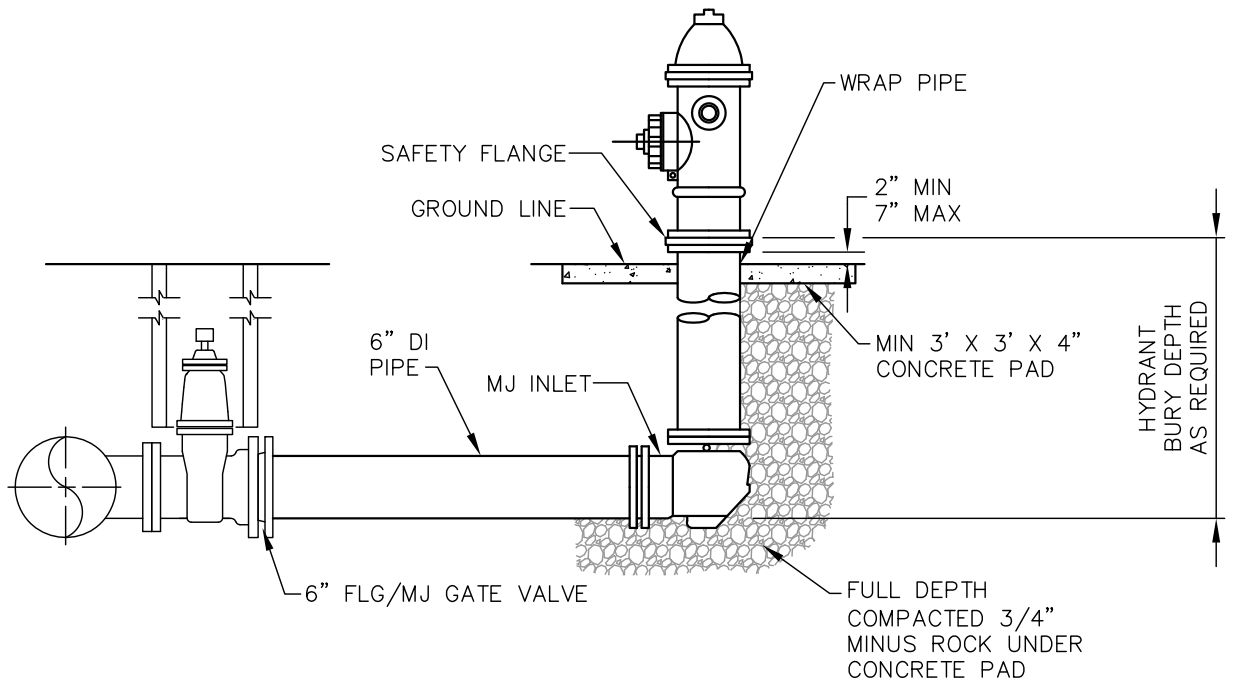
1. USE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF ALL COMPONENTS.
2. VALVE SHALL BE POSITIONED SO TOP OF OPERATING NUT IS PLUMB WITH GROUND SURFACE.
3. PLACE 4 MIL PLASTIC SHEETING BETWEEN PIPE AND THRUST BLOCK.
4. THIS STANDARD DOES NOT APPLY TO CONCRETE CYLINDER PIPE

FUNC	BY	CHK	APP
DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

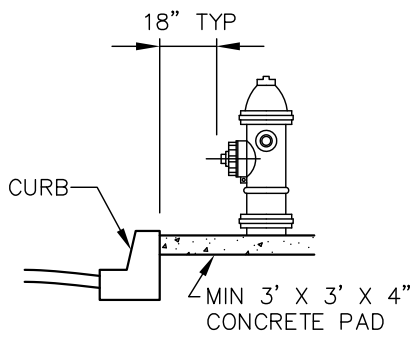
**WATER STANDARDS  
 CONSTRUCTION  
 TAPPING SLEEVE & VALVE  
 4" AND LARGER TAPS (EWEB ONLY)**

EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

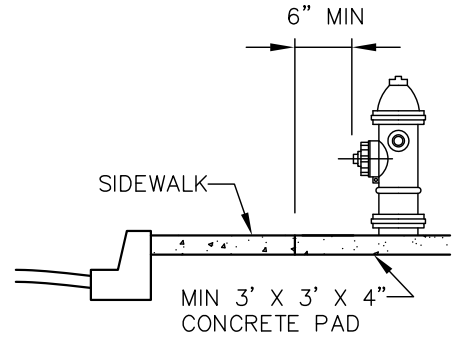
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09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC70			2



**CURBLESS ROAD**



**SET BACK SIDEWALK**



**CURB SIDEWALK**

**HYDRANT ORIENTATION**

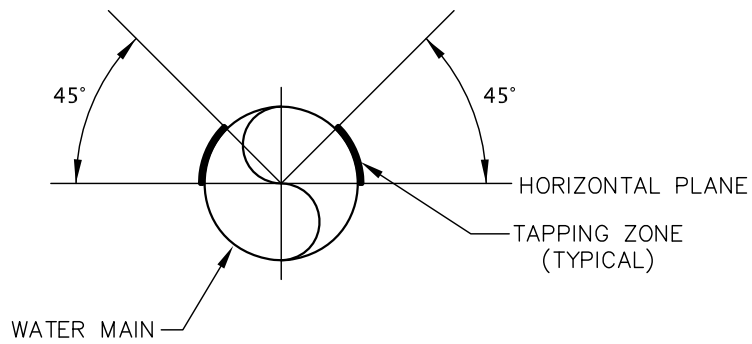
**NOTES:**

1. ALL JOINTS SHALL BE MECHANICALLY RESTRAINED.
2. HYDRANTS SHALL BE INSTALLED PLUMB AND LEVEL.
3. CENTER HYDRANT IN CONCRETE PAD

FUNC	BY	CHK	APP
DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

**WATER STANDARDS  
CONSTRUCTION**  
  
**FIRE HYDRANTS**  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC80			2

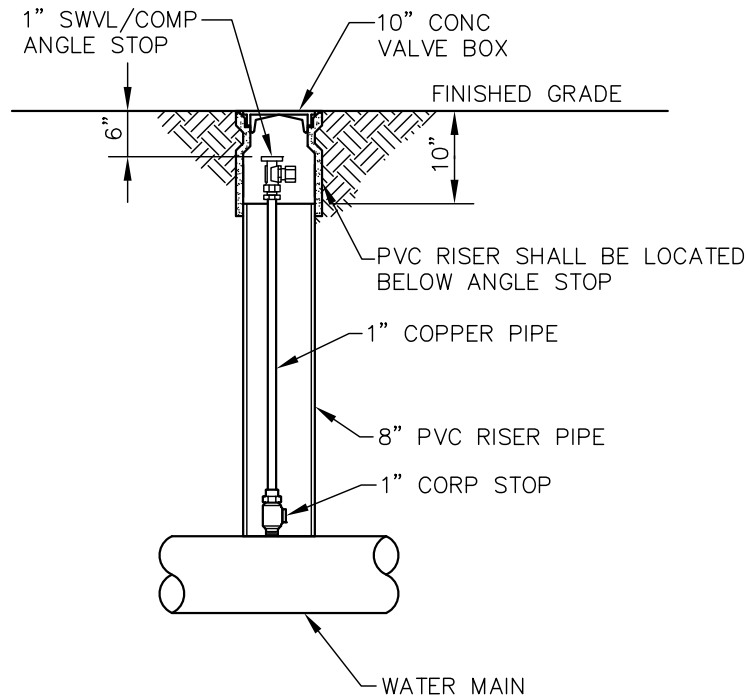


TYPICAL SECTION

NOTES:

1. ALL TAPS REQUIRE TAPPING SADDLES EXCEPT FOR 1" TAPS ON 6" AND LARGER DI MAINS WHICH MAY BE DIRECT TAPPED. 1" DIRECT TAPS SHALL HAVE MUELLER CC THREADS.
2. TAP TO BE ON SAME SIDE OF MAIN AS SERVICE.

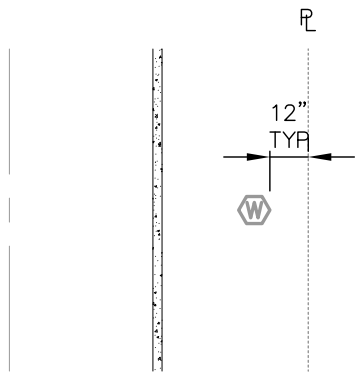
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DES	BIGELOW	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	SLA	WM		09/23/15	ESR		
SPONSOR					REFORMAT AND UPDATE			
DATE: 06/11/10					DWG NO			REV
				WC90			1	



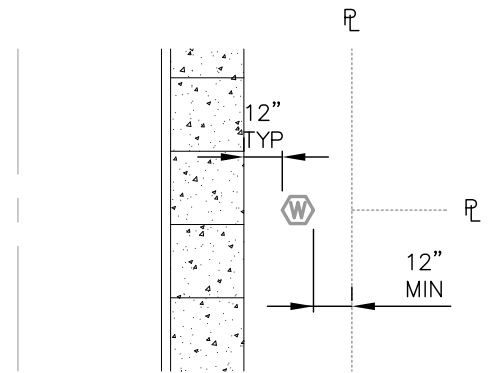
**NOTES:**

1. THE CORPORATION STOP SHALL BE INSTALLED IN THE OPEN POSITION.
2. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. OFFSET VALVE RISER PIPE APPROXIMATELY 2" TO ALLOW ACCESS TO CORP STOP OPERATOR.

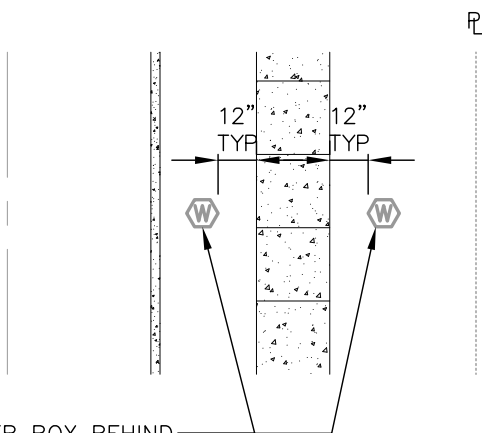
FUNC	BY	CHK	APP	<b>WATER STANDARDS CONSTRUCTION</b>  <b>1" COPPER CHLORINATION SERVICE</b>  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: NTS			
DES	WADE	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	SLA	WM		09/23/15	ESR		
SPONSOR					REFORMAT AND UPDATE			
DATE: 06/11/10					DWG NO			REV
				WC100			2	



NO SIDEWALK

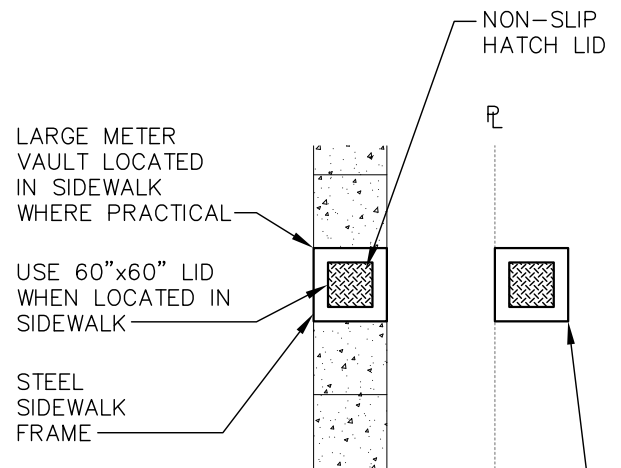


CURB SIDE SIDEWALK



INSTALL METER BOX BEHIND SIDEWALK IF ADEQUATE ROW AND SPACE AVAILABLE. OTHERWISE INSTALL IN PLANTER STRIP.

SETBACK SIDEWALK



IF A VAULT LOCATION IN OR BEHIND SIDEWALK IS IMPRACTICAL PLACE ON PRIVATE PROPERTY WITH EASEMENT EXTENDING A MINIMUM 5' BEYOND EWEB INFRASTRUCTURE.

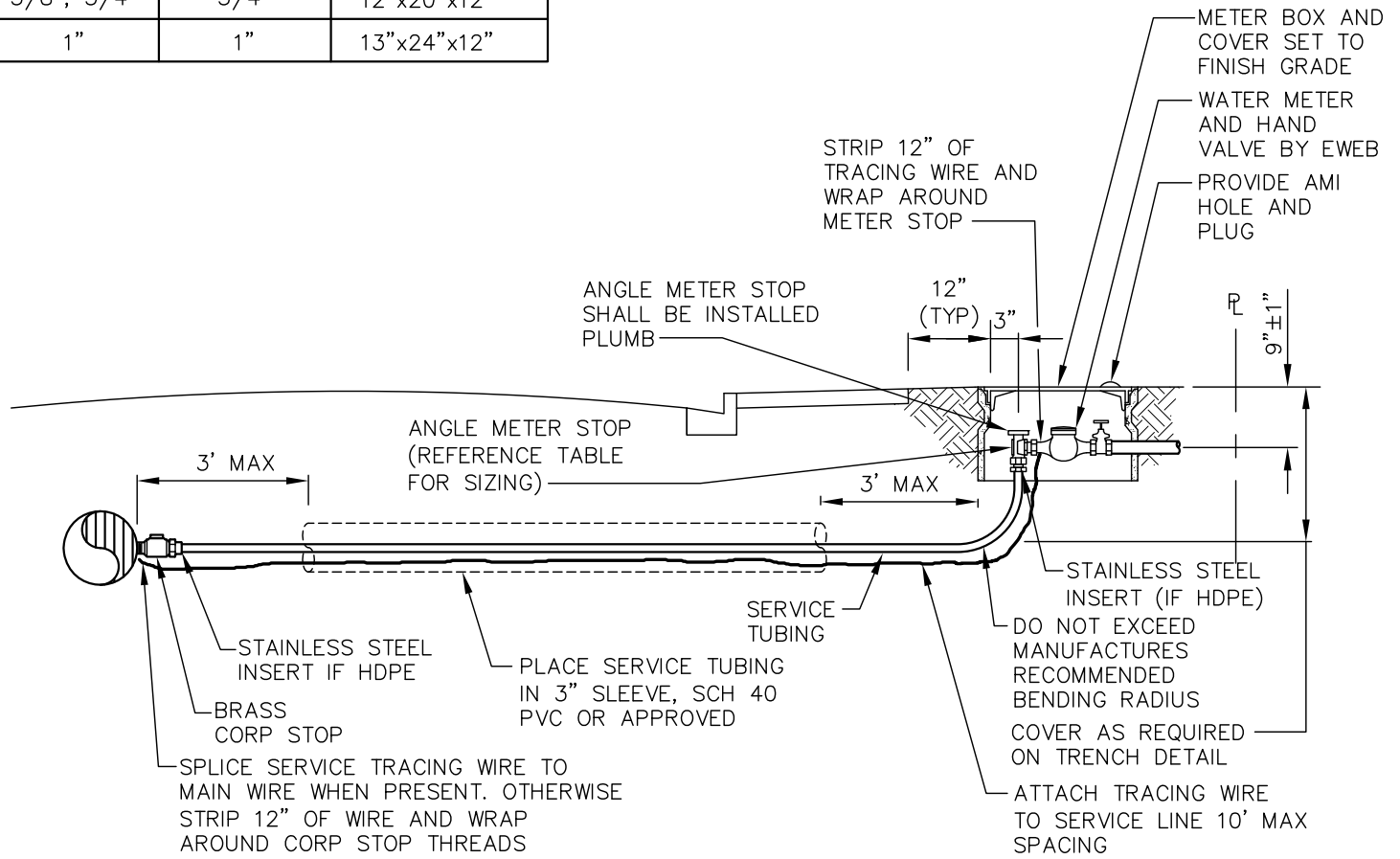
LARGE METER BOX LOCATIONS

FUNC	BY	CHK	APP
DES	IRVIN	CB	WM
DWN	ESR	ESR	WM
SPONSOR			
DATE: 09/03/15			

WATER STANDARDS  
 CONSTRUCTION  
  
 TYPICAL METER BOX LOCATION  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC109			0

METER SIZE	ANGLE METER STOP SIZE	REQUIRED METER BOX SIZE LxWxD
5/8", 3/4"	3/4"	12"x20"x12"
1"	1"	13"x24"x12"



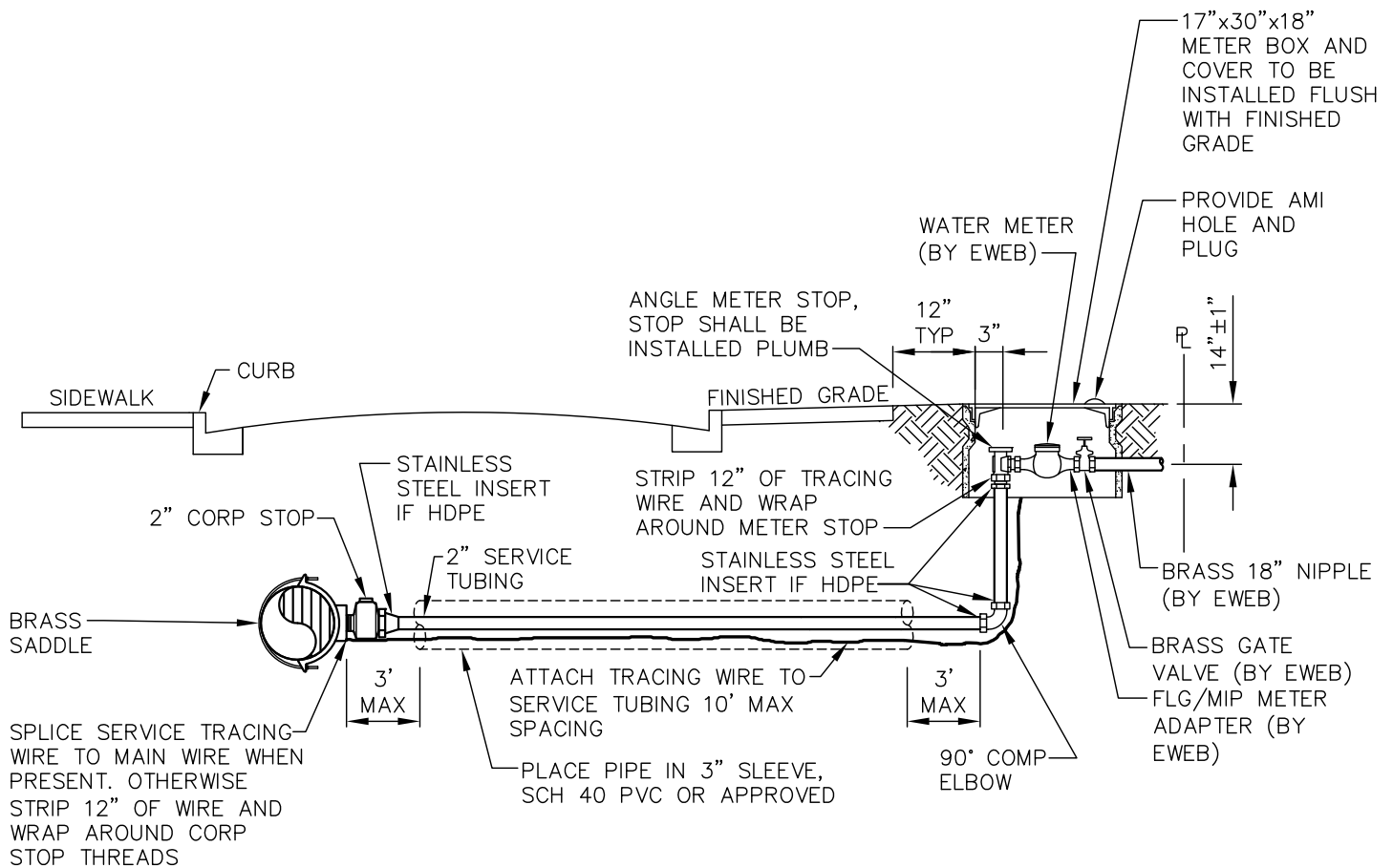
**NOTES:**

1. THE CORPORATION STOP SHALL BE INSTALLED IN THE OPEN POSITION.
2. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. WRAP ALL BURIED METAL PARTS WITH WAX TAPE IF POLY WRAPPED MAIN.
4. ALL SERVICE TUBING SHALL BE BACKFILLED WITH 3/4" MINUS CRUSHED ROCK. EXTRA CARE SHALL BE TAKEN TO ENSURE PROPER SUPPORT OF THE HDPE PIPE SO THE PIPE MATERIAL WILL NOT DEFORM OVER TIME. ALL BACKFILL SHALL BE TO 95% COMPACTION.
5. CONNECT TRACING WIRE TO EXISTING TRACING WIRE ON PIPE OR TO METAL SURFACE OF METAL PIPE OR FITTING, WRAP EXPOSED WIRE.
6. BORED SERVICE CROSSINGS SUBJECT TO APPROVAL.
7. IF MAIN IS OUTSIDE OF STREET AND SERVICE LINE DOES NOT CROSS STREET, NO SLEEVE IS REQUIRED.
8. TAPS SHALL BE DONE IN ACCORDANCE WITH DRAWING WC90.
9. UP TO TWO SERVICES MAY BE INSTALLED IN THE 3" SLEEVE.

FUNC	BY	CHK	APP
DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

**WATER STANDARDS  
CONSTRUCTION**  
  
**1" SERVICES**  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

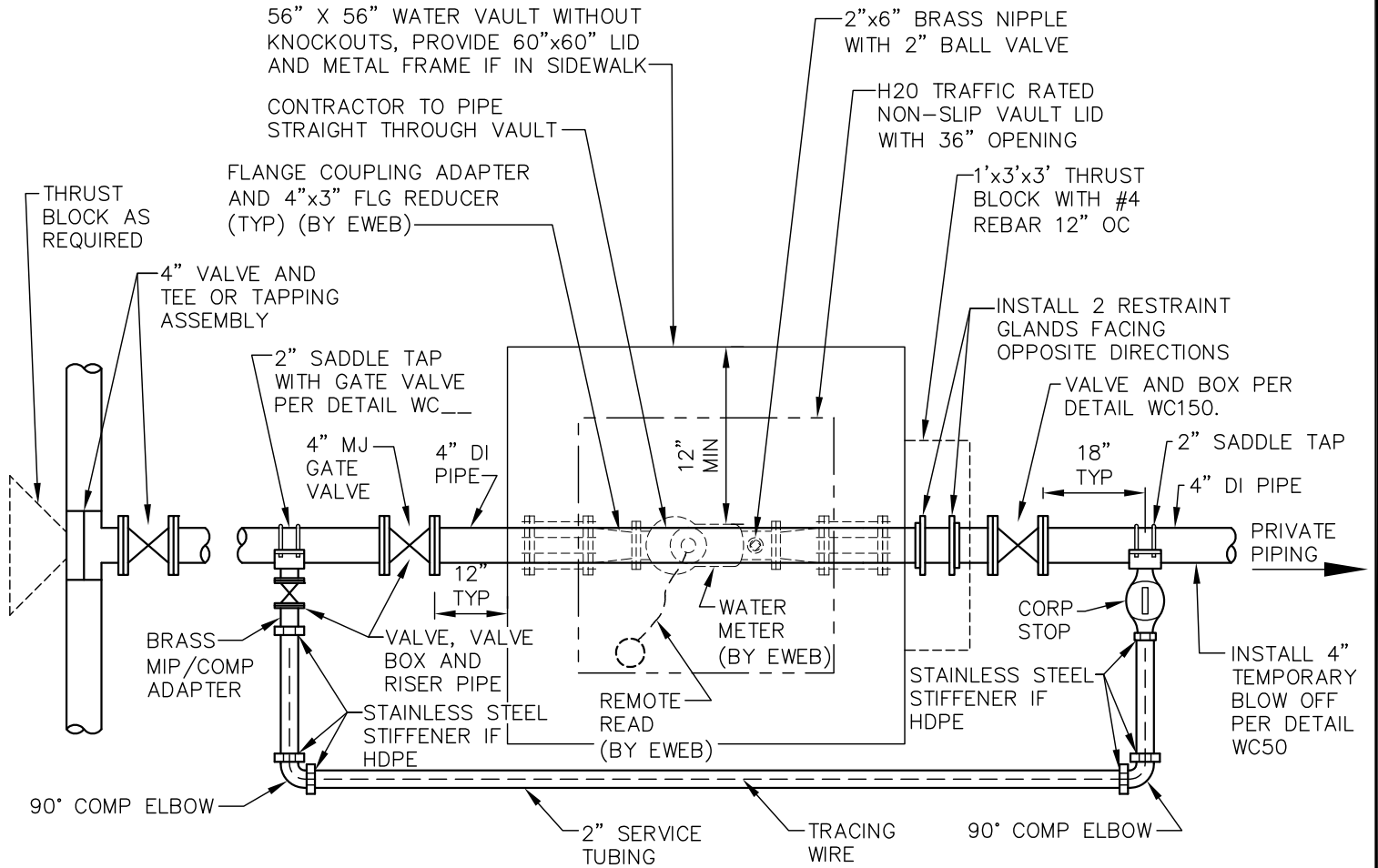
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4-7-16	ESR		
ADDED TABLE & UPDATE ANGLE METER NOTES			
DWG NO			REV
WC110			3



**NOTES:**

1. THE CORPORATION STOP SHALL BE INSTALLED IN THE OPEN POSITION.
2. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. WRAP ALL BURIED METAL PARTS WITH WAX TAPE WHEN MAIN IS POLYWRAPPED.
4. EXTRA CARE SHALL BE TAKEN DURING BACKFILL TO ENSURE PROPER SUPPORT OF THE HDPE PIPE SO THE PIPE MATERIAL WILL NOT DEFORM OVER TIME.
5. FOR CRITICAL WATER USERS, AS DETERMINED BY EWEB, PREFAB METER SETTER ASSEMBLY WITH BYPASS MAY BE REQUIRED.
6. NO SLEEVE IS REQUIRED IF SERVICE IS LESS THAN 6" IN LENGTH.

FUNC	BY	CHK	APP	<b>WATER STANDARDS CONSTRUCTION</b>  <b>1 1/2" AND 2" SERVICES</b>  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: NTS			
DES	BIGELOW	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	SLA	WM		09/23/15	ESR		
SPONSOR					REFORMAT AND UPDATE			
DATE: 06/11/10					DWG NO			REV
				WC120			3	



**NOTES:**

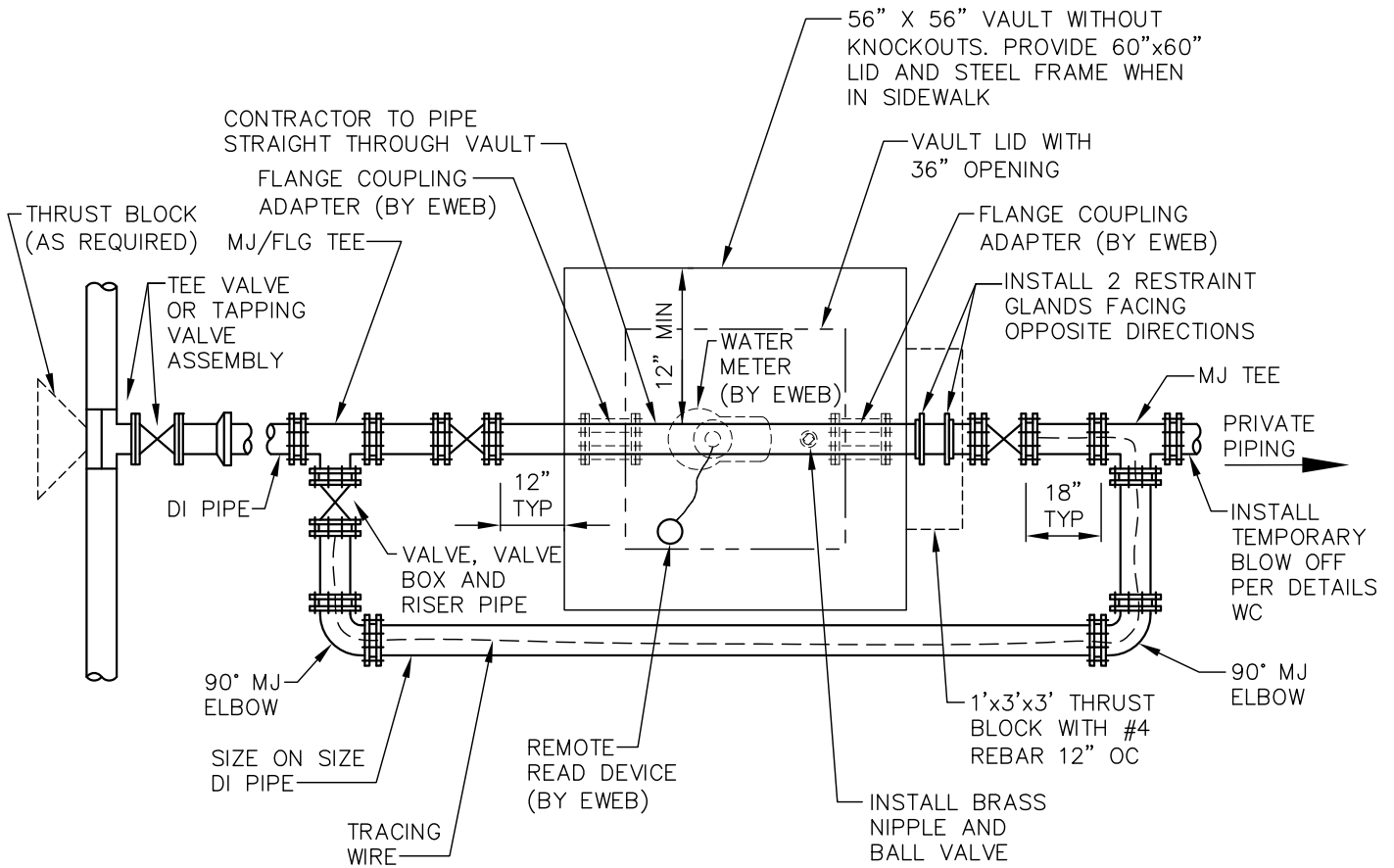
1. PAINT BY-PASS VALVE BOX YELLOW.
2. CORE DRILL ALL VAULT PENETRATIONS AND PROVIDE LINK SEALS WITH SST HARDWARE, OR APPROVED.
3. BYPASS NOT REQUIRED FOR IRRIGATION SERVICES.
4. PROVIDE 12" OF CLEARANCE BETWEEN PIPE AND FLOOR.
5. LOCATE METER VAULT IN SIDEWALK WHEN PRACTICABLE.

FUNC	BY	CHK	APP
DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

**WATER STANDARDS  
CONSTRUCTION**  
  
**3" SERVICES**  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC130			2





**NOTES:**

1. PAINT BY-PASS VALVE BOX YELLOW.
2. BYPASS NOT REQUIRED FOR IRRIGATION SERVICES.
3. ALL PIPING AND VALVE TO MATCH METER SIZE.
4. RESTRAIN ALL JOINTS.
5. PROVIDE 12" CLEARANCE BETWEEN PIPE AND FLOOR.
6. CORE DRILL ALL VAULT PENETRATIONS AND PROVIDE LINK SEALS WITH SST HARDWARE.
7. LOCATE METER VAULT IN SIDEWALK WHEN PRACTICABLE.

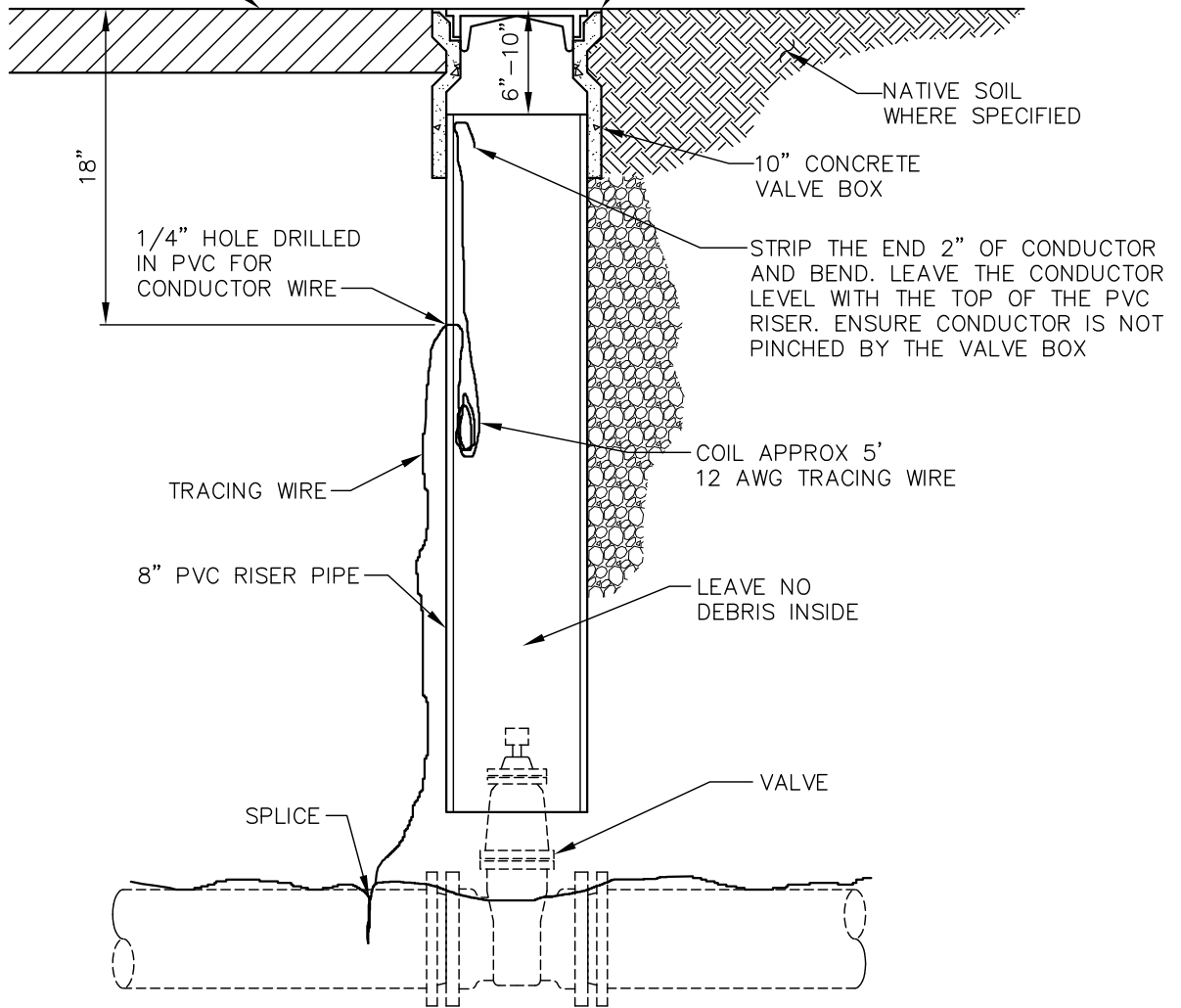
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DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

**WATER STANDARDS  
CONSTRUCTION**  
  
**4" THROUGH 8" SERVICES**  
  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC140			2

SURFACE RESTORATION  
AND BACKFILL PER  
TRENCH DETAIL WC220

SET VALVE BOX FLUSH  
WITH FINISHED GRADE



**NOTES:**

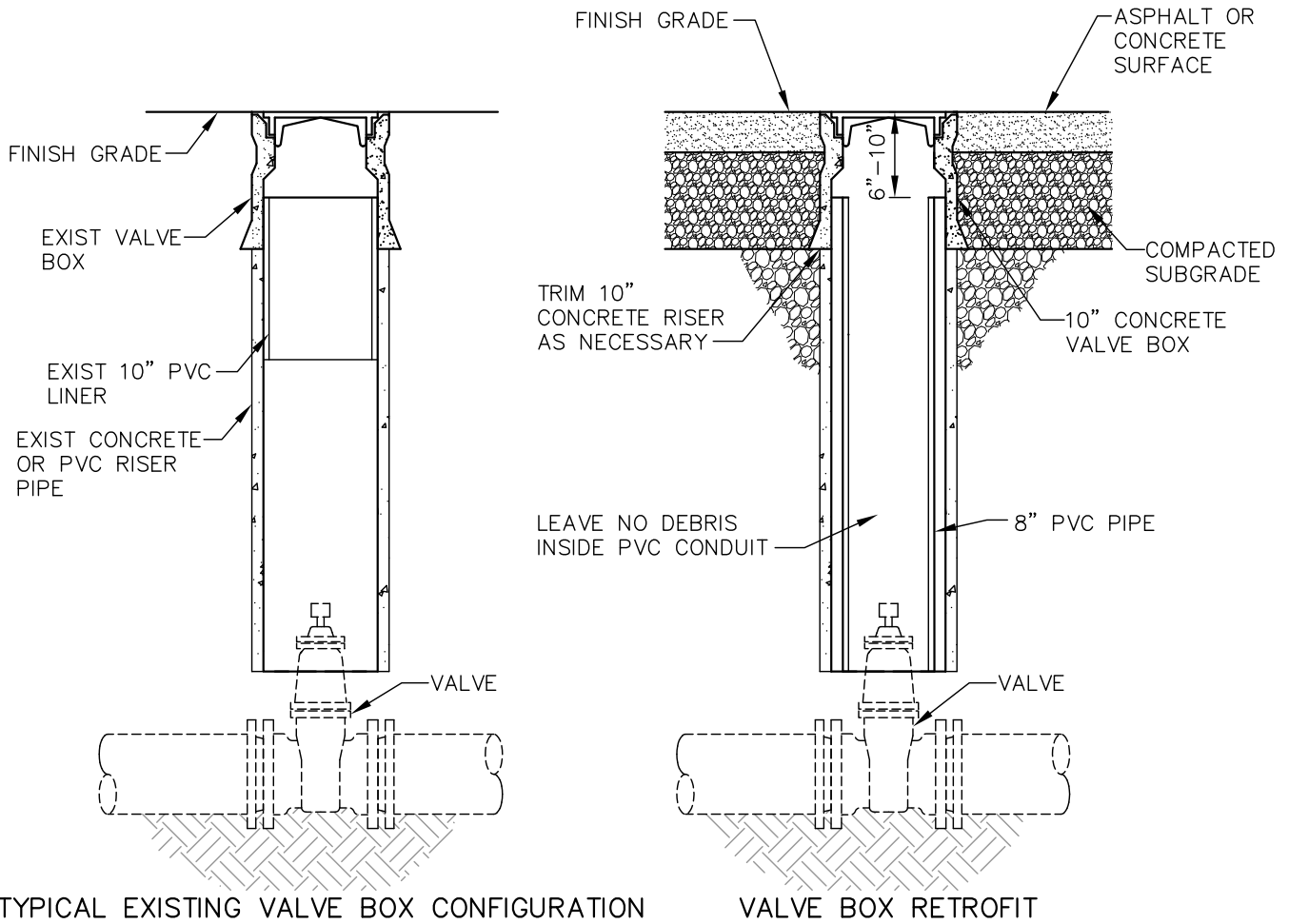
1. INSTALL VALVE BOX AND PVC PIPE IN A VERTICAL POSITION, CENTERED OVER VALVE NUT.
2. BACKFILL TO BOTTOM OF VALVE BOX USING 3/4"-0" CRUSHED ROCK.
3. CUT PVC PIPE TO REQUIRED LENGTH.

FUNC	BY	CHK	APP
DES	BIGELOW	CB	WM
DWN	NLN	SLA	WM
SPONSOR			
DATE: 06/11/10			

**WATER STANDARDS  
CONSTRUCTION  
VALVE BOXES  
TYPICAL INSTALLATION**

EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	NLN		
REFORMAT AND UPDATE			
DWG NO			REV
WC150			3



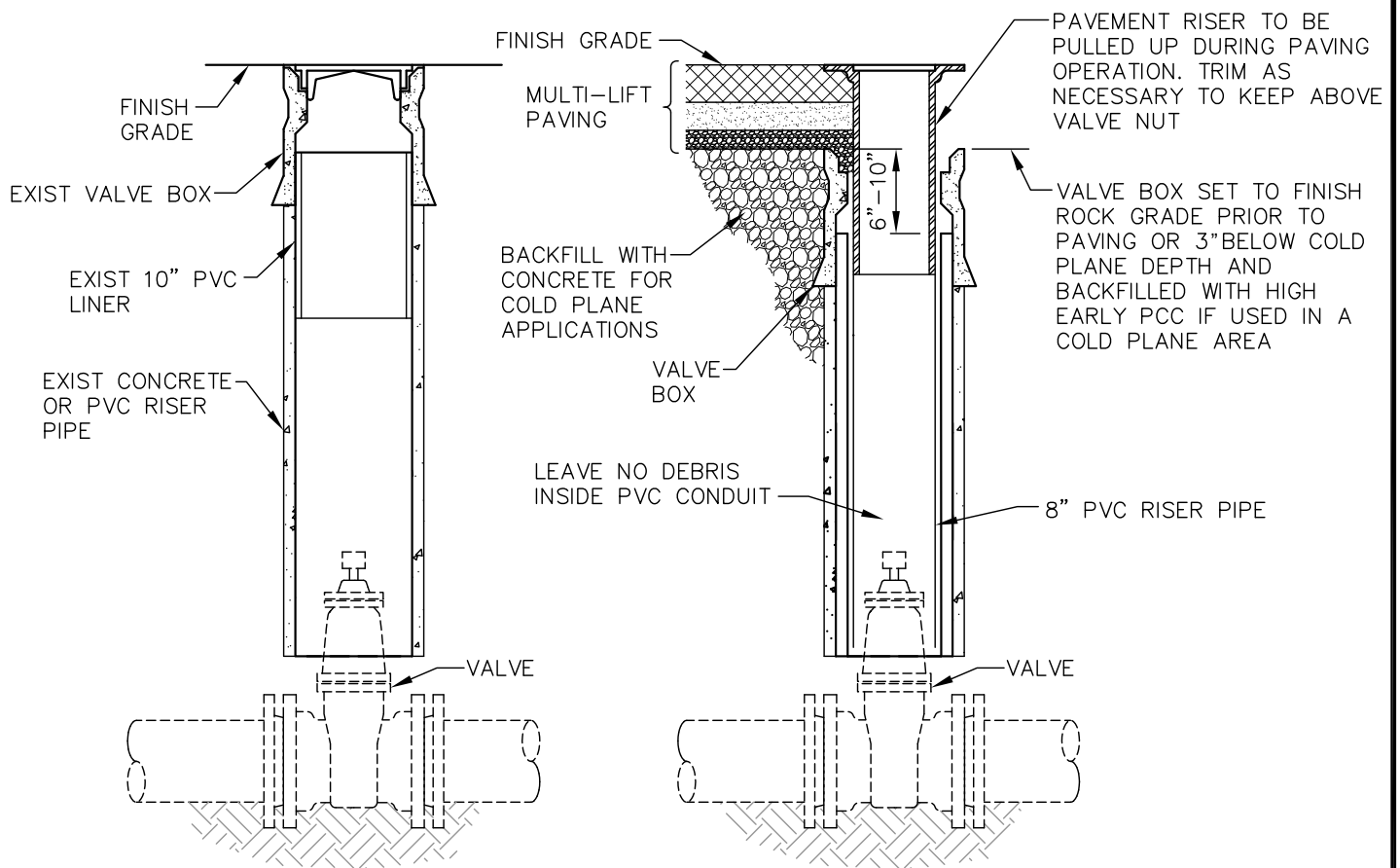
**NOTES:**

1. USE FOR STREET/SIDEWALK REBUILD WHEN VALVE BOX IS SET TO GRADE PRIOR TO PAVING OR PCC PLACEMENT.
2. REMOVE ALL MATERIAL AROUND VALVE BOX.
3. REMOVE EXISTING VALVE BOX AND DISCARD.
4. IF EXISTING RISER IS 8" PVC, IT MAY BE REUSED.
5. IF EXISTING RISER IS 10" CONCRETE THEN DO ONE OF THE FOLLOWING:
  - A. REMOVE EXISTING 10" CONCRETE RISER AND REPLACE IT WITH 8" PVC PIPE, CENTERED OVER VALVE NUT.
  - B. IF CONCRETE RISER IS CENTERED OVER VALVE NUT, INSTALL A NEW 8" PVC PIPE INSIDE EXISTING 10" VALVE RISER.
9. INSTALL NEW VALVE BOX AND LID TO FINISHED GRADE.

FUNC	BY	CHK	APP
DES	WADE		WM
DWN	NLN		WM
SPONSOR			
DATE: 01/08/15			

WATER STANDARDS  
 CONSTRUCTION  
 TYPICAL VALVE BOX RETROFIT  
 ASPHALT/CONCRETE SURFACE REBUILD  
 EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	NLN		
REFORMAT AND UPDATE			
DWG NO			REV
WC160			1

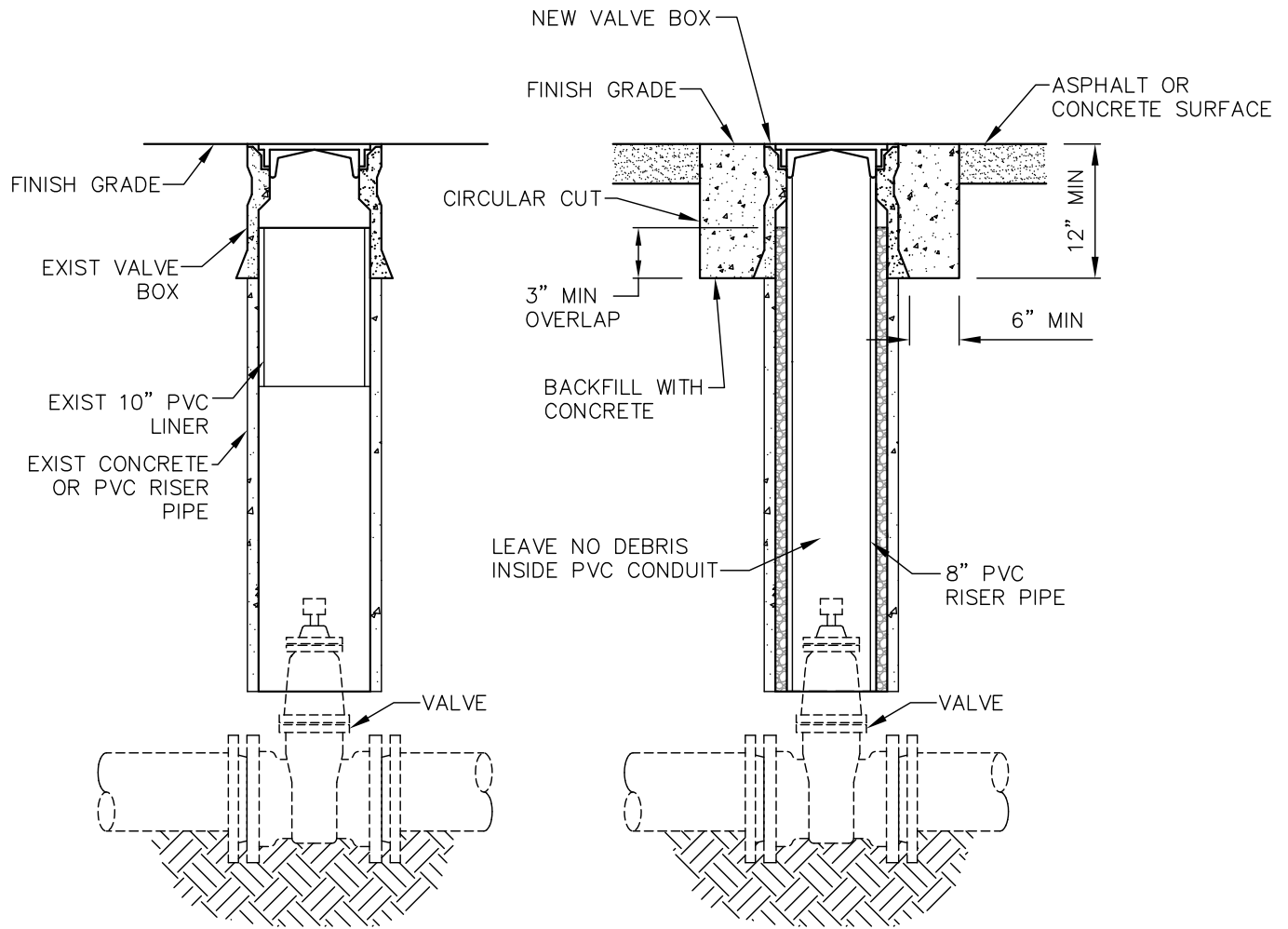


TYPICAL EXISTING VALVE BOX CONFIGURATION      VALVE BOX RETROFIT

**NOTES:**

1. USE THIS STANDARD FOR STREET REBUILDS WITH MULTIPLE LIFT ASPHALT OR COLD PLANE WITH ASPHALT PAVING.
2. IDENTIFY AND DOCUMENT ALL VALVE LOCATIONS.
3. REMOVE ALL MATERIAL AROUND VALVE BOX.
4. REMOVE EXISTING VALVE BOX. DISCARD IF DAMAGED
5. IF EXISTING RISER IS 8" PVC, IT MAY BE REUSED. TRIM TO REQUIRED HEIGHT.
6. IF EXISTING RISER IS 10" CONCRETE THEN DO ONE OF THE FOLLOWING:
  - A. REMOVE EXISTING 10" CONCRETE RISER AND REPLACE IT WITH 8" PVC PIPE, CENTERED OVER VALVE NUT.
  - B. IF CONCRETE RISER IS CENTERED OVER VALVE NUT, INSTALL A NEW 8" PVC PIPE INSIDE EXISTING 10" VALVE RISER.
9. FOR STREET RECONSTRUCT, INSTALL NEW VALVE BOX TO FINISH ROCK GRADE. WHEN A COLD PLANING, INSTALL VALVE BOX 3" BELOW COLD PLANE DEPTH AND BACKFILL PORTLAND CEMENT CONCRETE TO TOP OF VALVE BOX GRADE. COVER WITH TEMPORARY ASPHALT UNTIL PAVING.
10. INSTALL NEW VALVE BOX PAVING RISER AND PULL UP WITH EACH NEW PAVING LIFT.

FUNC	BY	CHK	APP	WATER STANDARDS CONSTRUCTION TYPICAL VALVE BOX RETROFIT STREET REBUILD W/ MULTI LIFT ASPHALT OR COLD PLANE  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: NTS			
DES	WADE	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	NLN	WM		09/23/15	NLN		
SPONSOR					REFORMAT AND UPDATE			
DATE: 01/24/12				DWG NO				REV
				WC170				4

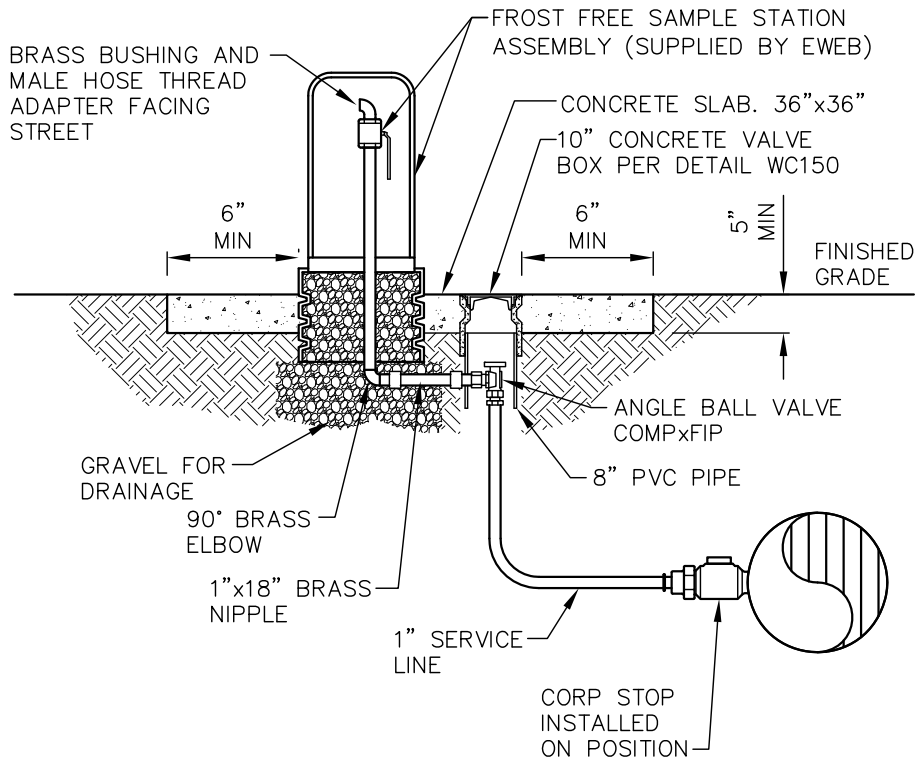


TYPICAL EXISTING VALVE BOX CONFIGURATION      VALVE BOX RETROFIT

**NOTES:**

1. USE THIS STANDARD ANYTIME A STREET CUT IS REQUIRED TO REPLACE THE VALVE BOX.
2. IDENTIFY AND DOCUMENT ALL VALVE LOCATIONS. REMOVE OR LOWER VALVE BOX PRIOR TO COLD PLANING AS NECESSARY.
3. MAKE A CIRCULAR CUT THROUGH EXISTING PAVING AND PROVIDE A MINIMUM OF 6" CLEARANCE FROM THE OUTSIDE OF THE VALVE BOX. AFTER THE CIRCULAR CUT IS MADE, REMOVE ALL MATERIAL TO DEPTH OF VALVE BOX.
4. REMOVE EXISTING VALVE BOX AND DISCARD.
5. IF EXISTING RISER IS 8" PVC, IT MAY BE REUSED.
6. IF EXISTING RISER IS 10" CONCRETE THEN DO ONE OF THE FOLLOWING:
  - A. REMOVE EXISTING 10" CONCRETE RISER AND REPLACE IT WITH 8" PVC PIPE, CENTERED OVER VALVE NUT.
  - B. IF CONCRETE RISER IS CENTERED OVER VALVE NUT, INSTALL A NEW 8" PVC PIPE INSIDE EXISTING 10" VALVE RISER.
9. INSTALL NEW VALVE BOX AND LID TO FINISHED GRADE.
10. CONCRETE COLLAR REQUIREMENTS, PER JURISDICTIONAL AUTHORITY REQUIREMENTS.

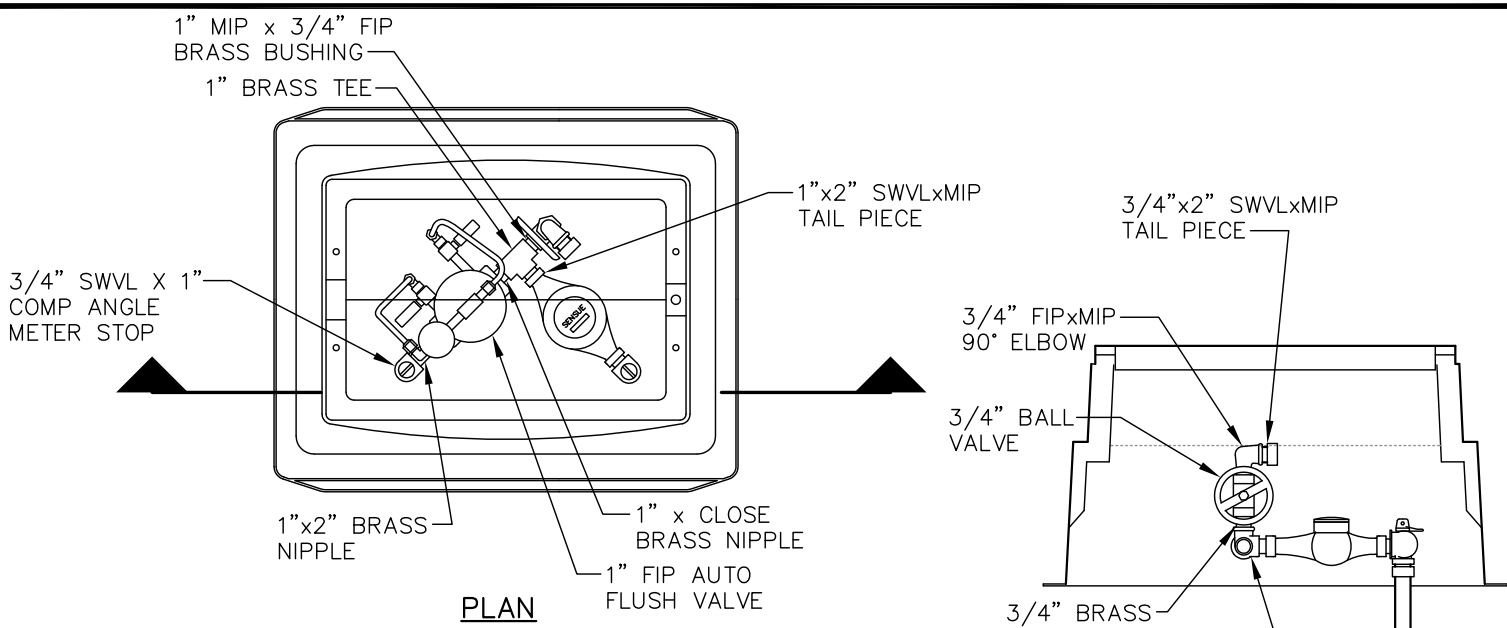
FUNC	BY	CHK	APP	WATER STANDARDS CONSTRUCTION TYPICAL VALVE BOX RETROFIT WHEN CIRCULAR CUT IS REQUIRED  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: NTS			
DES	WADE	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	SLA	WM		09/23/15	NLN		
SPONSOR					REFORMAT AND UPDATE			
DATE: 01/24/12					DWG NO			REV
				WC171			0	



**NOTES:**

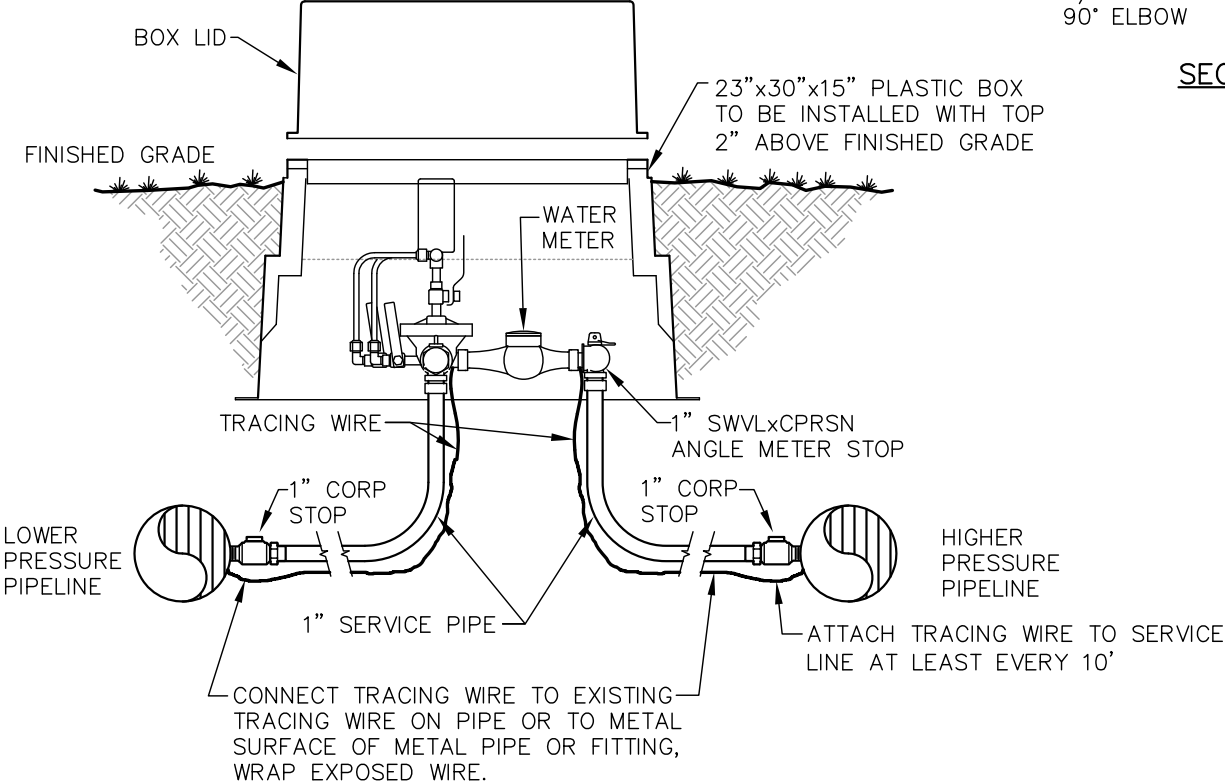
1. SAMPLE STATION MUST ADHERE TO CITY ADMINISTRATIVE RULE R-7.302-D FOR LOCATION OF ABOVE GROUND FACILITIES.
2. IF ON NON-METALLIC MAIN, INSTALL POLYETHYLENE COATED OR WRAPPED COPPER PIPE AND WRAP ALL METALLIC FITTINGS WITH WAX TAPE.

FUNC	BY	CHK	APP	<p><b>WATER STANDARDS CONSTRUCTION</b></p> <p><b>WATER SAMPLING STATION</b></p> <p>EUGENE WATER &amp; ELECTRIC BOARD - EUGENE, OREGON</p>	SCALE: NTS			
DES	WADE	CB	WM		REV DATE	BY	CHK	APP
DWN	NLN	SLA	WM		09/23/15	NLN		
SPONSOR					REFORMAT AND UPDATE			
DATE: 06/11/10					DWG NO			REV
				WC180			2	



**PLAN**

**SECTION**



**ELEVATION**

**NOTES:**

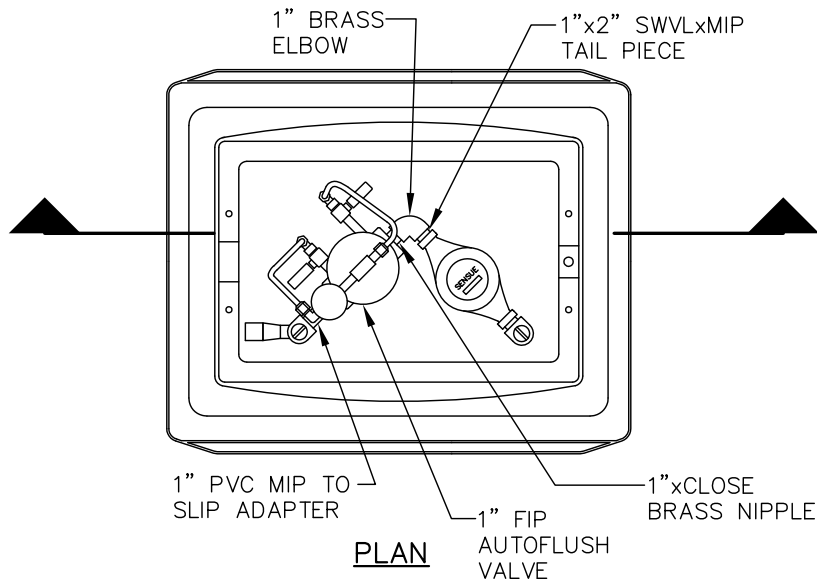
1. THE CORPORATION STOPS SHALL BE INSTALLED IN THE OPEN POSITION.
2. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. WRAP ALL METAL PARTS WITH WAX TAPE IF MAIN IS POLY WRAPPED, PVC, AC OR HDPE.
4. ALL HDPE SERVICE PIPE SHALL BE BACKFILLED WITH 3/4" MINUS CRUSHED ROCK. EXTRA CARE SHALL BE TAKEN TO ENSURE PROPER SUPPORT OF THE HDPE PIPE SO THE PIPE MATERIAL WILL NOT DEFORM OVER TIME. ALL BACKFILL SHALL BE TO 95% COMPACTION.

FUNC	BY	CHK	APP
DES	IRVIN		WM
DWN	NLN		WM
SPONSOR			
DATE: 07/22/15			

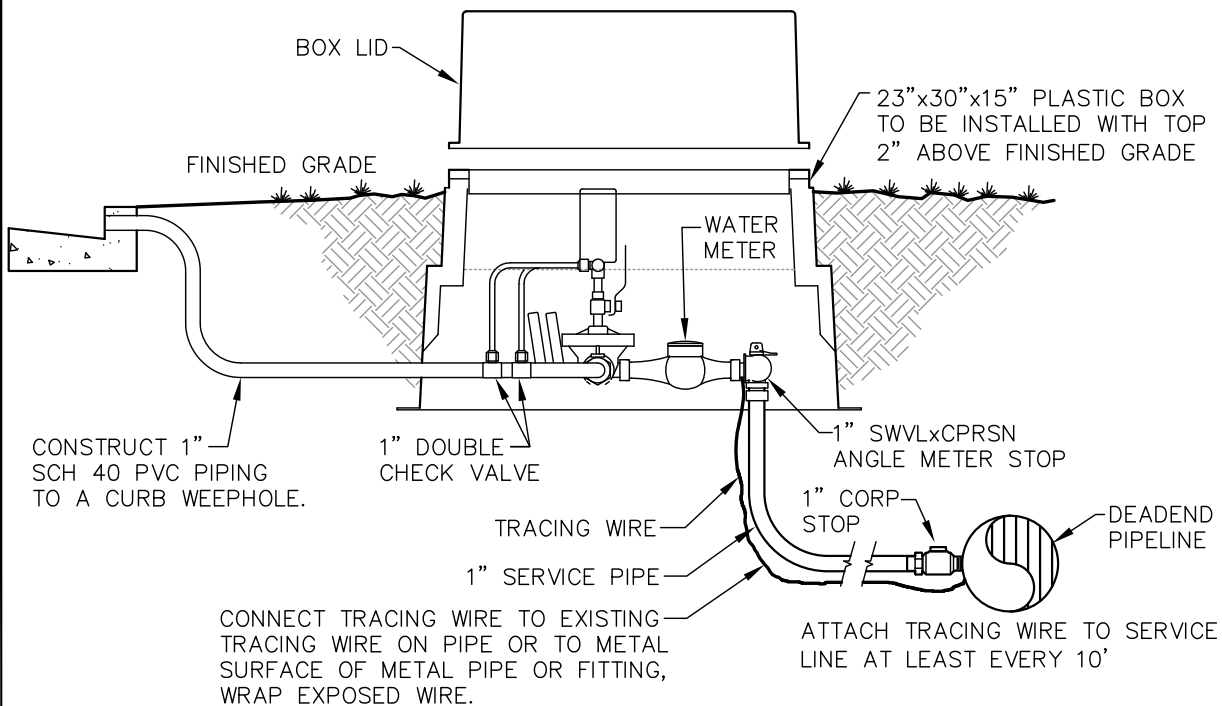
**WATER STANDARDS  
 CONSTRUCTION  
 AUTO FLUSH  
 BETWEEN PRESSURE ZONES (EWEB ONLY)**

EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC190			0



**PLAN**



**ELEVATION**

**NOTES:**

1. THE CORPORATION STOP SHALL BE INSTALLED IN THE OPEN POSITION.
2. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. WRAP ALL METAL PARTS WITH WAX TAPE IF MAIN IS POLY WRAPPED, PVC, AC OR HDPE.
4. ALL HDPE SERVICE PIPE SHALL BE BACKFILLED WITH 3/4" MINUS CRUSHED ROCK. EXTRA CARE SHALL BE TAKEN TO ENSURE PROPER SUPPORT OF THE HDPE PIPE SO THE PIPE MATERIAL WILL NOT DEFORM OVER TIME. ALL BACKFILL SHALL BE TO 95% COMPACTION.
5. EWEB WILL SET METER AND AUTO FLUSH VALVE. ALL OTHERS WORK BY CONTRACTOR.

FUNC	BY	CHK	APP
DES	IRVIN		WM
DWN	NLN		WM
SPONSOR			
DATE: 07/22/15			

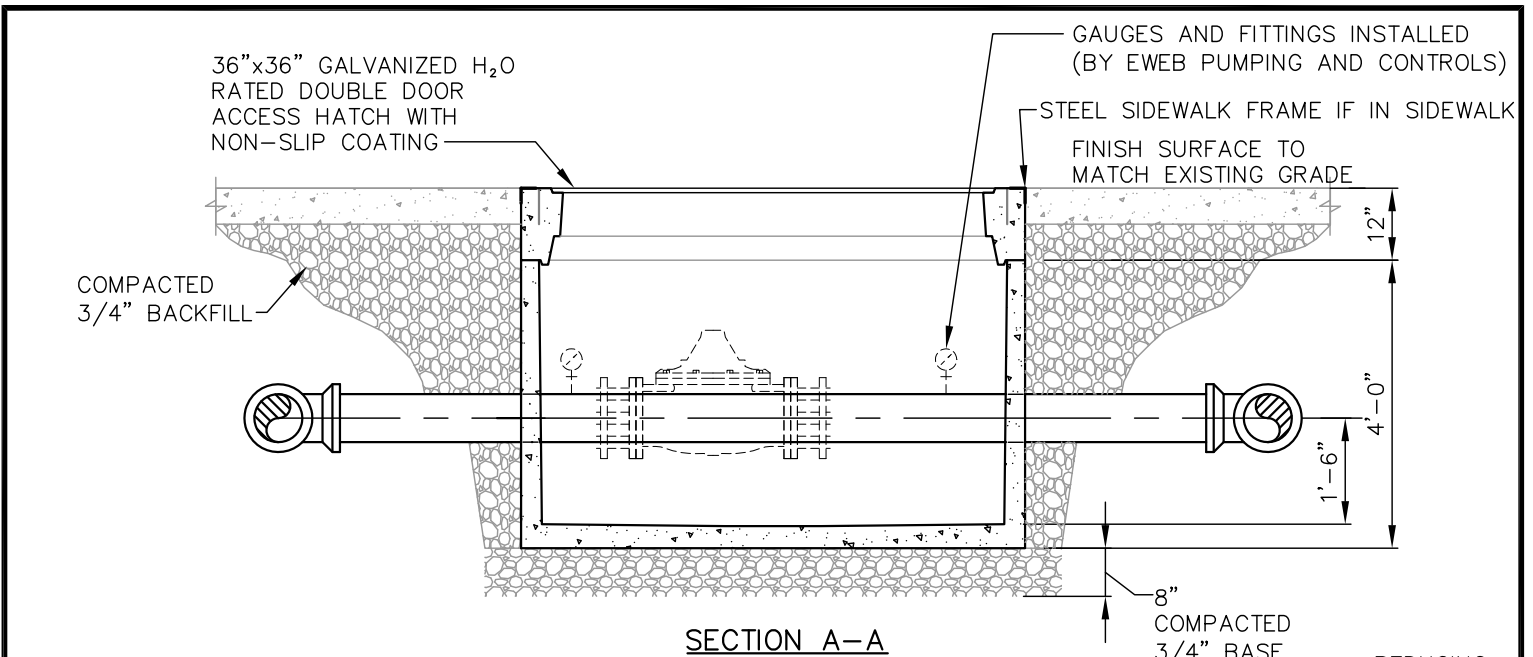
**WATER STANDARDS  
 CONSTRUCTION  
 AUTO FLUSH  
 FOR DEADEND MAINS**

EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC200			0



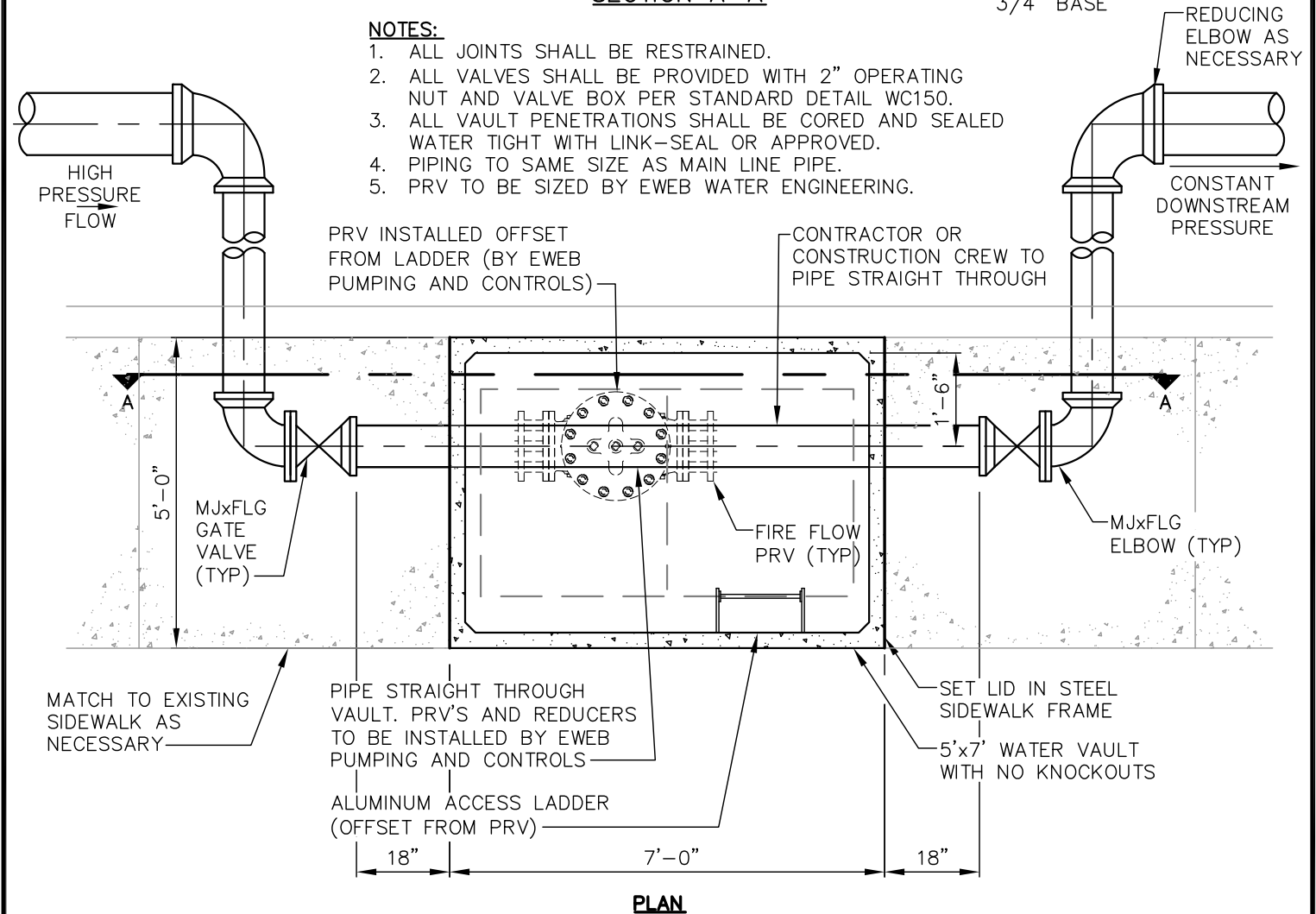




**SECTION A-A**

**NOTES:**

1. ALL JOINTS SHALL BE RESTRAINED.
2. ALL VALVES SHALL BE PROVIDED WITH 2" OPERATING NUT AND VALVE BOX PER STANDARD DETAIL WC150.
3. ALL VAULT PENETRATIONS SHALL BE CORED AND SEALED WATER TIGHT WITH LINK-SEAL OR APPROVED.
4. PIPING TO SAME SIZE AS MAIN LINE PIPE.
5. PRV TO BE SIZED BY EWEB WATER ENGINEERING.



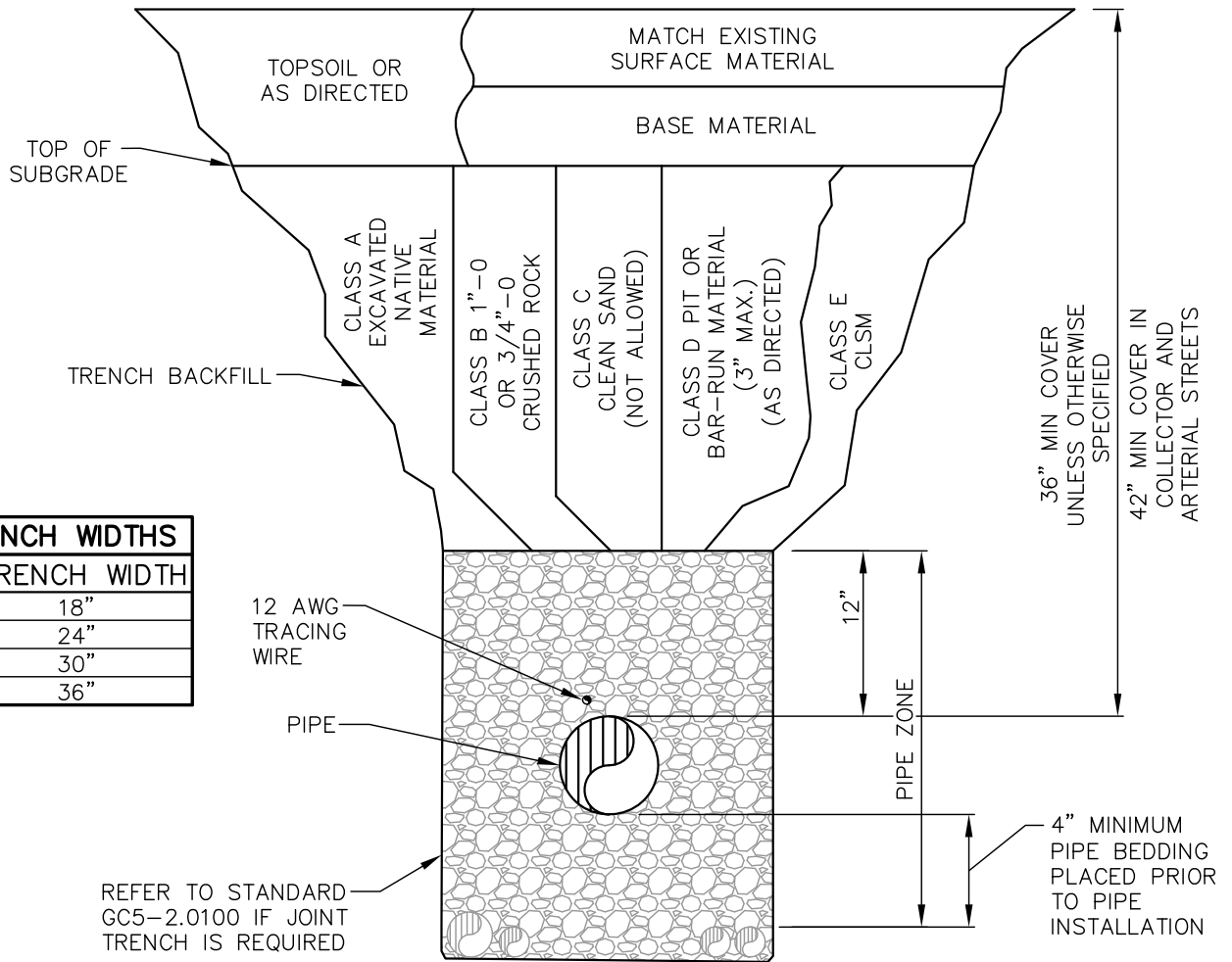
**PLAN**

FUNC	BY	CHK	APP
DES	IRVIN		WM
DWN	NLN		WM
SPONSOR			
DATE: 07/22/15			

**WATER STANDARDS  
 CONSTRUCTION  
 TYPICAL PRESSURE REDUCING VALVE (PRV) VAULT  
 WITH NO BYPASS**

EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON

SCALE: NTS			
REV DATE	BY	CHK	APP
09/23/15	ESR		
REFORMAT AND UPDATE			
DWG NO			REV
WC211			0



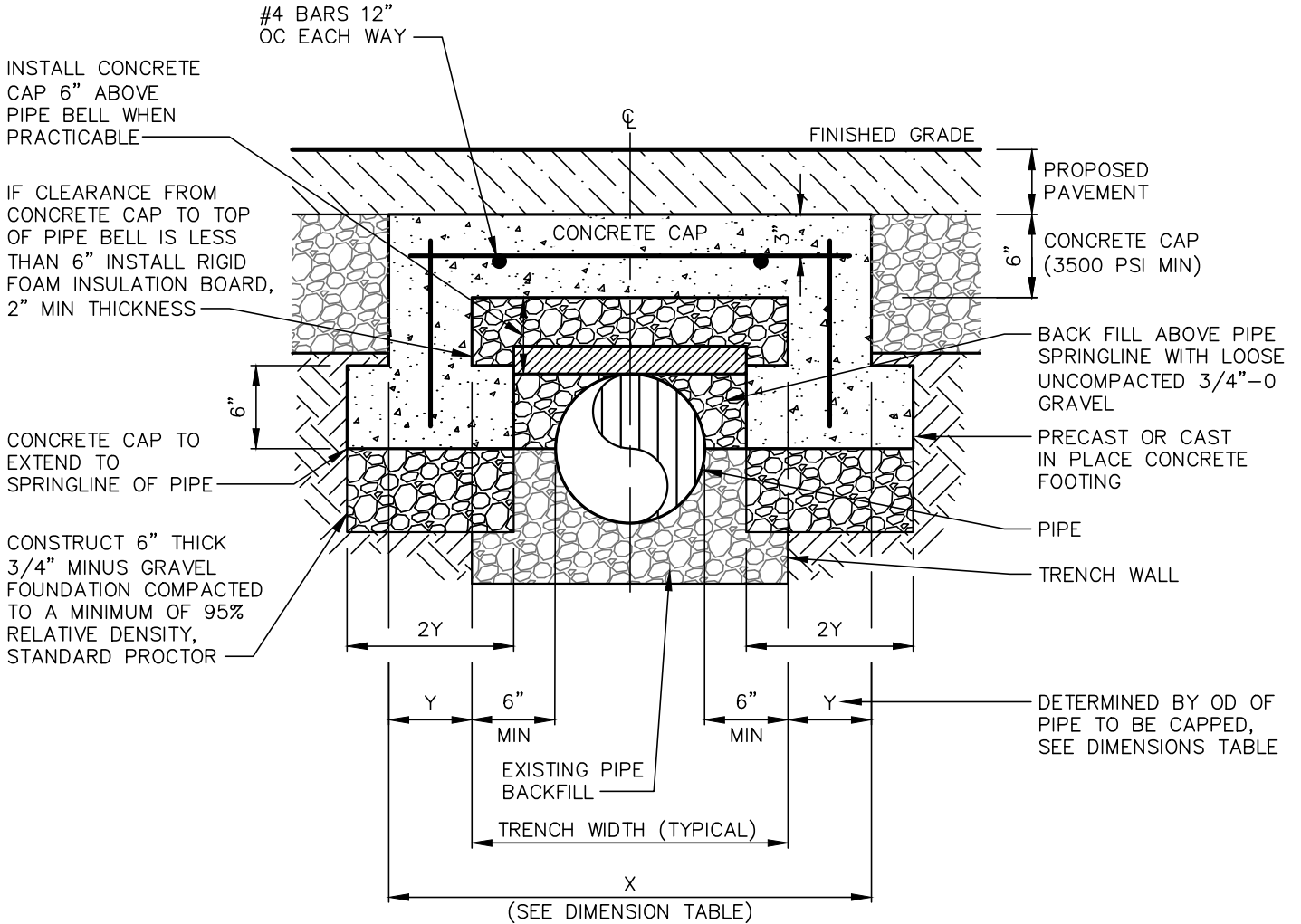
MINIMUM TRENCH WIDTHS	
PIPE SIZE	TRENCH WIDTH
< 4"	18"
4"-8"	24"
12"	30"
16"	36"

**DETAIL SPECIFIC NOTES:**

1. SEE JURISDICTION AUTHORITIES TYPICAL STREET CUT DETAIL OR PERMIT CONDITIONS FOR SURFACE RESTORATION REQUIREMENTS RELATED TO EACH PROJECT.
2. CALL 811 FOR LOCATES PRIOR TO GROUND DISTURBANCE.
3. RESTORE ALL DISTURBED SURFACES TO ORIGINAL OR BETTER CONDITIONS. PROVIDE 12" MINIMUM IMPORTED TOPSOIL AND MULCH/SOD TO MATCH OUTSIDE OF PAVED SURFACES.
4. FOR PIPELINES LARGER THAN 16", A TRENCH SECTION SHALL BE DESIGNED BY AN ENGINEER.
5. EXCAVATE TRENCH WALLS AS CLOSE TO VERTICAL AS PRACTICABLE.
6. BACKFILL USING 12" MAXIMUM LIFTS COMPACTED TO 95% OF AASHTO T99 OR AS REQUIRED BY JURISDICTIONAL AUTHORITY.
7. ONLY HAND OPERATED COMPACTION EQUIPMENT MAY BE USED IN PIPE ZONE.

FUNC	BY	CHK	APP	<b>WATER STANDARDS CONSTRUCTION</b>  <b>TYPICAL TRENCH SECTION</b>  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: NTS			
DES	IRVIN		WM		REV DATE	BY	CHK	APP
DWN	NLN		WM		09/23/15	ESR		
SPONSOR					REFORMAT AND UPDATE			
DATE: 07/22/15				DWG NO				REV
				WC220				0

DIMENSIONS		
PIPE SIZE	X	Y
≤12"	36"	6"
16"-24"	54"	9"
24" AND LARGER	2x PIPE OD	12"



**NOTES:**

1. PIPE CAP MAY BE REQUIRED WHENEVER SUBGRADE EXCAVATION WILL OCCUR WITHIN 24" OF EXISTING PIPE, OR WHEN DEEMED NECESSARY BY EWEB.

INFORMATION SHOWN IS FOR EWEB USE ONLY AND IS NOT WARRANTED TO BE ACCURATE FOR UNINTENDED PURPOSES.

FUNC	BY	CHK	APP	WATER DISTRIBUTION WATER MAINS CONCRETE CAP TRENCH SECTION  EUGENE WATER & ELECTRIC BOARD - EUGENE, OREGON	SCALE: 1"=1'-0"			
DES	IRVIN				REV DATE	BY	CHK	APP
DWN	ESR	ESR						
SPONSOR					DWG NO			
DATE: 3-17-16					WC230			
				REV				
				0				