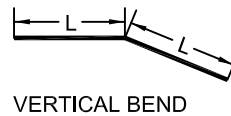
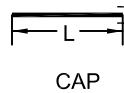
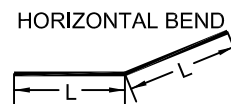
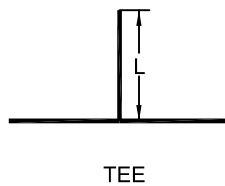


LENGTH OF HORIZONTAL RESTRAINED PIPE

	PIPE SIZE	4"	6"	8"	12"	16"	18"	24"
FITTING TYPE								
TEE/ CROSS		10'	10'	31'	72'	113'	131'	188'
90° BEND		24'	34'	44'	60'	75'	82'	102'
45° BEND		10'	14'	18'	25'	32'	34'	43'
22 1/2° BEND		5'	7'	9'	12'	15'	17'	21'
11 1/4° BEND		5'	5'	5'	6'	8'	9'	11'
CAP		68'	95'	124'	175'	223'	246'	313'



NOTE:

1. ALL FITTINGS SHALL BE RESTRAINED.
2. ALL T-BOLTS SHALL BE COR-BLUE. ALL OTHER BOLTS SHALL BE STAINLESS STEEL.
3. WHEN REDUCERS ARE USED AT FITTINGS, THE LENGTH OF RESTRAINED PIPE SHALL BE BASED ON THE LARGER PIPE SIZE.
4. BASED ON PVC @ 200 PSI S.F. =2, SOIL TYPE GW, TYPE 4 TRENCH.
5. DESIGN ENGINEER MAY SUBMIT CALCULATIONS FOR VARYING CONDITIONS.

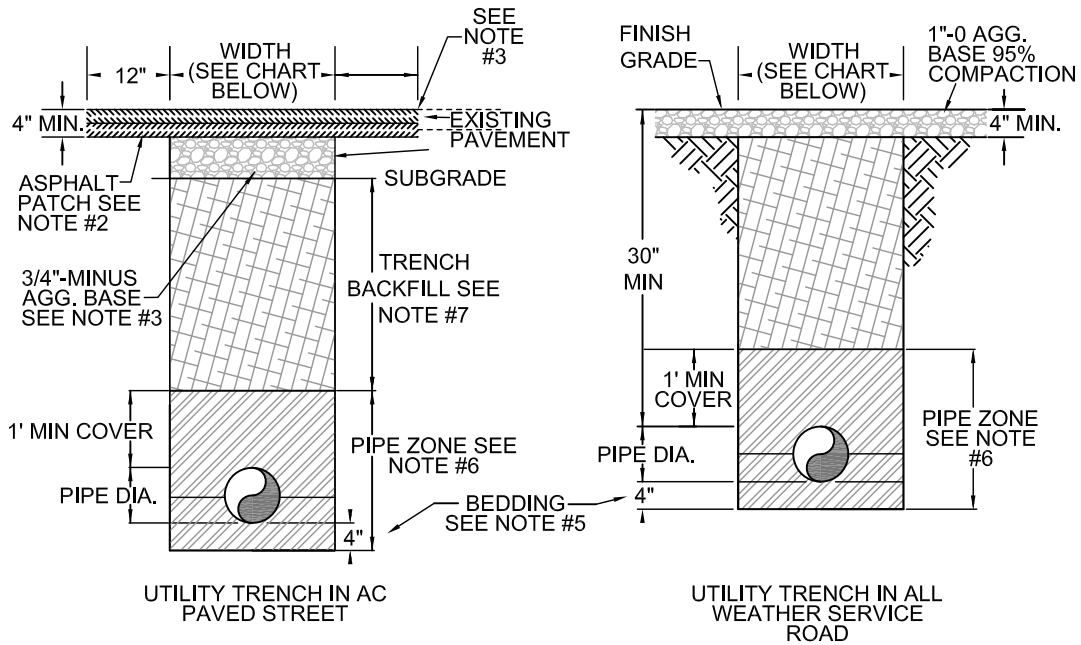


**DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL**

GENERAL NOTES

SCALE: NTS
DRAWN BY: DLC
APPROVED BY: JSG
REVISION DATE: 03/22/2023

DRAWING
NO.
1-1



TRENCH WIDTH & DEPTH

PIPE SIZE I.D.	DEPTH MIN.	WIDTH MIN.
LESS THAN 6"	38"	24"
6"	40"	24"
8"	42"	26"
10"	44"	26"
12"	46"	26"
15"	49"	30"
18"	52"	34"

NOTE:

1. SAW CUT JOINTS SHALL BE TACKED AND SAND SEALED.
2. ASPHALT PATCH SECTION SHALL BE NOT LESS THAN 4" THICK, PLACED IN TWO LIFTS NOT TO EXCEED 2".
3. BASE MATERIAL SHALL MEET APPLICABLE JURISDICTIONAL STANDARDS.
4. TRENCHES LESS THAN 24" IN WIDTH UNDER PAVEMENT, CURB AND/OR SIDEWALK AREAS SHALL BE BACKFILLED PER APPLICABLE JURISDICTIONAL STANDARDS. TRENCHES IN HIGH TRAFFIC AREAS MAY BE REQUIRED TO BE BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL AS REQUIRED PER APPLICABLE JURISDICTIONAL STANDARDS.
5. PIPE BEDDING SHALL BE 4" MINIMUM DEPTH.
6. PIPE ZONE MATERIAL SHALL BE CLASS "B" BACKFILL , COMPACTED TO 95% OF MAXIMUM DENSITY AASHTO T-99. FOR PIPES LARGER THAN 3" PLACE FIRST LIFT TO PIPE CENTERLINE.
7. CLASS "A" TRENCH BACKFILL MATERIAL IS ALLOWED FROM 2' ABOVE PIPE TO SUBGRADE FOR TRENCHES DEEPER THAN 6 FEET (FINISH GRADE TO TOP OF PIPE).

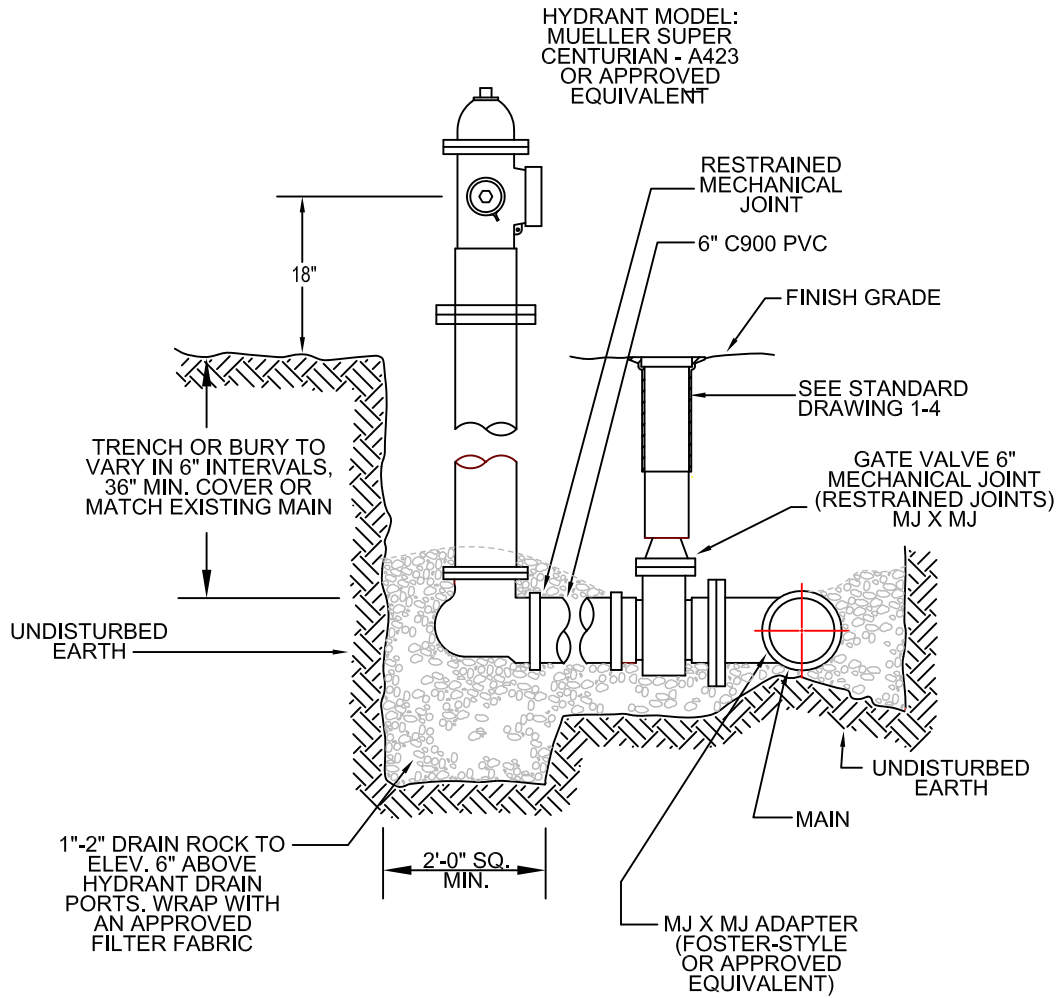


DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL

UTILITY TRENCH

SCALE: NTS
DRAWN BY: DLC
APPROVED BY: JSG
REVISION DATE: 03/22/2023

DRAWING NO.
1-2



NOTE:

1. ALL FITTINGS RESTRAINED
2. ALTERNATE THRUST BLOCKING MUST BE APPROVED BY THE DISTRICT

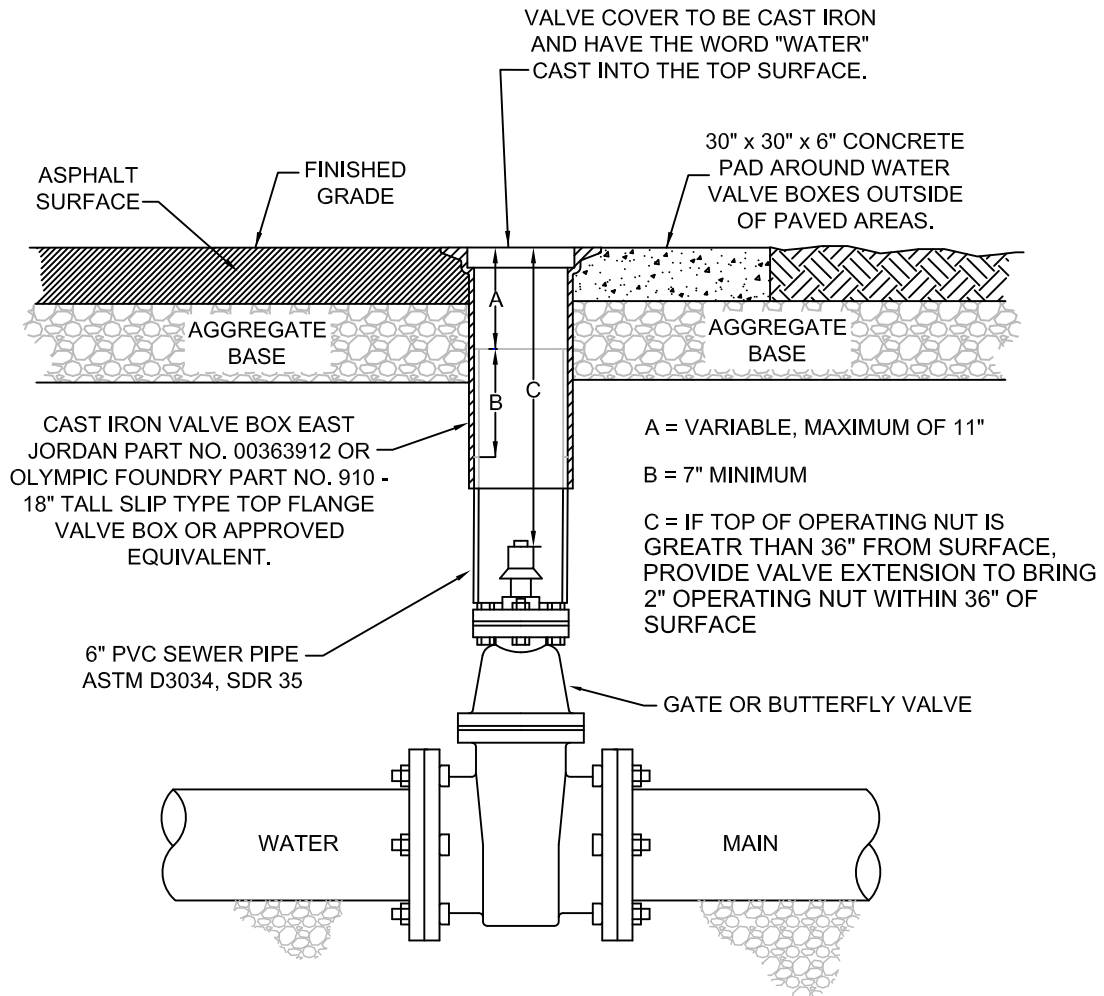


DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL

FIRE HYDRANT & GATE VALVE CONTROL INSTALLATION

SCALE: NTS
DRAWN BY: DLC
APPROVED BY: JSG
REVISION DATE: 03/22/2023

DRAWING
NO.
1-3

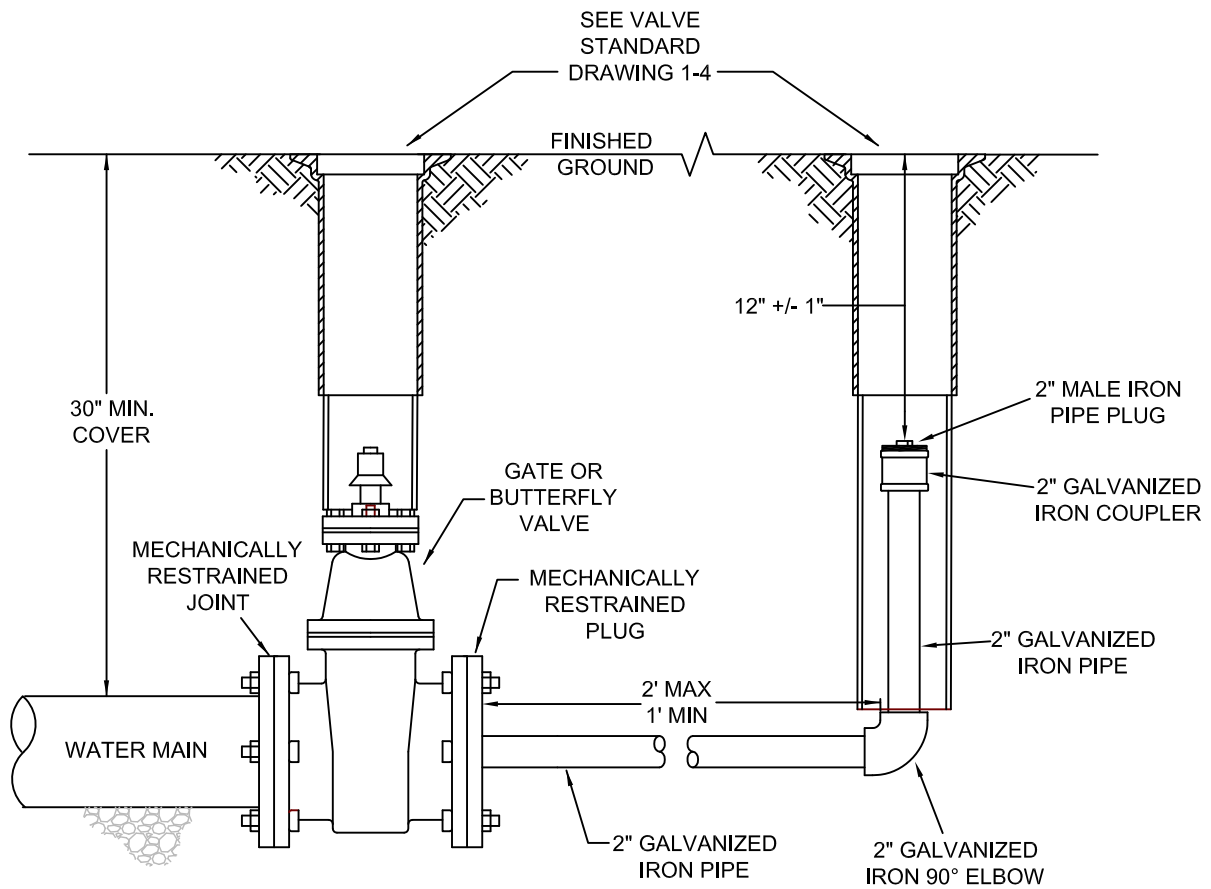


DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL

TYPICAL VALVE AND BOX INSTALL

SCALE: NTS
DRAWN BY: DLC
APPROVED BY: JSG
REVISION DATE: 03/22/2023

DRAWING NO.
1-4



NOTE:

- IF MAIN IS 6" OR SMALLER USE 2" GALVANIZED FOR BLOW/OFF INSTALLATION.
- IF MAIN IS 8" OR LARGER USE 4" GALVANIZED FOR BLOW OFF INSTALLATION

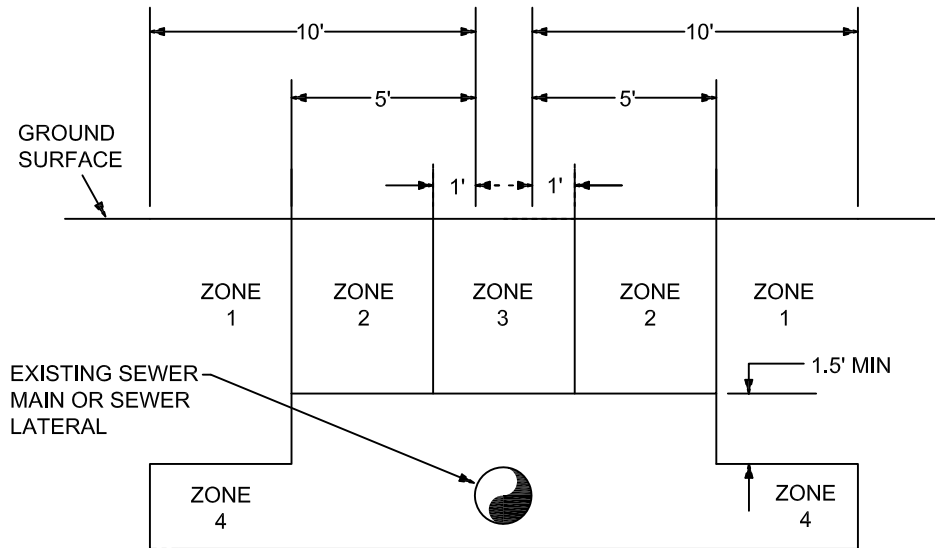


DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL

TYPICAL 2" BLOW OFF INSTALLATION

SCALE: NTS
DRAWN BY: DLC
APPROVED BY: JSG
REVISION DATE: 3/22/2023

DRAWING NO.
1-5

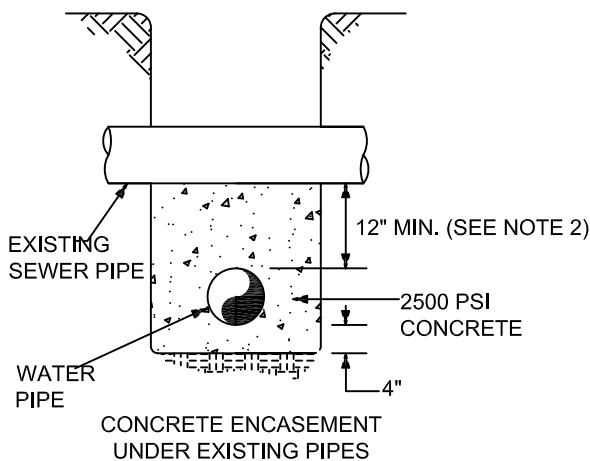


WATER & SEWER LINE IN PARALLEL CONDITIONS

ZONE	VERTICAL SEPARATION	HORIZONTAL SEPARATION	RESTRICTIONS
1	WATER LINE HIGHER THAN SEWER	5'	ONLY CROSSING RESTRICTIONS APPLY
1	WATER LINE LEVEL OR LOWER THAN SEWER	10'	ONLY CROSSING RESTRICTIONS APPLY
2	WATER LINE 1.5' HIGHER THAN SEWER	GREATER THAN 1', LESS THAN 5'	CASE BY CASE DETERMINATION
3	WATER LINE 1.5' HIGHER THAN SEWER	LESS THAN 1'	PARALLEL WATER LINE PROHIBITED
4	WATER LINE LESS THAN 1.5' ABOVE SEWER	LESS THAN 5'	PARALLEL WATER LINE PROHIBITED
4	WATER LINE LEVEL OR LOWER THAN SEWER	LESS THAN 10'	PARALLEL WATER LINE PROHIBITED

NOTE:

1. WATER & SEWER LINE CROSSINGS SHALL COMPLY WITH DESIGN STANDARDS, 11C. SEWER OR O.A.R. 333-61-050 FOR SEPARATION AND PIPE MATERIAL REQUIREMENTS.
2. SEPARATION LESS THAN 12" FOR WATER & SEWER LINE CROSSINGS MUST BE APPROVED BY THE CITY ENGINEER.
3. CONCRETE ENCASEMENT TO BE USED IN CASES WHERE A CITY WATER MAIN CROSSES UNDER AN EXISTING SEWER MAIN, WITH CITY APPROVAL. MINIMUM ENCASEMENT LENGTH SHALL BE 3' EACH SIDE.
4. UNDERGROUND UTILITIES SHALL NOT BE LOCATED CLOSER THAN 10' HORIZONTALLY FROM ANY WATER AND SEWER MAIN. UNDER SPECIAL PERMISSION FROM THE DISTRICT ENGINEER, SEPARATION MAY BE REDUCED TO 5'.



**DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL**

WATER LINE AND SEWER LINE SEPARATION

SCALE: NTS

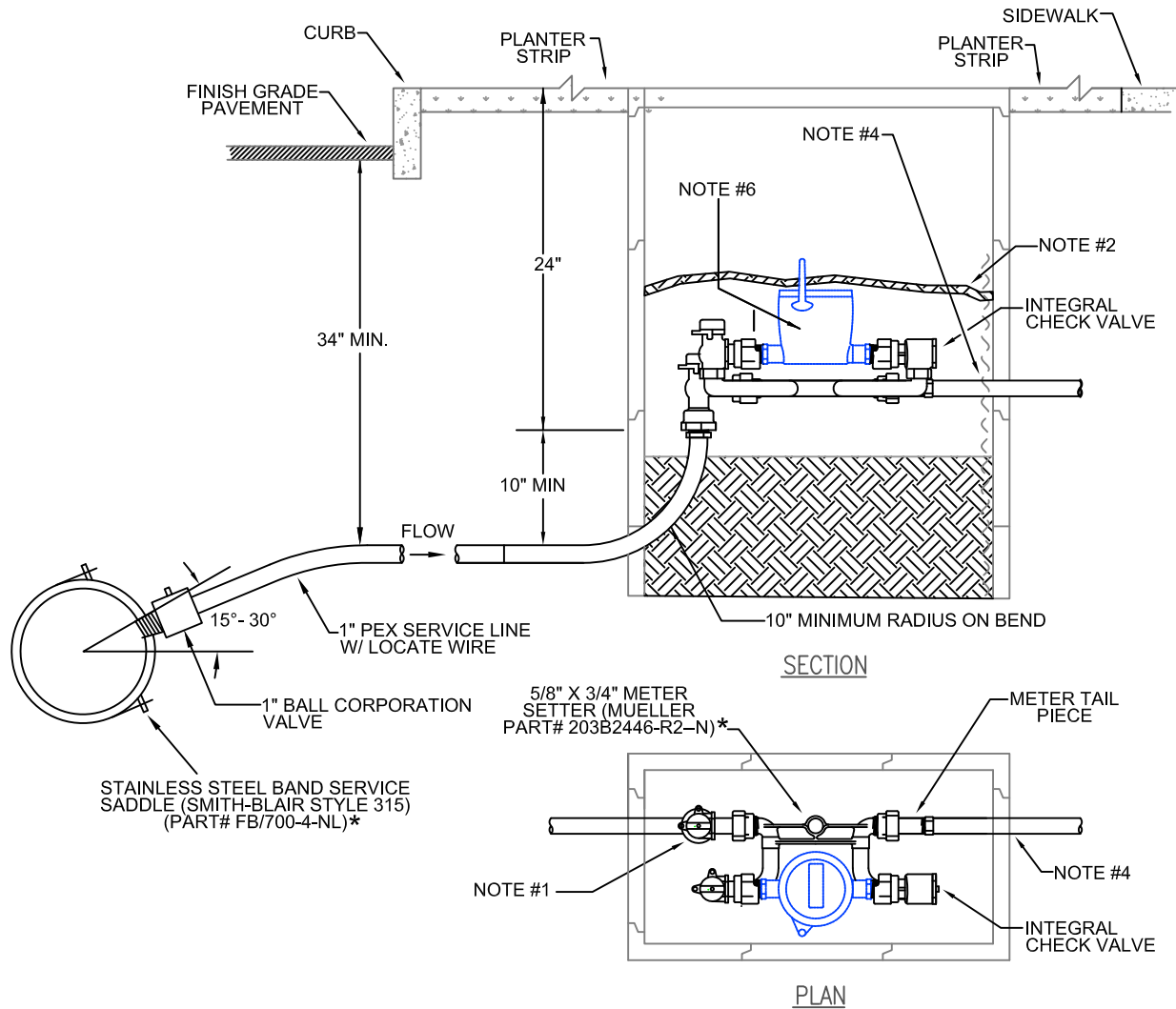
DRAWN BY: DLC

APPROVED BY: JSG

REVISION DATE: 3/22/2023

DRAWING
NO.

1-6



*OR APPROVED EQUIVALENT

METER BOXES		
METER SIZE	BOX TYPE	LID TYPE
5/8" -1"	POLYMER CONCRETE 20,000 LBS RATING	POLYMER CONCRETE - 20,000 LBS RATING W/CAST IRON READER OPENING

NOTE:

1. ANGLE METER VALVE 1" X 3/4" (FEMALE PIPE THREAD) X 1" (PEX ADAPTER)
2. 1/2" CROSSLINK CLOSED CELL NATURAL T20 INSULATION, CUT TO FIT METER BOX - ANTENNA MUST STAY EXPOSED
3. IF SIDEWALK IS CURB-TIGHT THEN BOX CAN BE SET ON CUSTOMER SIDE
4. CUSTOMER SIDE OF METER. CUSTOMER RESPONSIBLE FOR MAINTENANCE & REPAIR AFTER METER TAIL PIECE
5. PRV IS RECOMMENDED ON CUSTOMER SIDE OF METER
6. RESIDENTIAL METER SUPPLIED & INSTALLED BY DVWD. 5/8" X 3/4", 1" OR 2"

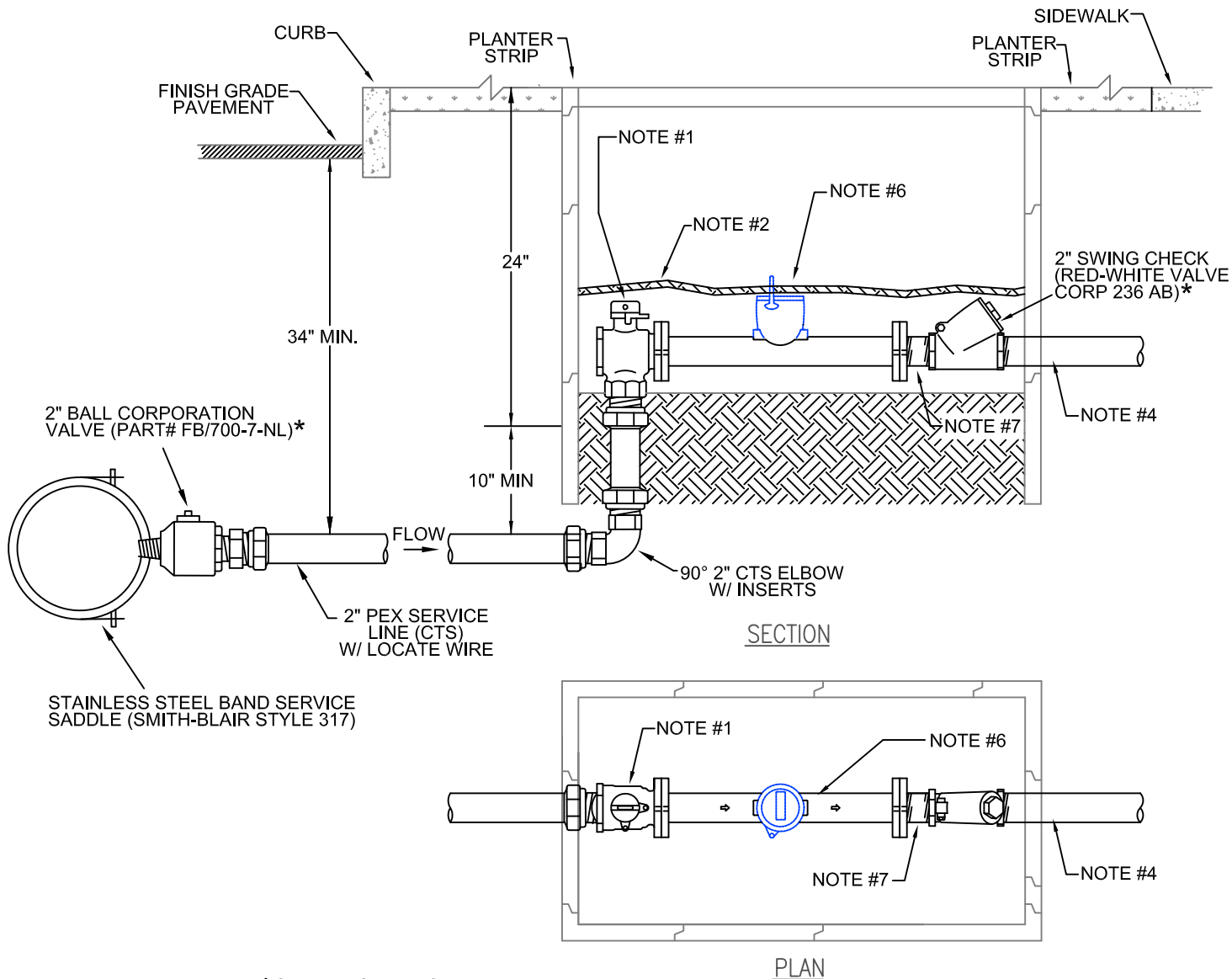


DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL

3/4" & 1" METER DETAIL

SCALE: NTS
DRAWN BY: DLC
APPROVED BY: JSG
REVISION DATE: 12/03/2024

DRAWING NO.
1-7



*OR APPROVED EQUIVALENT

LANDSCAPE AREAS				SIDEWALK / TRAFFIC AREAS	
METER SIZE	BOX SIZE	BOX TYPE	LID TYPE	BOX TYPE	LID TYPE
1.5"-2"	17x30	HPDE	HDPE W/CAST IRON READER OPENING	POLYMER CONCRETE 20,000 LBS RATING	POLYMER CONCRETE - 20,000 LBS RATING W/CAST IRON READER OPENING
OVER 2"	*TO BE APPROVED BY DVWD			*TO BE APPROVED BY DVWD	

NOTE:

1. 2" ANGLE METER STOP W/ 2" FEMALE THREAD X FLANGE
2. 1/2" CROSSLINK CLOSED CELL NATURAL T20 INSULATION, CUT TO FIT METER BOX - ANTENNA MUST STAY EXPOSED
3. IF SIDEWALK IS CURB-TIGHT THEN BOX CAN BE SET ON CUSTOMER SIDE
4. CUSTOMER SIDE OF METER. CUSTOMER RESPONSIBLE FOR MAINTENANCE & REPAIR AFTER 2" SWING CHECK
5. PRV IS RECOMMENDED ON CUSTOMER SIDE OF METER
6. RESIDENTIAL METER SUPPLIED & INSTALLED BY DVWD. 5/8" X 3/4", 1" OR 2"
7. 2" STAINLESS STEEL STUB (2" X 3" TYPICALLY)

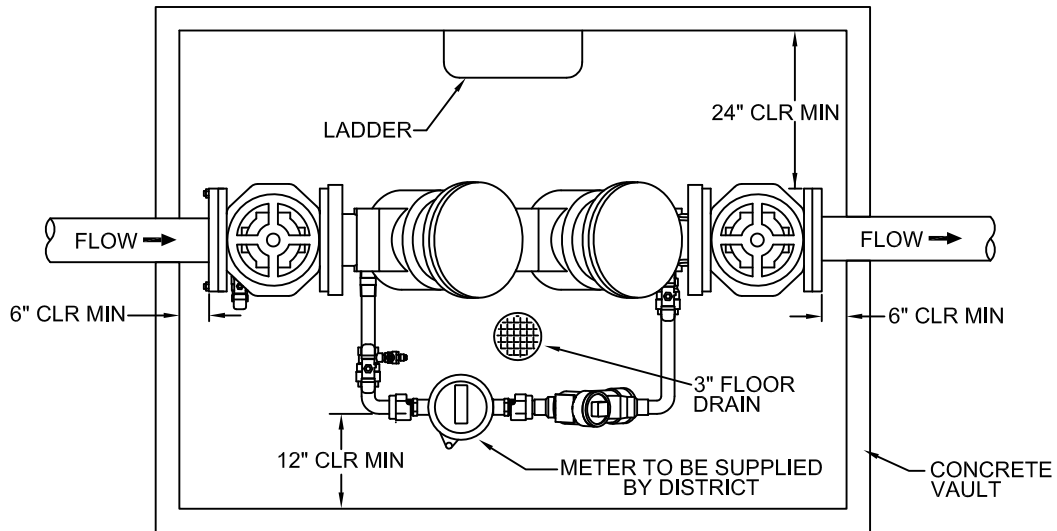


DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL

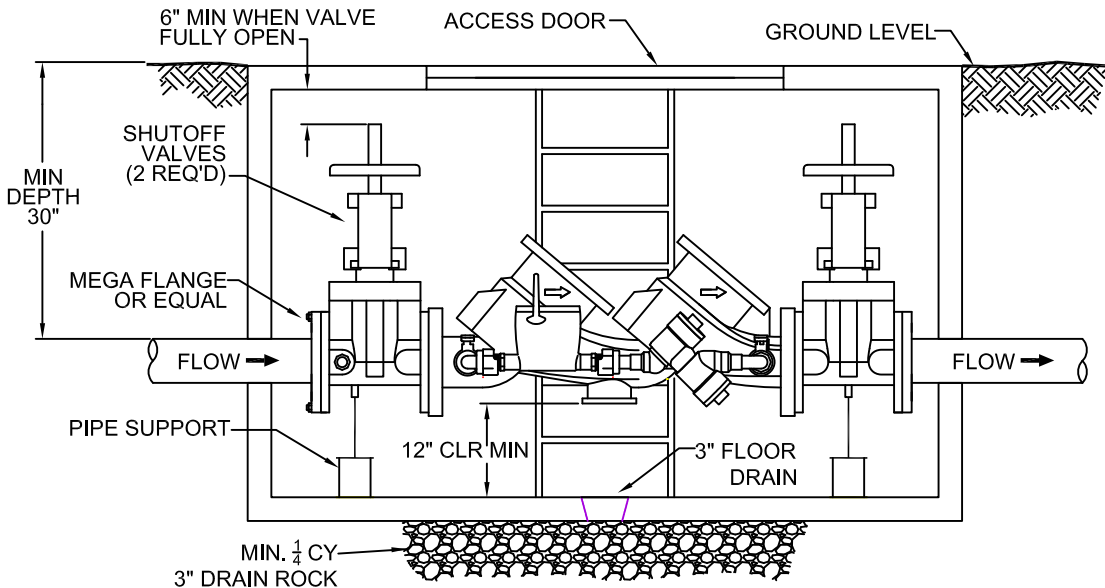
2" METER DETAIL

SCALE: NTS
DRAWN BY: DLC
APPROVED BY: JSG
REVISION DATE: 8/14/2024

DRAWING NO.
1-7-2



PLAN



SECTION

VAULT MODEL

PIPE SIZE	UTILITY VAULT OR EQUAL	BILCO DOOR OR EQUAL
3	660-WA	J-5AL
4	577-WA	J-5AL
6	676-WA	J-5AL
8	687-WA	JD-3AL
10	5106-LA	JD-3AL

NOTES

1. ALL DIMENSIONS ARE MINIMUM REQUIREMENTS.
2. CONTRACTOR TO SEAL ALL OPENINGS IN VAULT WITH NON-SHRINK GROUT PRIOR TO BACKFILLING.
3. VAULT AND LID SHALL BE TRAFFIC RATED.
4. RESTRAIN PIPE 20' BEFORE VAULT.
5. LOCATED OUTSIDE PUE AS CLOSE TO PROPERTY LINE AS POSSIBLE.



**DESCHUTES VALLEY WATER DISTRICT
STANDARD DETAIL**

FIRE SERVICE VAULT (DCDA)

SCALE: NTS

DRAWN BY: DLC

APPROVED BY: JSG

REVISION DATE: 6/26/2024

DRAWING
NO.

1-8