
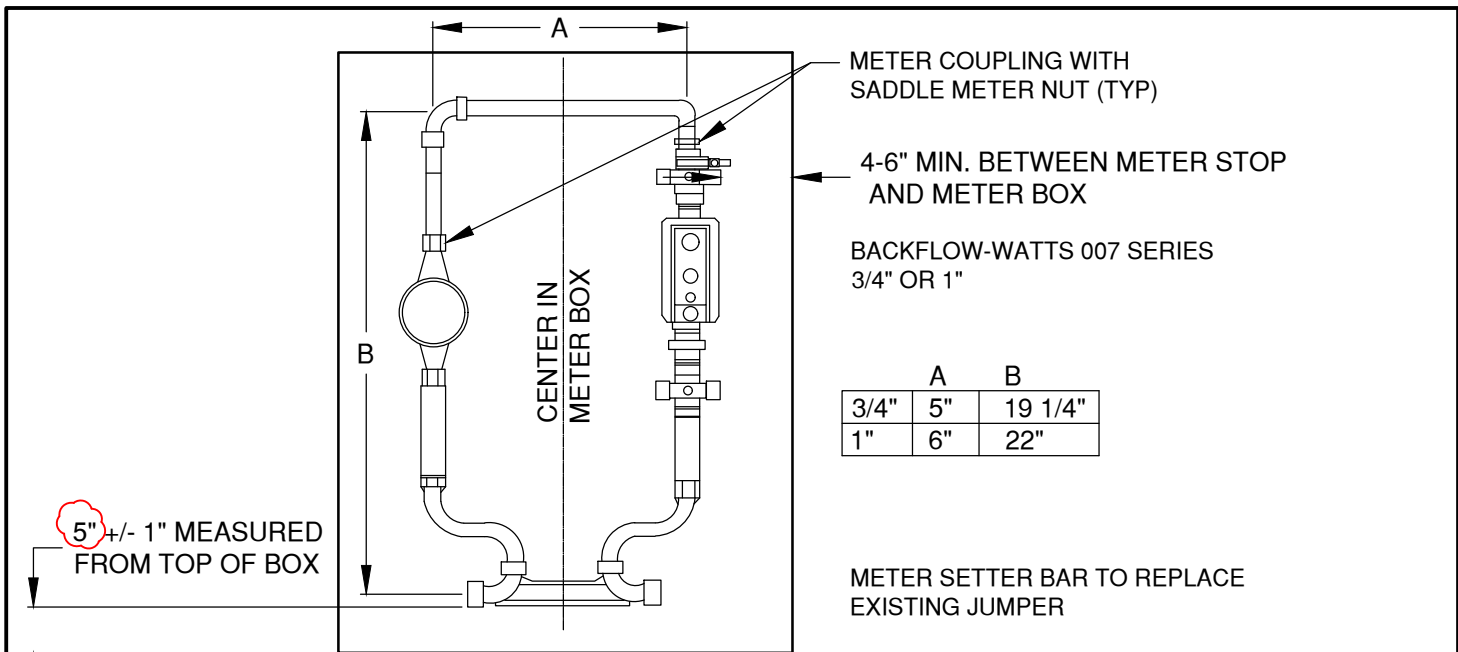


TYPICAL SERVICE

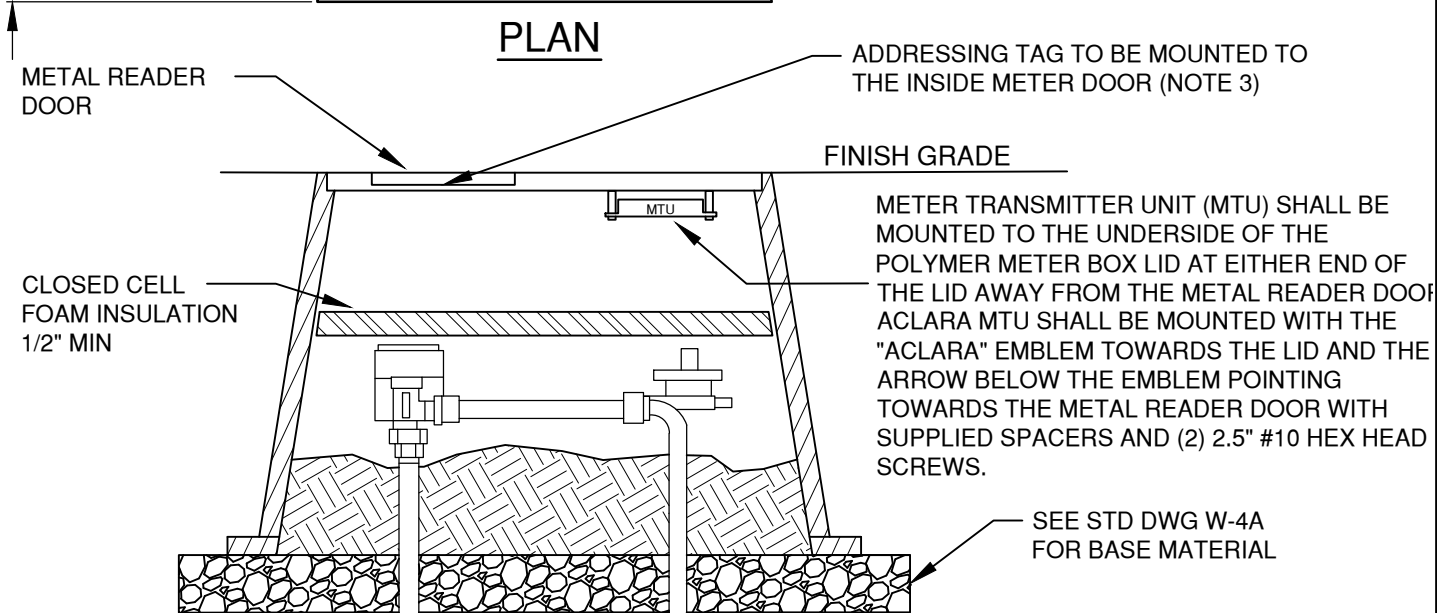
- NOTES:
1. RESIDENTIAL METER BOXES SHALL BE SET PARALLEL W/THE CURB LINE AND SHALL NOT BE INSTALLED WITHIN SIDEWALK OR PAVED AREAS
 2. JUMPER SIZE 1" METER SETTER - 1 1/4"x11" SCHEDULE 80 THREADED NIPPLE (DOMESTIC) DRILLED TO PREVENT FLOW
 3. METERS ARE TO BE THE SAME SIZE AS THE SERVICE LINE OR ONE SIZE SMALLER.
 4. IF AN EXISTING BOX, METER, OR HARDWARE WITHIN THE METER BOX DOES NOT MEET CURRENT CITY STANDARDS, CORRECTIONS OR REPAIRS SHALL BE MADE TO THE EXISTING SERVICE TO MEET CURRENT CITY STANDARDS PRIOR TO THE METER BEING SET.
 5. METER SHALL BE SET ON 6" MIN CLASS B MATERIAL COMPACTED TO 95% OF MAXIMUM DENSITY.

DRAWN AJD DIV WATER REV DATE	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS DATE 11/01/2024 APPR STD DWG W-4A
3/4"-1" RESIDENTIAL METER SERVICE INSTALLATION			



	A	B
3/4"	5"	19 1/4"
1"	6"	22"

PLAN



SECTION

OFFSET METER "LOOP" WITH BACKFLOW PREVENTION ASSEMBLY

- NOTES:
1. RESIDENTIAL METER BOXES SHALL BE SET PARALLEL W/THE CURB LINE AND SHALL NOT BE INSTALLED WITHIN SIDEWALK OR PAVED AREAS
 2. JUMPER SIZE 1" METER SETTER - 1 1/4"x11" SCHEDULE 80 THREADED NIPPLE (DOMESTIC) DRILLED TO PREVENT FLOW
 3. WHERE METER BOXES ARE INSTALLED IN A METER BANK, A BRASS OR STAINLESS STEEL TAG/PLAQUE SHALL BE MOUNTED TO THE INSIDE METER DOOR WITH THE LOT ADDRESS STAMPED PRIOR TO 1 YEAR WARRANTY RELEASE.
 4. IF THE METER ASSEMBLY/BOX OR SERVICE LINE IS DAMAGED DURING CONSTRUCTION/SITE IMPROVEMENT ACTIVITIES, DURING THE WARRANTY PERIOD, OR IF THE EXISTING METER BOX OR SERVICE LINE DOES NOT MEET CURRENT CITY STANDARDS, THE DEVELOPER/PROPERTY OWNER SHALL UPGRADE THE COMPONENTS OF THE SERVICE THAT IS OUT OF CONFORMANCE.

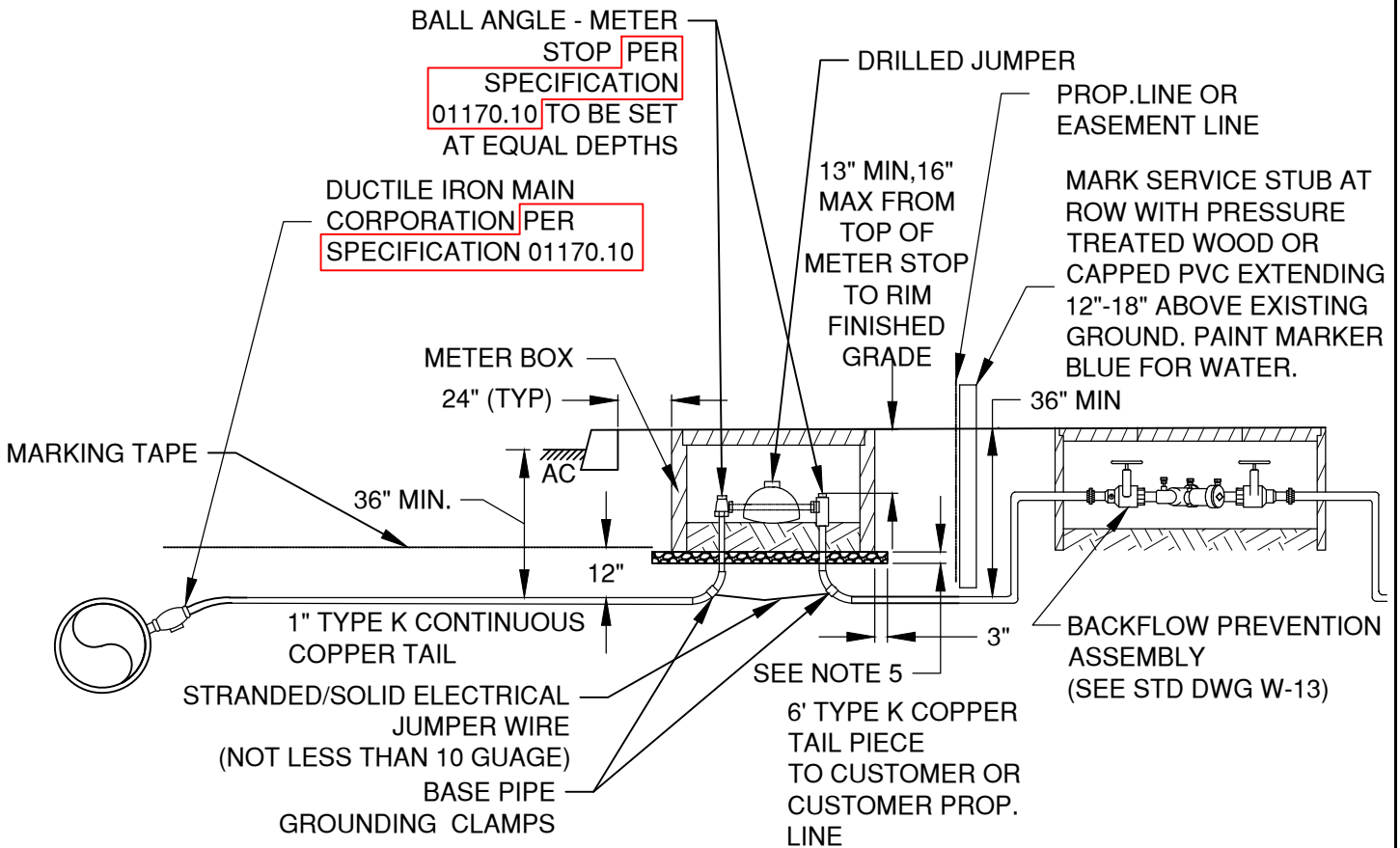
DRAWN	AJD
DIV	WATER
REV	DATE



CITY OF BEND
 STANDARD DRAWING
 710 NW WALL ST., BEND, OREGON 97701

3/4"-1" RESIDENTIAL METER SERVICE INSTALLATION

SCALE	NTS
DATE	11/01/2024
APPR	
STD DWG	W-4B



TYPICAL 1" SERVICE WITH METER

NOTES:

1. COMMERCIAL METERS NOT TO BE LESS THAN 1-INCH. METER SIZE TO MATCH SERVICE LINE SIZE.
2. COMMERCIAL METER BOXES SHALL BE INSTALLED PERPENDICULAR TO THE CURB LINE WITH DOUBLE CHECK VALVE ASSEMBLY TO BE LOCATED ON PRIVATE PROPERTY PER STD DWG W-5.
3. COMMERCIAL METERS WILL NOT BE SET UNTIL BACKFLOW PREVENTION ASSEMBLY IS IN PLACE.
4. IF AN EXISTING METER BOX, METER, OR HARDWARE WITHIN THE METER BOX DOES NOT MEET CURRENT CITY STANDARDS, CORRECTIONS OR REPAIRS SHALL BE MADE TO THE EXISTING SERVICE TO MEET CURRENT CITY STANDARDS PRIOR TO THE METER BEING SET.
5. METER BOX SHALL BE SET ON 6" MIN CLASS B MATERIAL COMPACTED TO 95% OF MAXIMUM DENSITY.

DRAWN	AJD
DIV	WATER
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

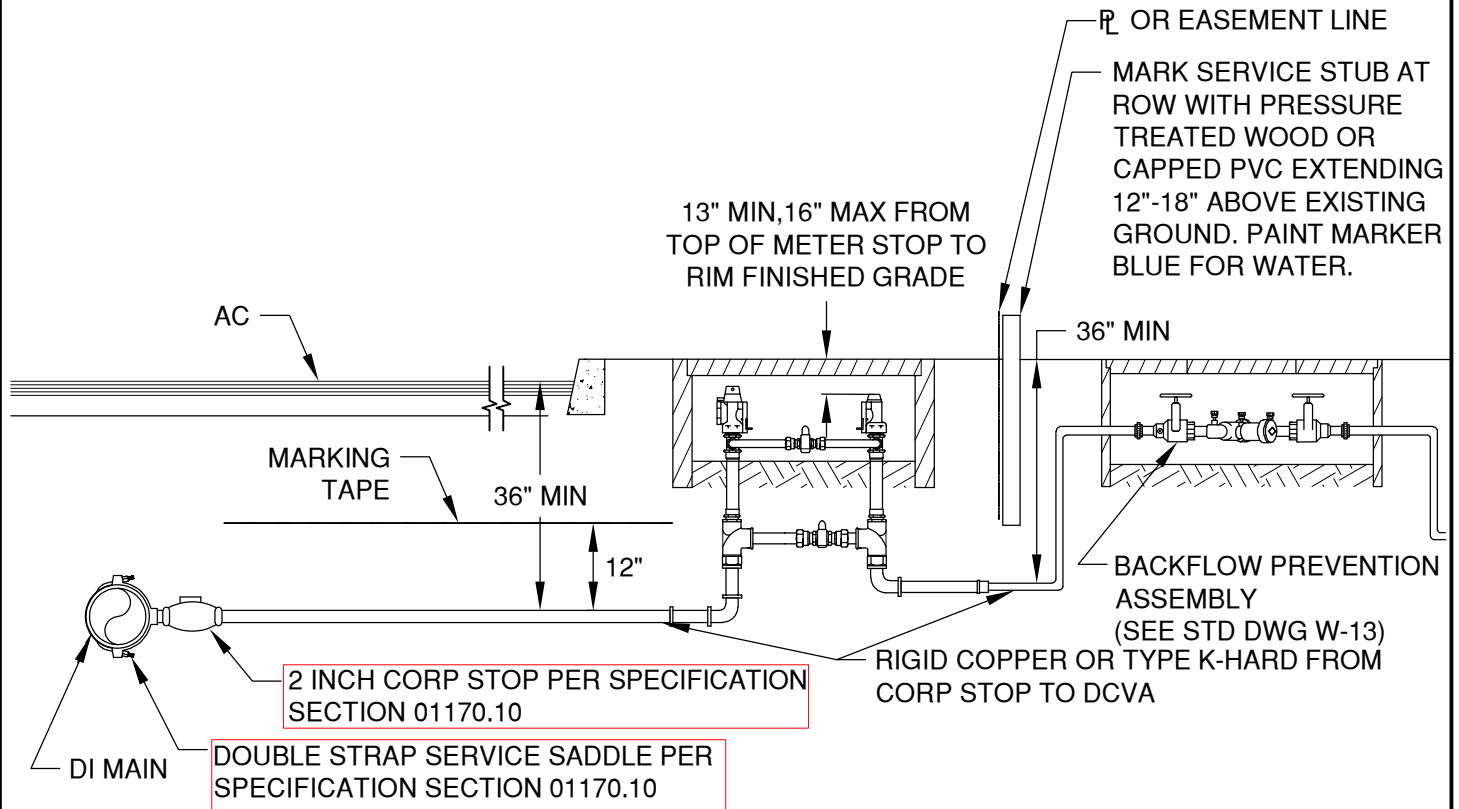
1" COMMERCIAL & IRR METER SERVICE INSTALLATION

SCALE NTS

DATE 11/01/2024

APPR

STD DWG W-5A



TYPICAL 2" SERVICE WITH 1-1/2" AND 2" METER

NOTES:

1. COMMERCIAL METERS WILL NOT BE SET UNTIL BACKFLOW PREVENTION ASSEMBLY IS IN PLACE
2. COMMERCIAL METER BOXES SHALL BE INSTALLED PERPENDICULAR TO THE CURB LINE WITH DOUBLE CHECK TO BE LOCATED ON PROPERTY
3. ALL METERS LESS THAN 2" WHEN USING A 2" SERVICE LINE ARE TO BE REDUCED WITHIN THE 2" METER SETTER
4. IF AN EXISTING METER BOX, METER, OR HARDWARE WITHIN THE METER BOX DOES NOT MEET CURRENT CITY STANDARDS CORRECTIONS OR REPAIRS SHALL BE MADE TO THE EXISTING SERVICE TO MEET CURRENT CITY STANDARDS PRIOR TO THE METER BEING SET.
5. DOUBLE CHECK ASSEMBLY SHALL BE INSTALLED USING THE UNIFORM BUILDING CODE (UBC) AND SHALL BE LOCATED ON A PRIVATE PROPERTY. THE ABOVE DIAGRAM IS FOR REFERENCE ONLY AND IS SUBJECT TO CHANGE BASED ON A REVIEW BY THE UBC PLANS EXAMINER.
6. METER BOX SHALL BE SET ON 6" MIN CLASS B MATERIAL COMPACTED TO 95% OF MAXIMUM DENSITY

DRAWN AJD	
DIV WATER	
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

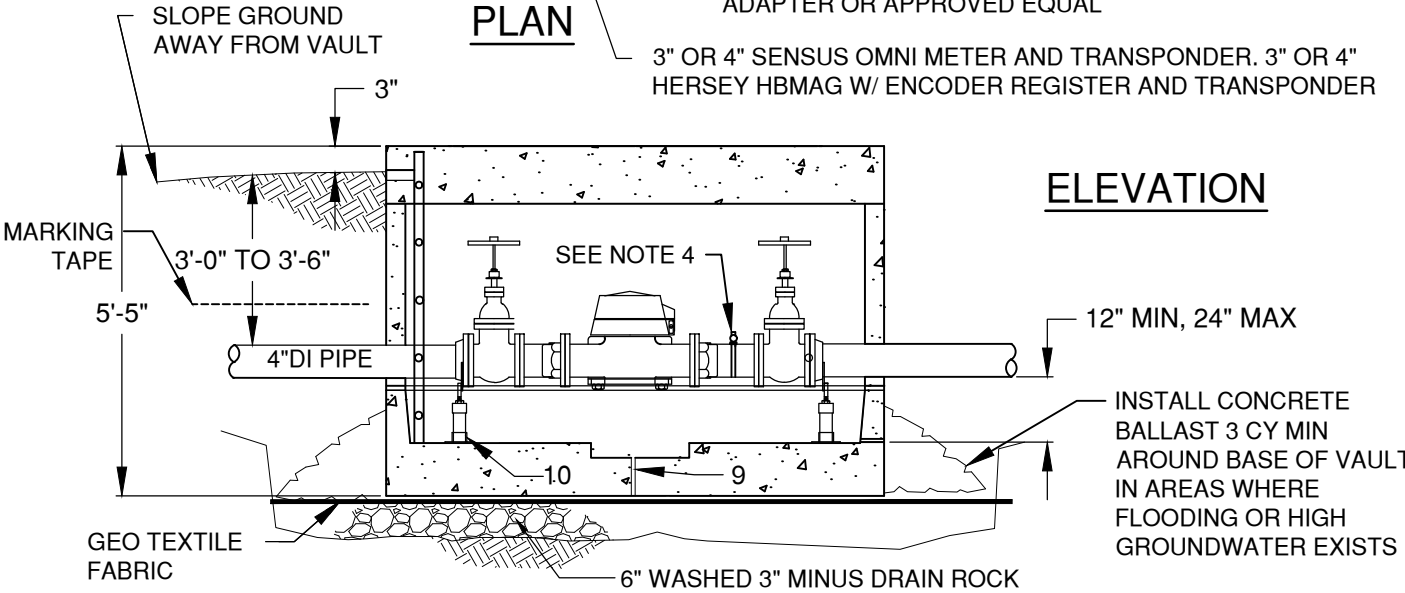
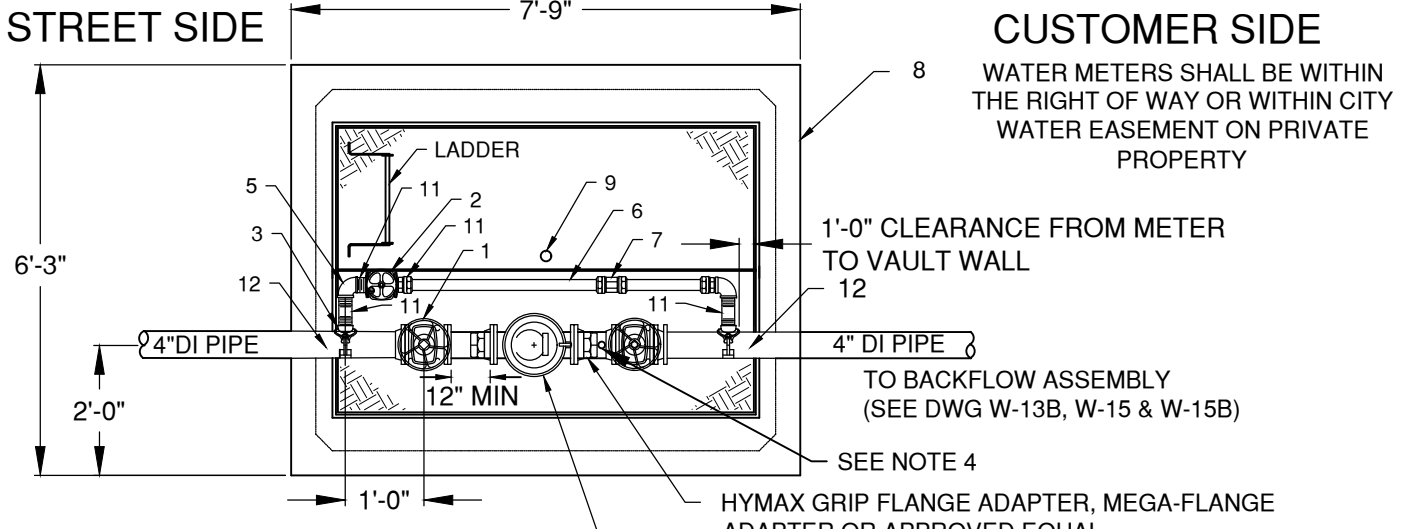
1 1/2" & 2" COMMERCIAL AND IRRIGATION METER SERVICE INSTALLATION

SCALE NTS

DATE 11/01/2024

APPR

STD DWG W-5B



ITEM	QTY	DESCRIPTION
1	2 EA	4"x3" FLG x FLG REDUCER & 3" FLG GATE VALVE WITH HANDWHEEL OR
2		4"x4" FLG GATE VALVE WITH HANDWHEEL
2	1	2" SE GATE VALVE AWWA C509
3	2	DOUBLE STRAP SERVICE SADDLE PER SPECIFICATION SECTION 01170.10
5	2	2" BRASS 90° COMP x COMP
6	2	2" TYPE K HARD COPPER PIPE
7	1	2" COMP UNION
8	1	OLD CASTLE 675-WA WITH OPENING FOR BILCO DOOR JD-3AL AND OSHA APPROVED LADDER (SEE STD DWG W-6)
9	1	WEEP HOLE (12"x12"x3" SUMP)
10	2	2" PIPE STAND "STANDON"
11	4	2" MPT x COMP ADAPTER
12	2	4"x3" REDUCER (WHERE 3" METER IS INSTALLED)

- NOTES:**
1. SEAL ALL OPENINGS IN VAULT WITH NON SHRINK GROUT
 2. ENGINEER TO PROVIDE PIPE RESTRAINT DETAIL ENTERING & EXITING VAULT
 3. METER SIZE TO MATCH SERVICE SIZE OR ONE SIZE SMALLER.
 4. WHERE THE METER DOES NOT PROVIDE A TEST PORT, A 2" TEST PORT SHALL BE INSTALLED WITH 2" TAP SADDLE, 2" BRASS BALL VALVE, AND 2" BRASS NIPPLE.

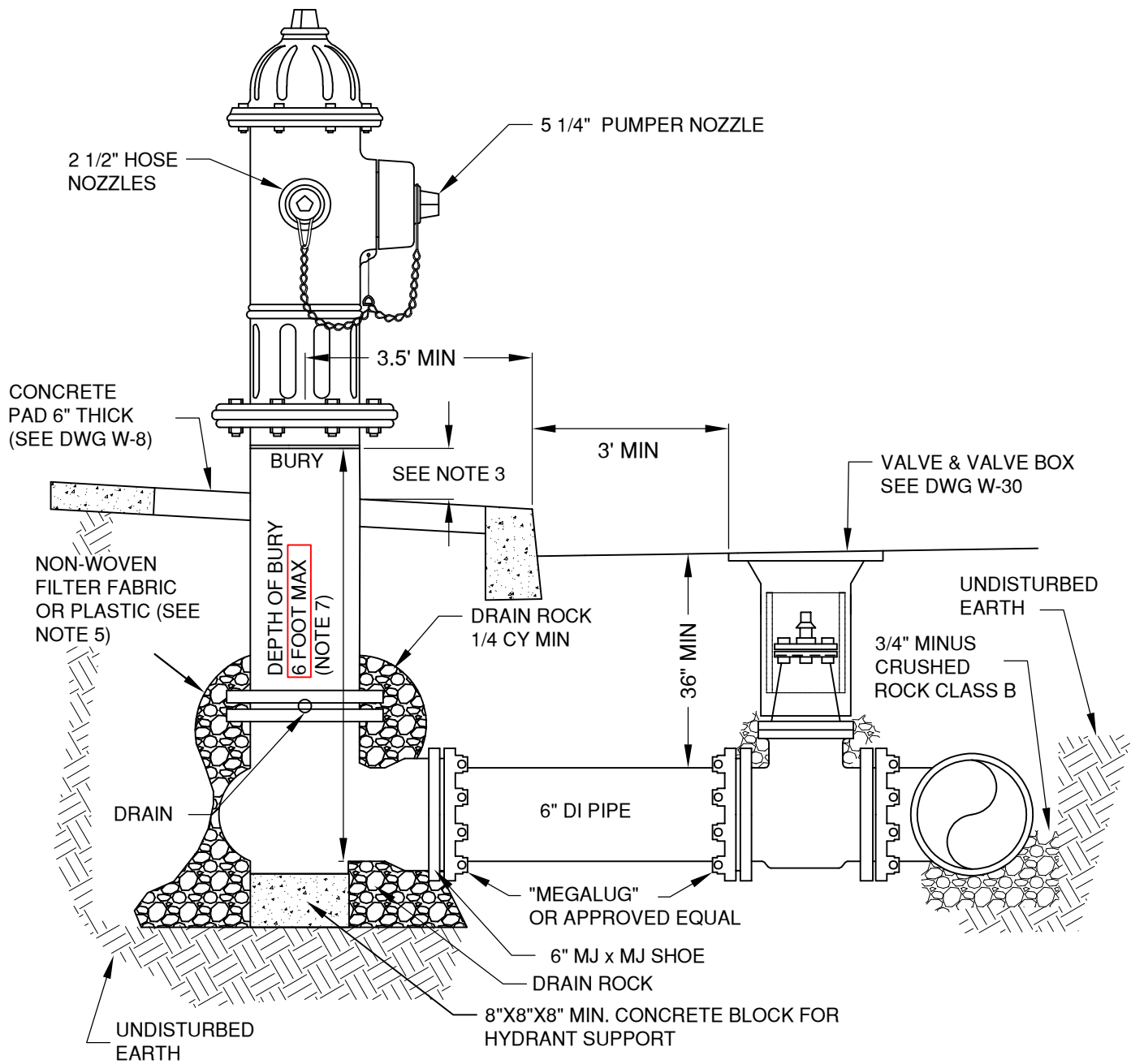
DRAWN AJD
DIV WATER
REV DATE



CITY OF BEND
STANDARD DRAWING
710 NW WALL ST., BEND, OREGON 97701

3" & 4" COMMERCIAL METER INSTALLATION

SCALE NTS
DATE 11/01/2024
APPR
STD DWG W-5C



NOTES:

1. ALL PIPES SHALL HAVE RESTRAINED JOINTS.
2. MJ x MJ TEE OR MJxMJxSWIVEL (REQUIRES ENGINEER APPROVAL) WITH 6-INCH VALVE AT THE MAINLINE.
3. FINISH GRADE OF HYDRANT SHALL BE SET AT BURY LINE TO A MAXIMUM OF 3" BELOW BURY LINE FOR NEW INSTALLATION AND MAX OF 6" FOR RETROFITS. NO HYDRANT EXTENSIONS PERMITTED ON NEW INSTALLATIONS.
4. SET HYDRANT PLUMB. COMPACT ALL BACKFILL PER SPECIFICATIONS.
5. NON-WOVEN SEPARATION FILTER FABRIC OR PLASTIC (OSS TABLE 02320-4) INSTALLED BETWEEN UNDISTURBED EARTH AND DRAINROCK PRIOR TO BACKFILL.
6. HYDRANTS SHALL BE MANUFACTURER'S RED. NO OTHER COLOR IS PERMITTED.
7. USE 45 DEGREE OR 22.5 DEGREE BENDS TO ADJUST ACCORDINGLY TO ACHIEVE MAX DEPTH REQUIREMENT.

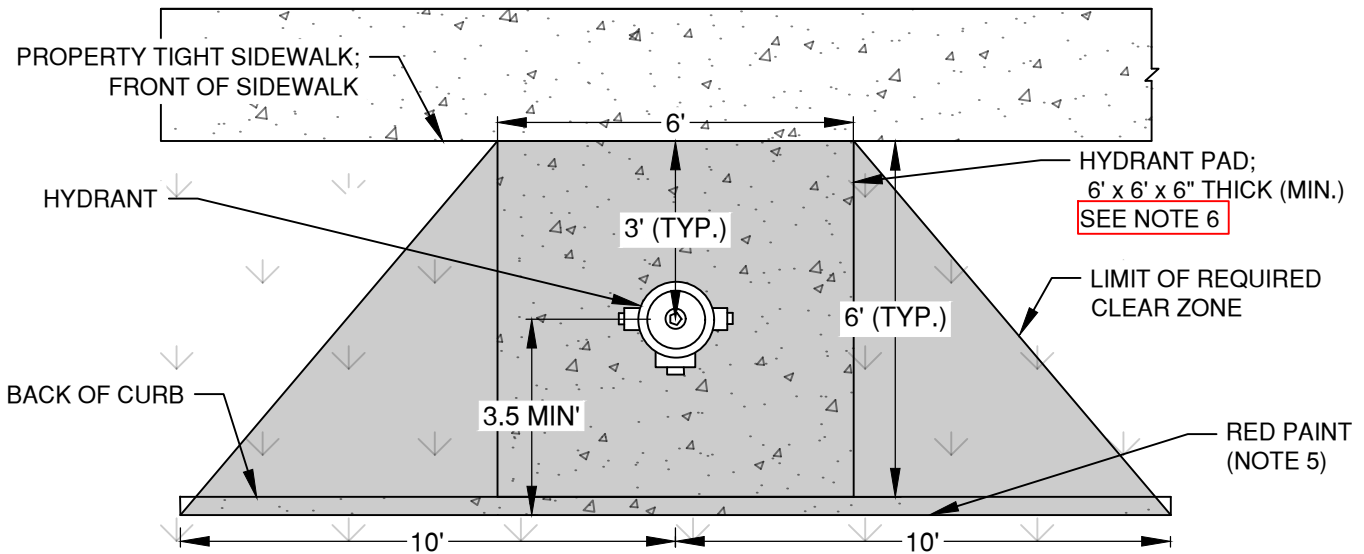
DRAWN CJH	
DIV WATER	
REV	DATE



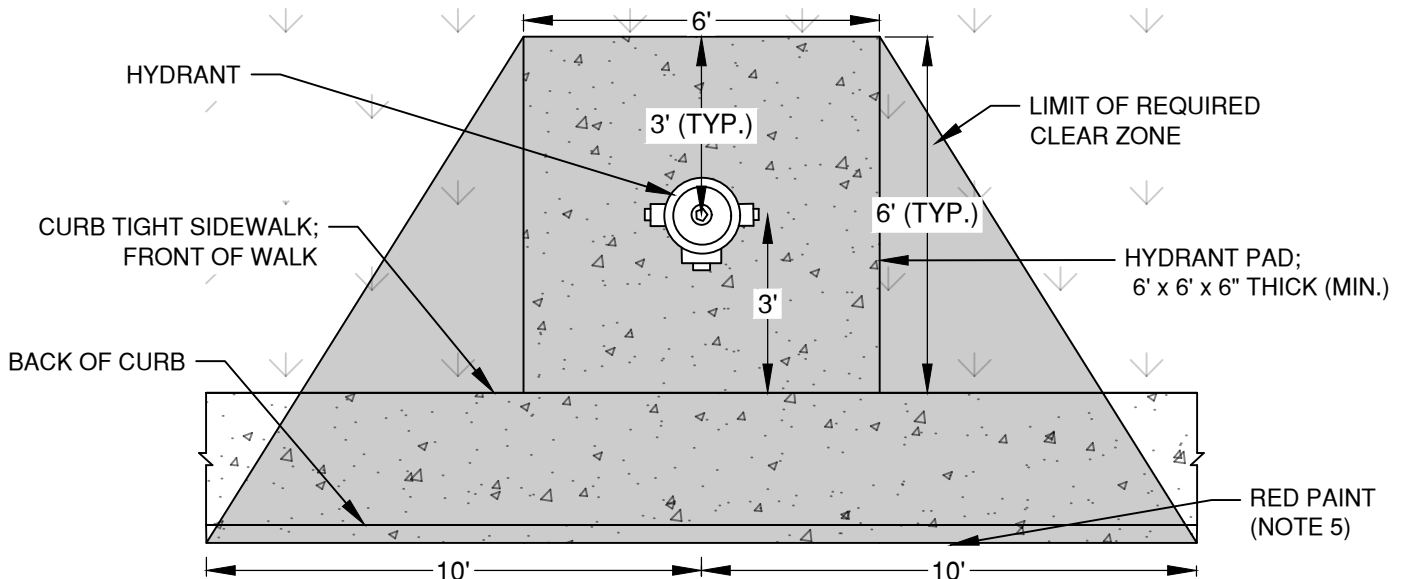
CITY OF BEND
 STANDARD DRAWING
 710 NW WALL ST., BEND, OREGON 97701

TYPICAL HYDRANT

SCALE NTS
DATE 11/01/2024
APPR
STD DWG W-7



**PROPERTY TIGHT SIDEWALK HYDRANT LOCATION AND CLEAR ZONE
PLAN VIEW**



**CURB TIGHT SIDEWALK HYDRANT LOCATION AND CLEAR ZONE
PLAN VIEW**

NOTES:

1. THE CLEAR ZONE PROHIBITS PARKING, FENCES, TREES, RETAINING WALLS, OR OTHER STRUCTURES THAT COULD INTERFERE WITH OPERATION OF HYDRANT. GRASS, MULCH, BARKDUST, AND GROUND COVER IS PERMITTED.
2. PROPERTY OWNERS SHOULD BE AWARE THAT GROUND COVER COULD BE DAMAGED WHEN THE HYDRANT IS USED OR WHEN HYDRANT MAINTENANCE IS PERFORMED.
3. CONCRETE PADS ARE TO BE A MINIMUM OF 6" THICK AND BE POURED AND PLACED ON 2" MIN. COMPACTED BASE ROCK PER SECTION OSS 00405.00
4. THERE SHALL BE A MINIMUM 4 FOOT CLEAR TRAVEL WIDTH ON SIDEWALKS ADJACENT TO HYDRANTS.
5. THE CURB SHALL BE PAINTED RED FOR A TOTAL OF 20 FEET, CENTERED ON THE HYDRANT.
6. HYDRANT PAD TO EXTEND FROM CURB TO SIDEWALK WITH NO LANDSCAPE GAP UNLESS 5 FOOT MINIMUM LANDSCAPE WIDTH CAN BE PROVIDED.

DRAWN CJH	
DIV WATER	
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

HYDRANT LOCATION AND CLEAR ZONE

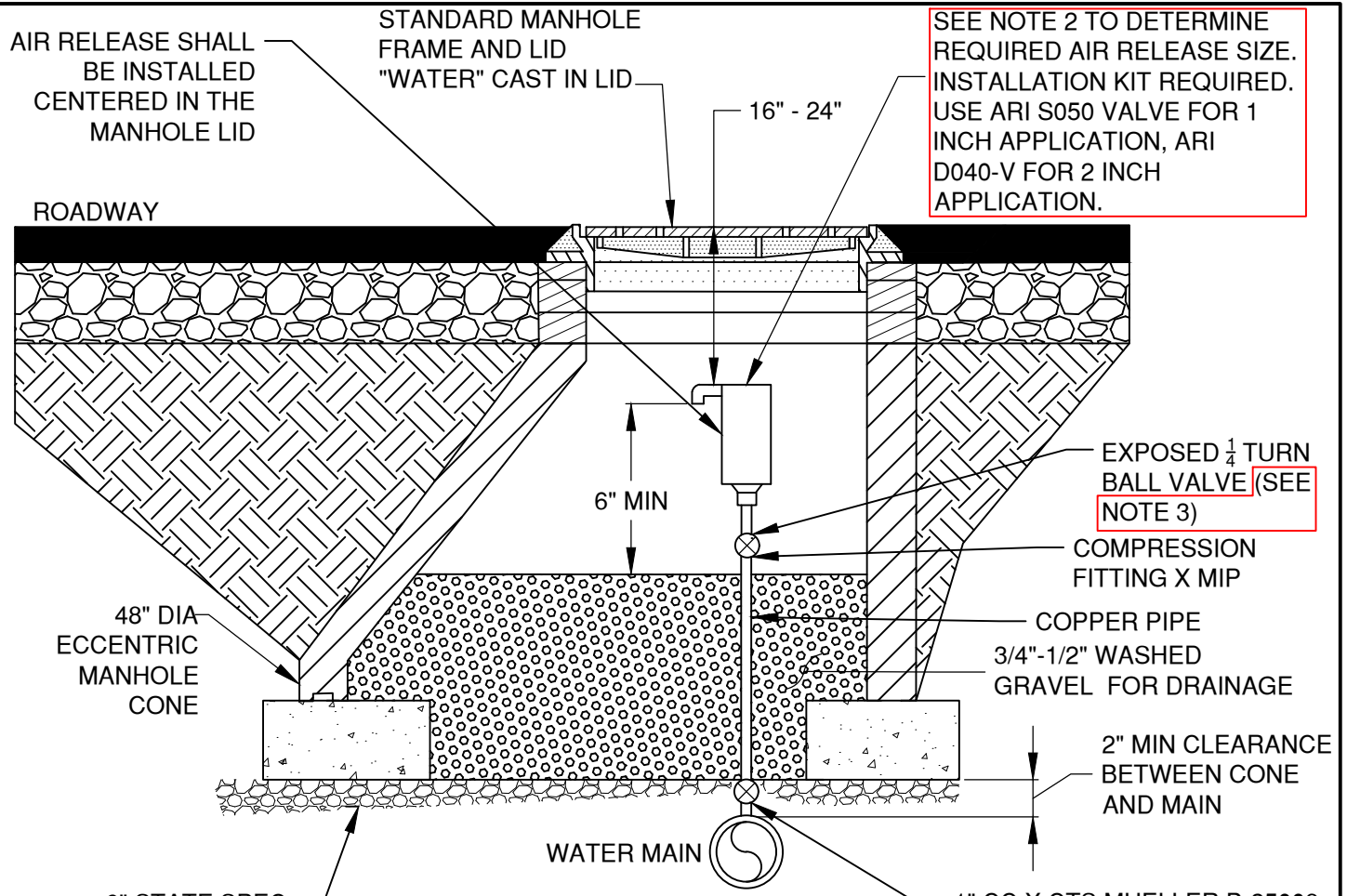
SCALE NTS

DATE 11/01/2024

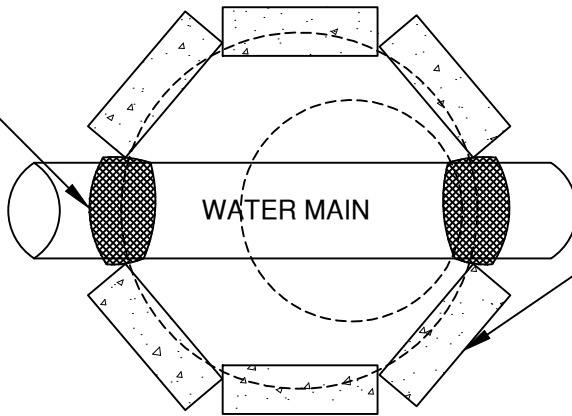
APPR

STD DWG W-8

SEE NOTE 2 TO DETERMINE REQUIRED AIR RELEASE SIZE. INSTALLATION KIT REQUIRED. USE ARI S050 VALVE FOR 1 INCH APPLICATION, ARI D040-V FOR 2 INCH APPLICATION.



PROFILE VIEW



PLAN VIEW

THE CONE SHALL BE VERTICALLY SEPARATED FROM THE WATER MAIN BY A MINIMUM OF 2 INCHES; NYLON POLYMER SAND BAGS TO BE PLACED BETWEEN THE CONE AND THE WATER MAIN FOR PROTECTION OF WATER MAIN

BLOCKS TO BE PLACED BENEATH THE MANHOLE CONE; BLOCKS SHALL BE SEPARATED HORIZONTALLY FROM WATER MAIN BY A MINIMUM OF 4 INCHES

GENERAL NOTES:

1. AIR RELEASE OR COMBINATION VALVES SHALL BE INSTALL AT ALL HIGH POINTS. WHERE THE HIGH POINT IS AT THE TOP OF A LONG ASCENT (1,250 FEET+) A COMBINATION AIR/VACUUM VALVE SHALL BE INSTALLED.
2. 1-INCH AIR RELEASE VALVE TO BE USED ON WATER MAINS LESS THAN OR EQUAL TO 12-INCH DIAMETER. 2-INCH AIR RELEASE VALVE TO BE USED ON WATER MAINS GREATER THAN 12-INCH DIAMETER.
3. WHEN THE DISTANCE BETWEEN THE AIR VALVE AND THE CORP AT THE MAIN IS LESS THAN 18 INCHES, THE BALL VALVE MAY BE OMITTED.

DRAWN	AJD
DIV	WATER
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

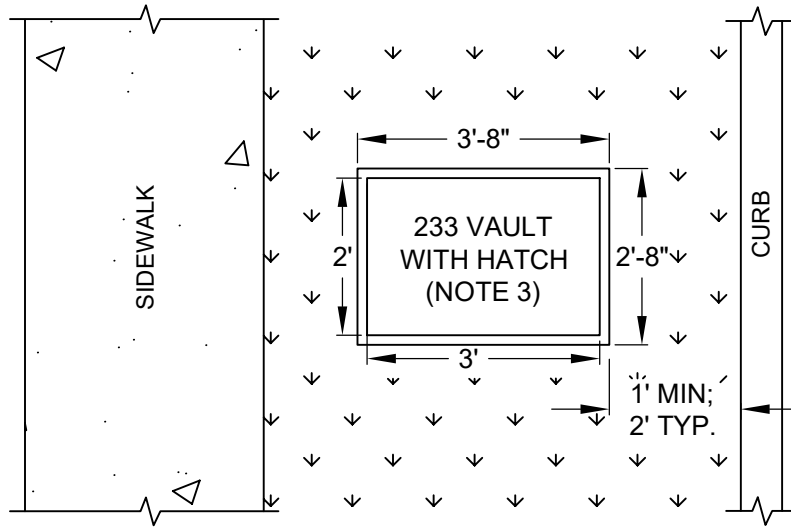
1" & 2" STANDARD AIR RELEASE VALVE - TRAFFIC AREA

SCALE NTS

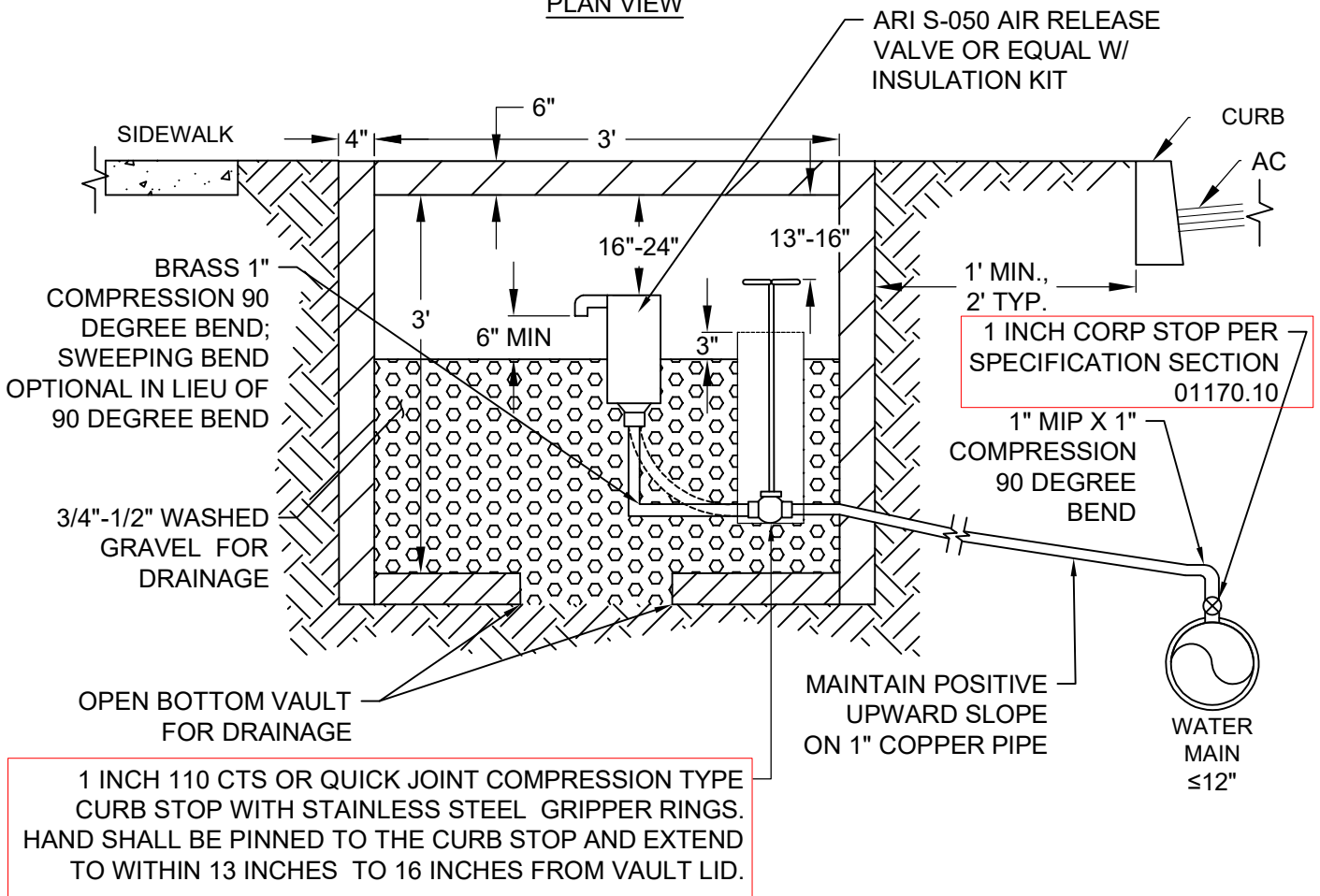
DATE 11/01/2024

APPR

STD DWG W-10



**AIR RELEASE VALVE LOCATION
PLAN VIEW**



- GENERAL NOTES:**
- AIR RELEASE OR COMBINATION VALVES SHALL BE INSTALL AT ALL HIGH POINTS. WHERE THE HIGH POINT IS AT THE TOP OF A LONG ASCENT (1,250 FEET+) A COMBINATION AIR/VACUUM VALVE SHALL BE INSTALLED.
 - IF 1" AIR RELEASE VALVE IS INSTALLED IN TRAFFIC AREA, INSTALL PER STD DWG W-10.
 - VAULT SHALL BE PRECAST VAULT WITH 2'X3' HATCH AND OPEN BOTTOM, OR APPROVED EQUAL.

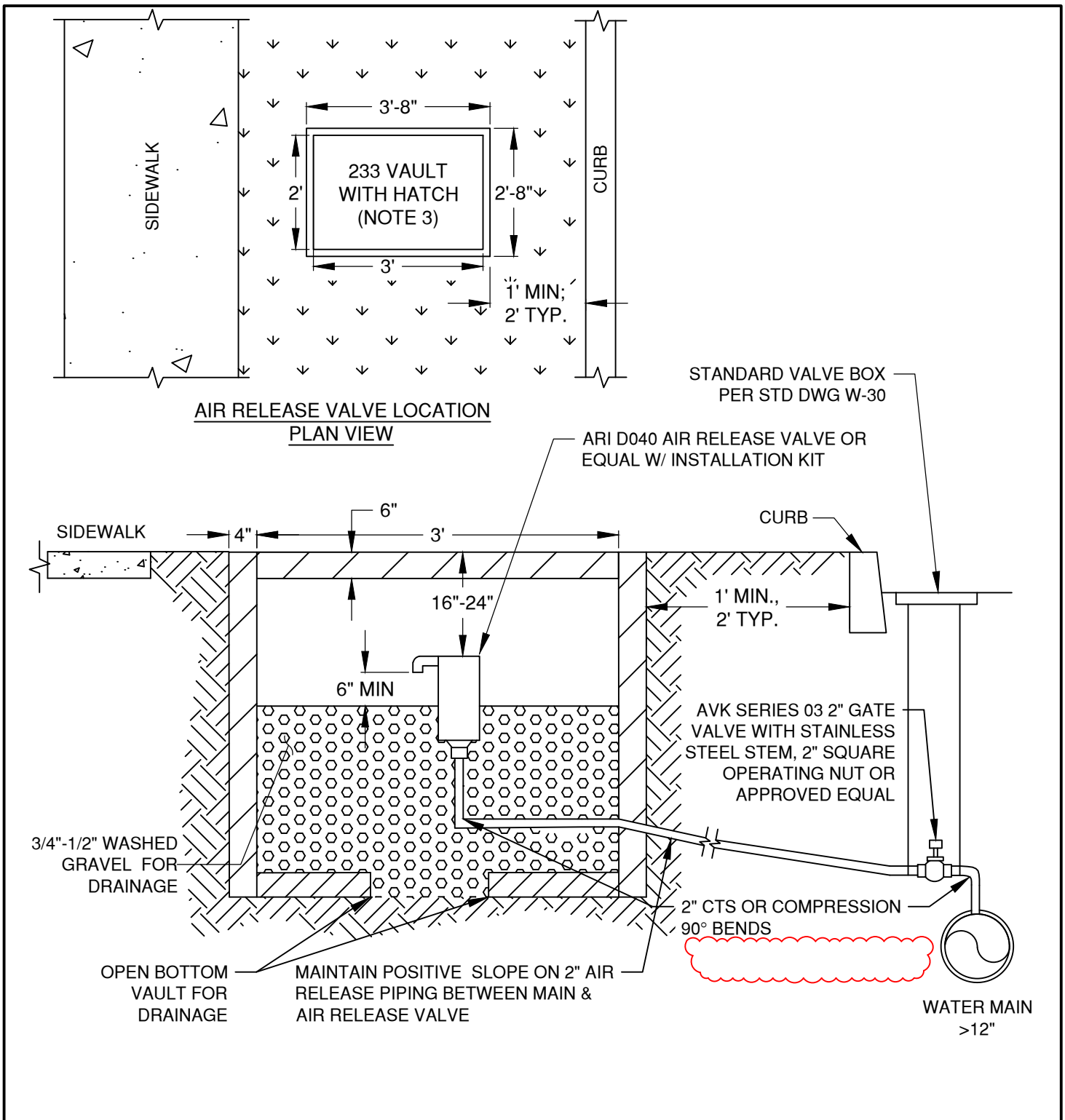
DRAWN	AJD
DIV	WATER
REV	DATE



CITY OF BEND
STANDARD DRAWING
710 NW WALL ST., BEND, OREGON 97701

1" STANDARD AIR RELEASE VALVE

SCALE	NTS
DATE	11/01/2024
APPR	
STD DWG	W-10A

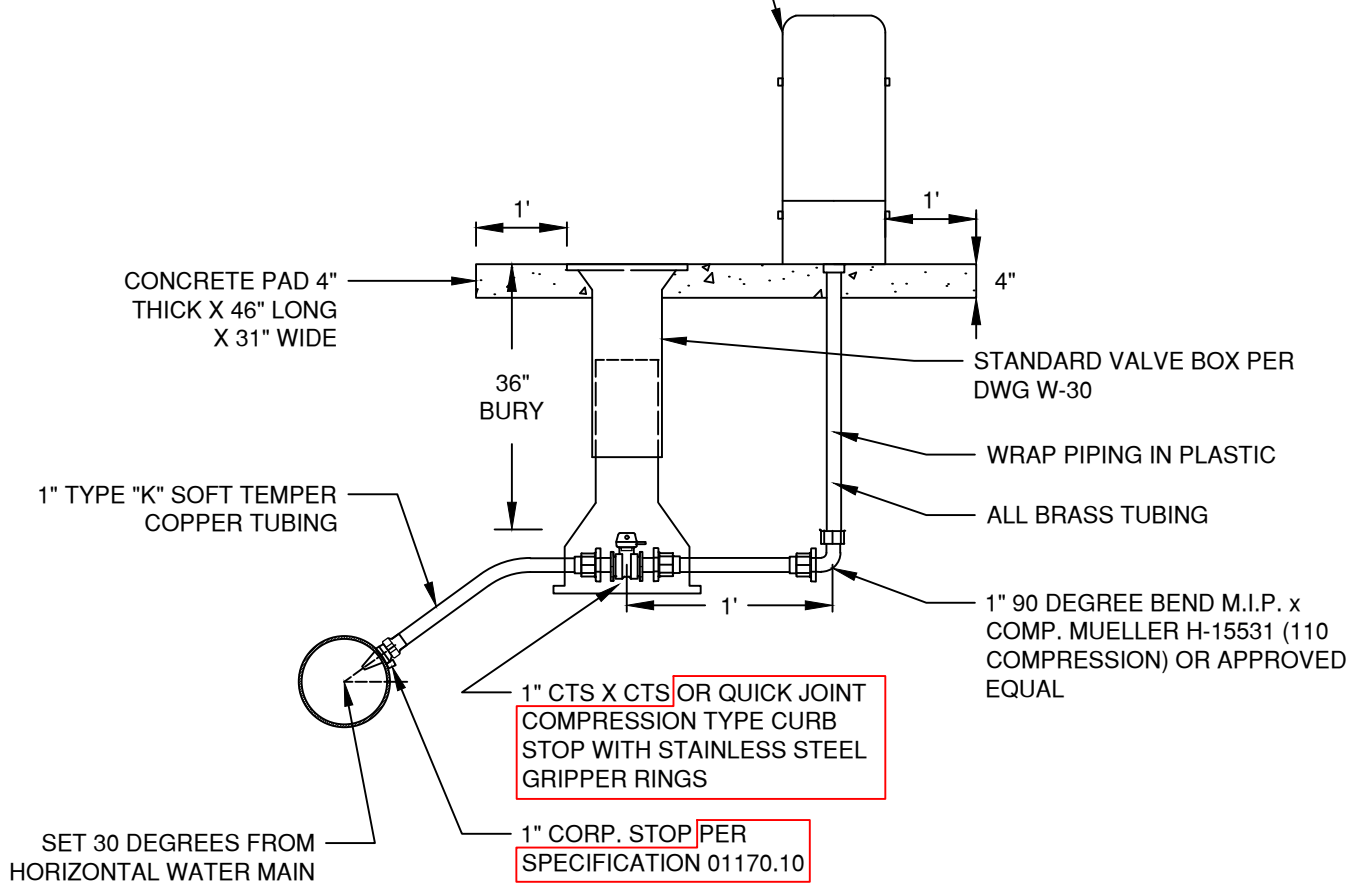


GENERAL NOTES:

1. AIR RELEASE OR COMBINATION VALVES SHALL BE INSTALL AT ALL HIGH POINTS. WHERE THE HIGH POINT IS AT THE TOP OF A LONG ASCENT (1,250 FEET+) A COMBINATION AIR/VACUUM VALVE SHALL BE INSTALLED.
2. SEE STD DWG W-10 FOR 2" AIR RELEASE VALVES LOCATED IN TRAFFIC AREAS.
3. VAULT SHALL BE ADVANCED PRECAST PRODUCT 233 VAULT WITH 2'X3' HATCH AND OPEN BOTTOM, OR APPROVED EQUAL.

DRAWN AJD	 CITY OF BEND	CITY OF BEND STANDARD DRAWING 710 NW WALL ST., BEND, OREGON 97701	SCALE NTS
DIV WATER			DATE 11/01/2024
REV DATE			APPR
		2" STANDARD AIR RELEASE VALVE	STD DWG W-10B

ECLIPSE NO. 88 SAMPLING STATION WITH THREADED
 OUTLET NOZZLE AND BRASS INTERIOR, STAND PIPE
 GALVANIZED EXTERIOR OR APPROVED EQUAL



NOTES:

1. ALL PIPE AND STRUCTURES SHALL BE BACKFILLED WITH SCREENED MAX $\frac{3}{4}$ " MINUS CRUSHED ROCK. ALL COMPACTION TO COMPLY WITH SPECIFICATION SECTION 00330.43 AND 00405.46(C).
2. SET STATION AT LOT LINE UNLESS OTHERWISE SPECIFIED.
3. WHEN CROSSING, CATHODICALLY PROTECTED SYSTEM, INSTALL COPPER IN PVC SLEEVE FOR 5' EACH SIDE OF THE CROSSING.
4. WHERE NO SIDEWALK EXISTS, PLACE CONC. PAD AS SHOWN. WHERE SIDEWALKS EXIST, PLACE MIN. 12" AROUND BACK OF SAMPLE STA. AND INCORPORATE INTO NEW SIDEWALK POUR.

DRAWN	AJD
DIV	WATER
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

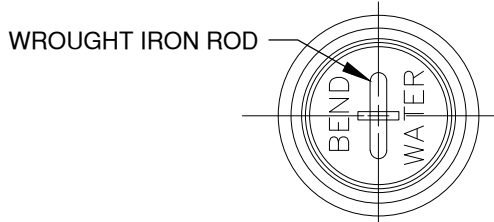
STANDARD WATER SAMPLING STATION

SCALE NTS

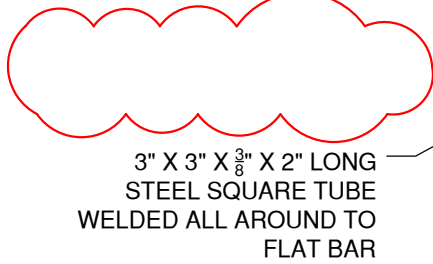
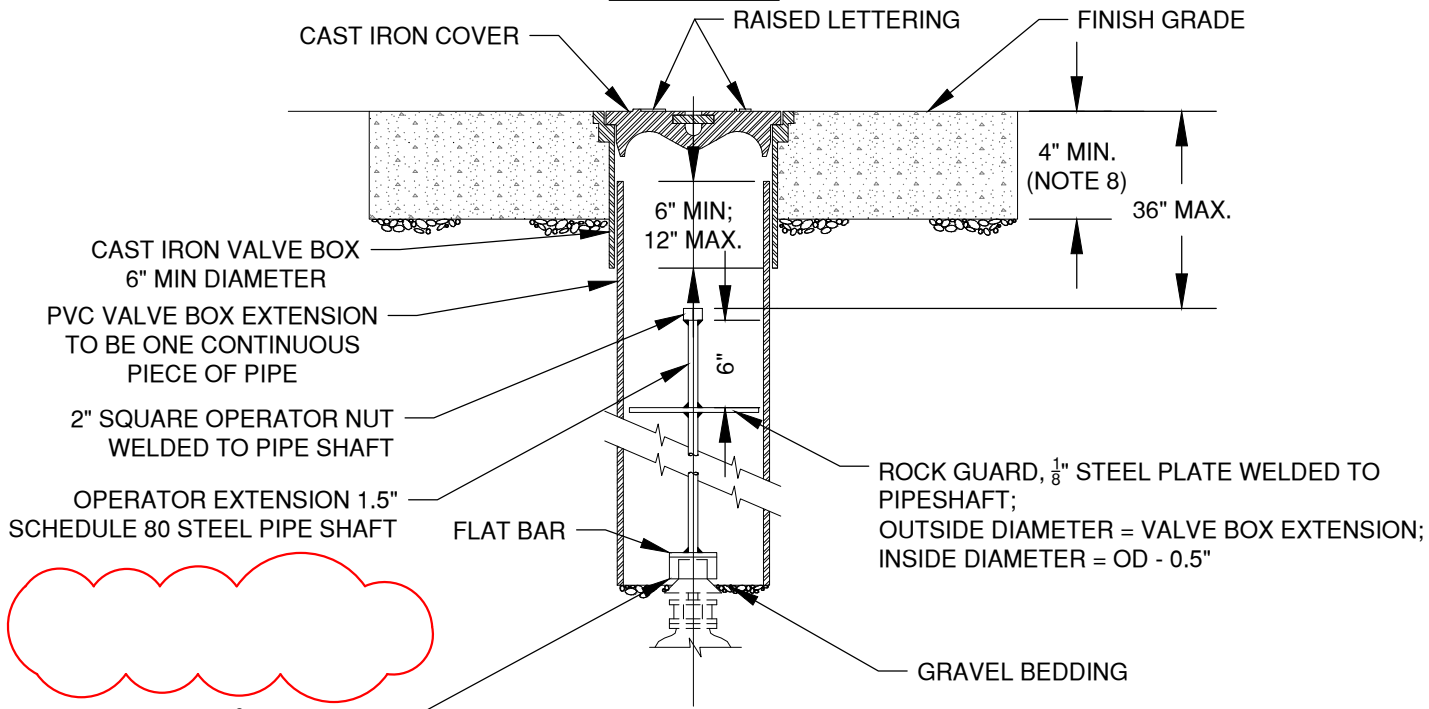
DATE 11/01/2024

APPR

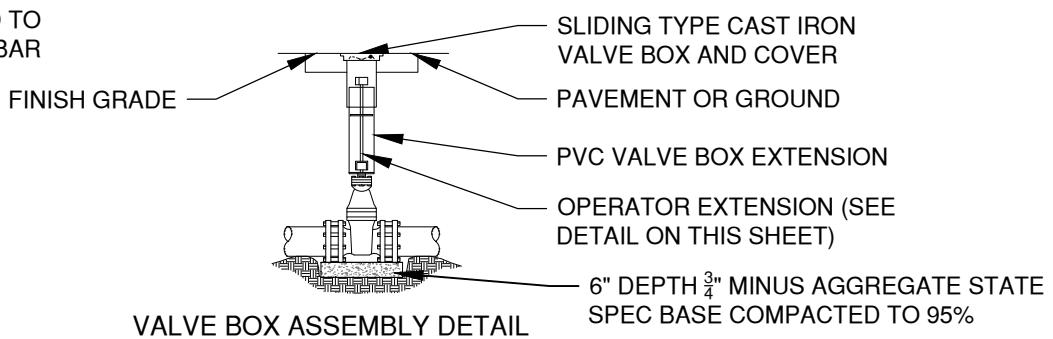
STD DWG W-25



COVER PLAN



VALVE BOX EXTENSION SECTION



VALVE BOX ASSEMBLY DETAIL

NOTES:

1. VALVE BOX NOT TO REST ON OPERATING ASSEMBLY.
2. OPERATOR EXTENSION REQUIRED WHEN VALVE NUT IS DEEPER THAN 6" FROM FINISH GRADE.
3. CENTER VALVE BOX ON AXIS OF OPERATOR NUT.
4. VALVES TO BE INSTALLED WITH COMPACTED AGGR. BASE ON UNDISTURBED GROUND.
5. WELDS SHALL BE MINIMUM 0.5" ALL AROUND.
6. HOT DIP GALVANIZE OPERATOR EXTENSION AFTER FABRICATION.
7. CASTING SHALL MEET H20 LOAD REQUIREMENT.
8. PROVED 24"x24"x4" CONCRETE PAD WITH EXPANSION JOINT AROUND VALVE BOX WHEN INSTALLED OUTSIDE OF ROADWAY.
9. SEE PROJECT PLANS FOR DETAILS NOT SHOWN.
10. ALL VALVE BOXES SHALL BE PLACED OUTSIDE THE PATH OF TRAVEL ON SIDEWALK AND DRIVEWAY APRONS.

DRAWN	AJD
DIV	WATER
REV	DATE



CITY OF BEND
STANDARD DRAWING
710 NW WALL ST., BEND, OREGON 97701

VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

SCALE	NTS
DATE	11/01/2024
APPR	
STD DWG	W-30