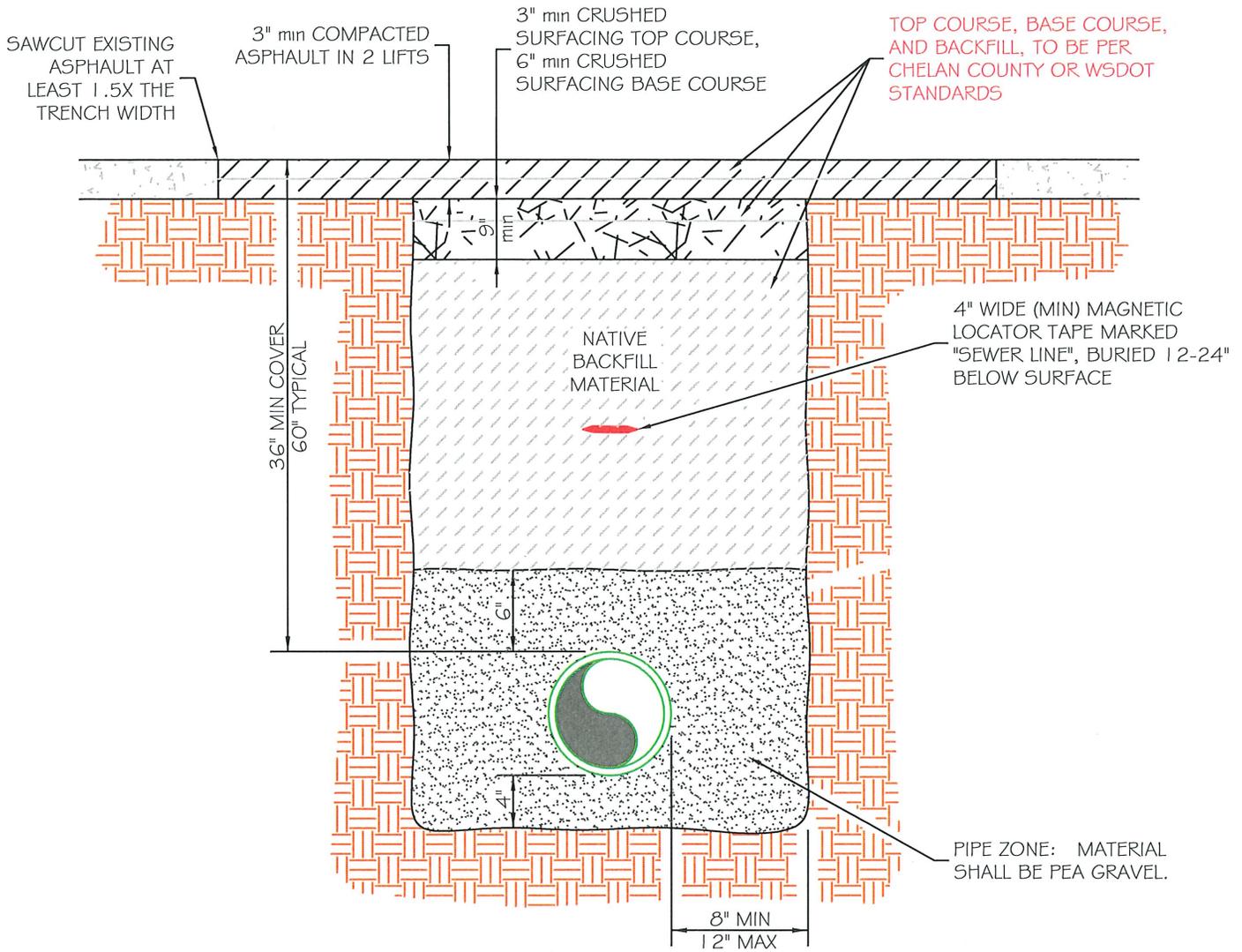


CALL 48 HOURS  
BEFORE YOU DIG:

Northwest Utility Notification Center  
1-800-553-4344



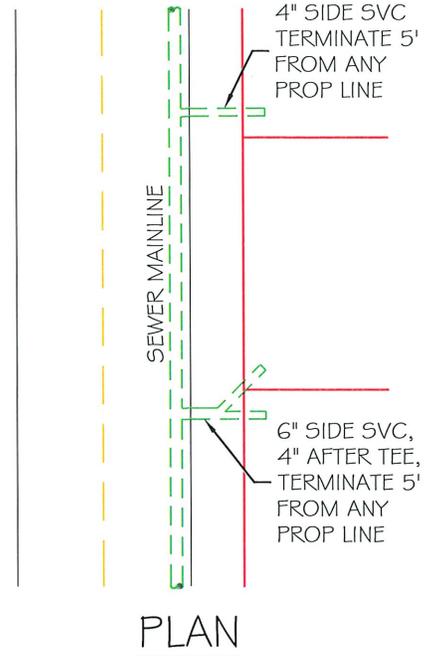
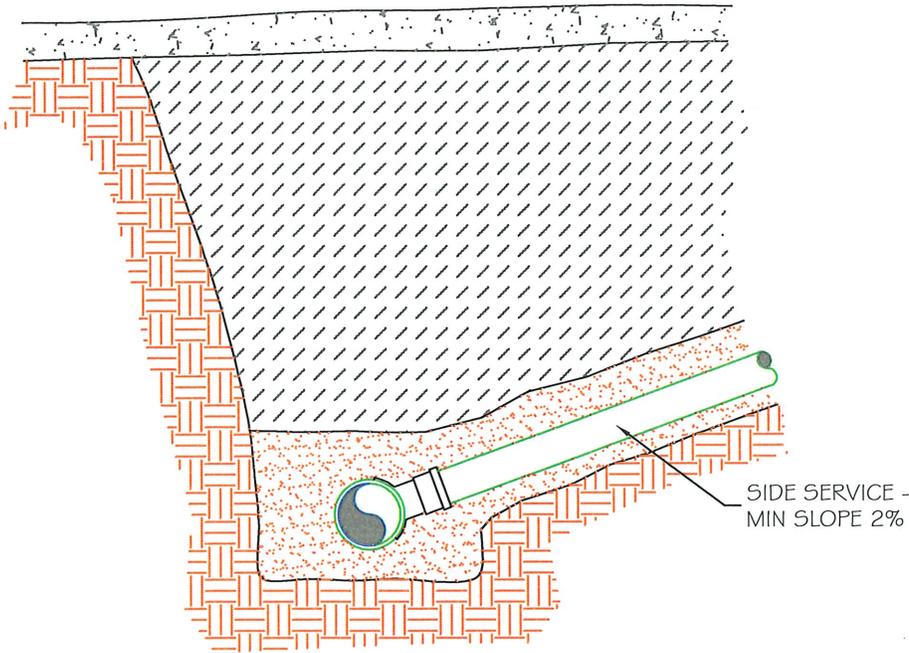
PROFILE

NOTES:  
MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

BACKFILL, SURFACE RESTORATION, AND MINIMUM PIPE DEPTH SHALL CONFORM TO THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER THE ROAD RIGHT-OF-WAY.

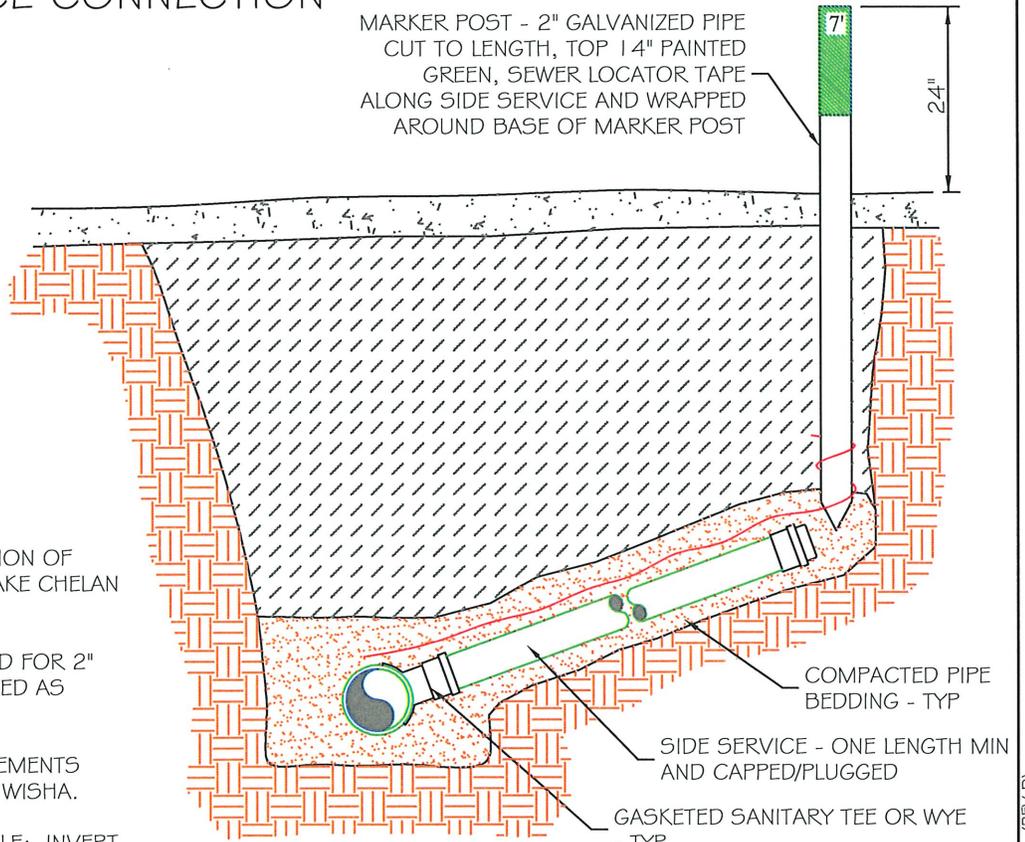
TITLE	
TYPICAL TRENCH SECTION	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
1 OF SET	NO SCALE





## PROFILE - SERVICE CONNECTION

MARKER POST - 2" GALVANIZED PIPE  
CUT TO LENGTH, TOP 14" PAINTED  
GREEN, SEWER LOCATOR TAPE  
ALONG SIDE SERVICE AND WRAPPED  
AROUND BASE OF MARKER POST



### NOTES:

MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

6' METAL FENCE POST MAY BE SUBSTITUTED FOR 2" GALVANIZED PIPE MARKER POST AND PAINTED AS INDICATED.

DITCH SIDE SLOPES AND SHORING REQUIREMENTS SHALL BE IN COMPLIANCE WITH OSHA AND WISHA.

WHERE SIDE SEWER CONNECTS TO MANHOLE: INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.

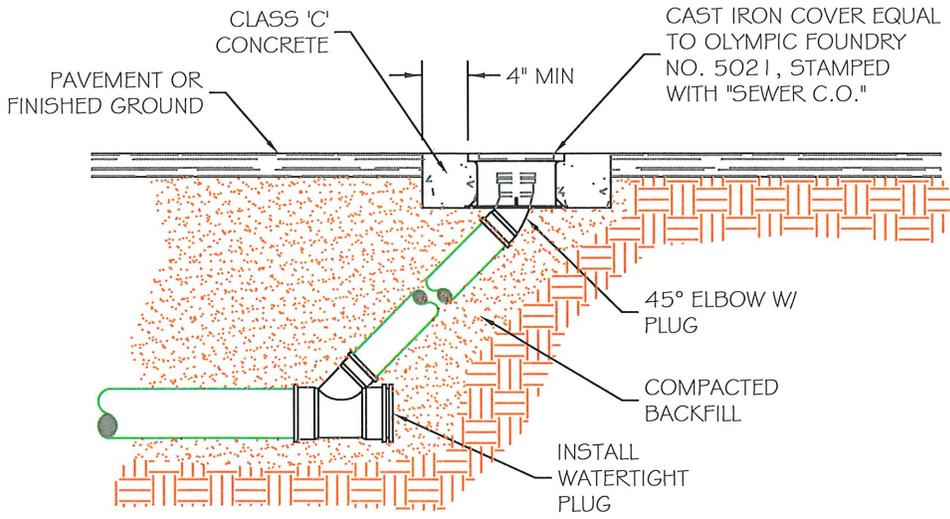
UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST HOUSE ELEVATION, WHICHEVER IS LOWER.

BACKFILL, SURFACE RESTORATION, AND MINIMUM PIPE DEPTH SHALL CONFORM TO THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER THE ROAD RIGHT-OF-WAY.

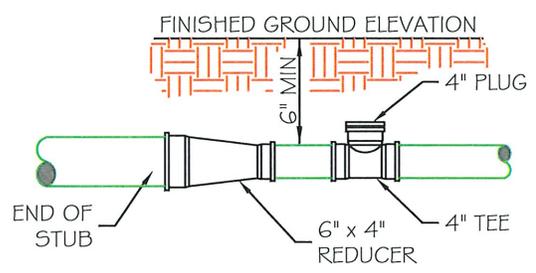
## PROFILE - SERVICE STUBOUT

TITLE	
SIDE SEWERS	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
2 OF SET	NO SCALE





CLEANOUT



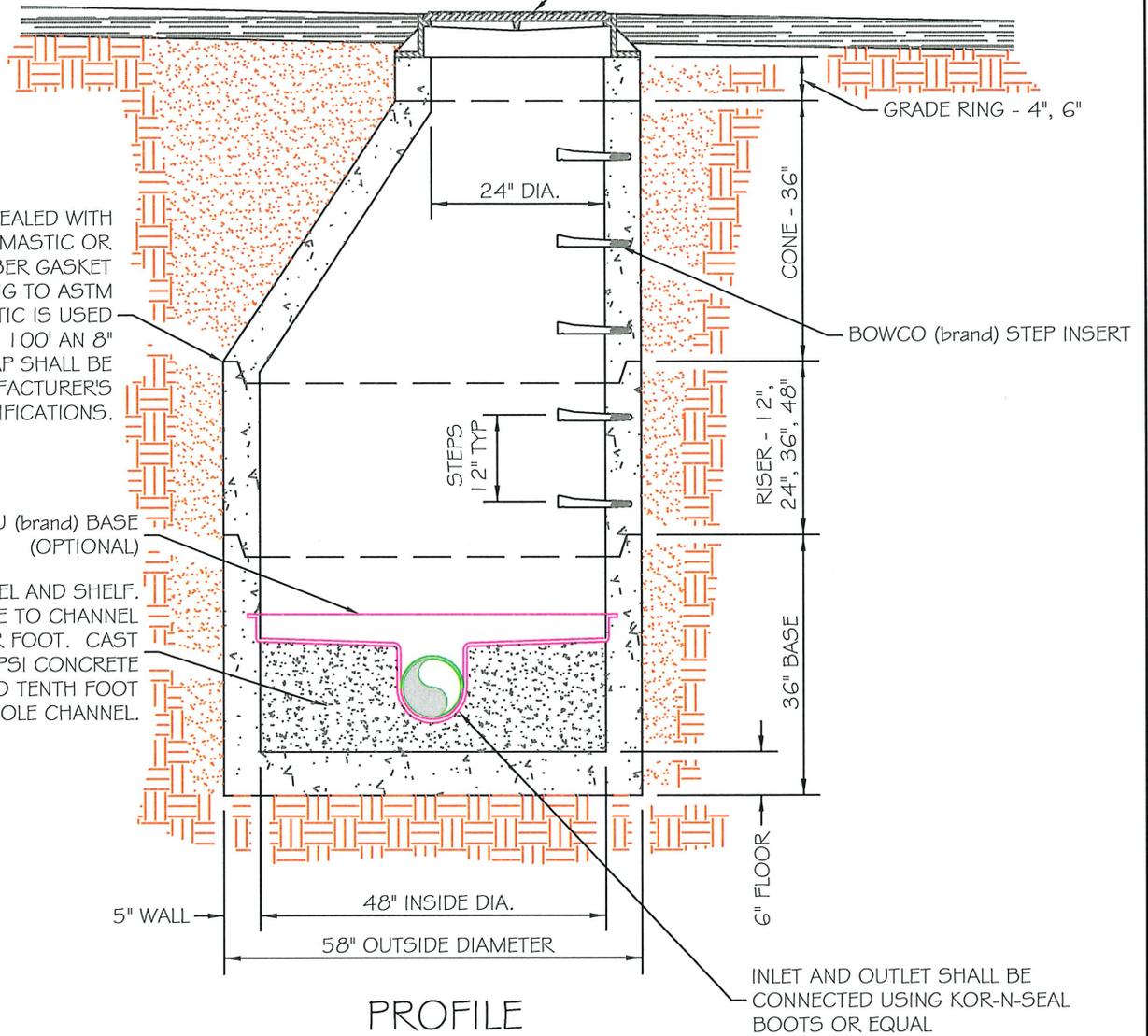
TESTING TEE

NOTES:  
 MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

TITLE	
CLEANOUT AND TESTING TEE	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
3 OF SET	NO SCALE



MANHOLE RING AND COVER EQUAL TO OLYMPIC FOUNDRY COMPANY #5943. PROVIDE A SINGLE 1" HOLE AND THE WORD "SEWER" CAST IN COVER.



ALL MANHOLE JOINTS SEALED WITH CONSEAL (brand) MASTIC OR FURNISHED WITH RUBBER GASKET JOINT CONFORMING TO ASTM C443. NOTE: IF MASTIC IS USED AT ELEVATIONS BELOW 1100' AN 8" MASTIC JOINT WRAP SHALL BE APPLIED PER THE MANUFACTURER'S SPECIFICATIONS.

CUSTOM GU (brand) BASE (OPTIONAL)

CAST IN PLACE CHANNEL AND SHELF. SLOPE SHELF SURFACE TO CHANNEL AT APPROX. 1/2" PER FOOT. CAST CHANNEL WITH 3000 PSI CONCRETE AND MINIMUM TWO TENTH FOOT SLOPE ACROSS MANHOLE CHANNEL.

PROFILE

NOTE:  
MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

TYPE I MANHOLE SUPPLIED BY H2 PRE-CAST INC. OR EQUAL.

MANHOLE ASSEMBLY MUST CONFORM WITH WSDOT/APWA STANDARD SPECIFICATIONS.

BACKFILL AND SURFACE RESTORATION SHALL CONFORM TO THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER THE ROAD RIGHT-OF-WAY.

TITLE	
TYPE I MANHOLE	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
4 OF SET	NO SCALE

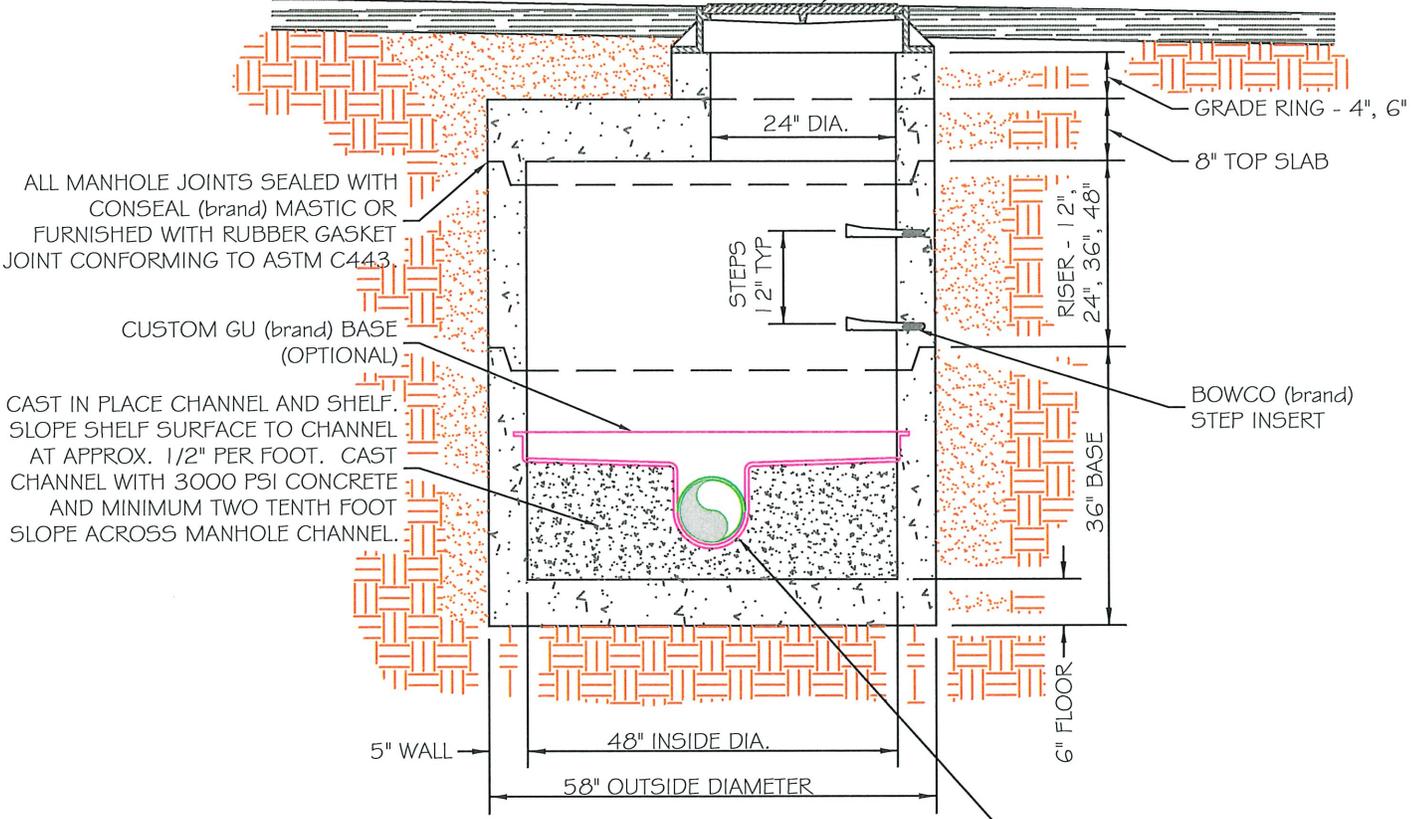


DRAWN BY R1A

09.17.20 \Sewer\Detail\type I manhole.dwg (REV C)



MANHOLE RING AND COVER EQUAL TO OLYMPIC FOUNDRY COMPANY #5943. PROVIDE A SINGLE 1" HOLE AND THE WORD "SEWER" CAST IN COVER.



ALL MANHOLE JOINTS SEALED WITH CONSEAL (brand) MASTIC OR FURNISHED WITH RUBBER GASKET JOINT CONFORMING TO ASTM C443.

CUSTOM GU (brand) BASE (OPTIONAL)

CAST IN PLACE CHANNEL AND SHELF. SLOPE SHELF SURFACE TO CHANNEL AT APPROX. 1/2" PER FOOT. CAST CHANNEL WITH 3000 PSI CONCRETE AND MINIMUM TWO TENTH FOOT SLOPE ACROSS MANHOLE CHANNEL.

STEPS  
1/2" TYP

RISE - 12"  
24", 36", 48"

BOWCO (brand) STEP INSERT

5" WALL

48" INSIDE DIA.

58" OUTSIDE DIAMETER

6" FLOOR

INLET AND OUTLET SHALL BE CONNECTED USING KOR-N-SEAL BOOTS OR EQUAL

PROFILE

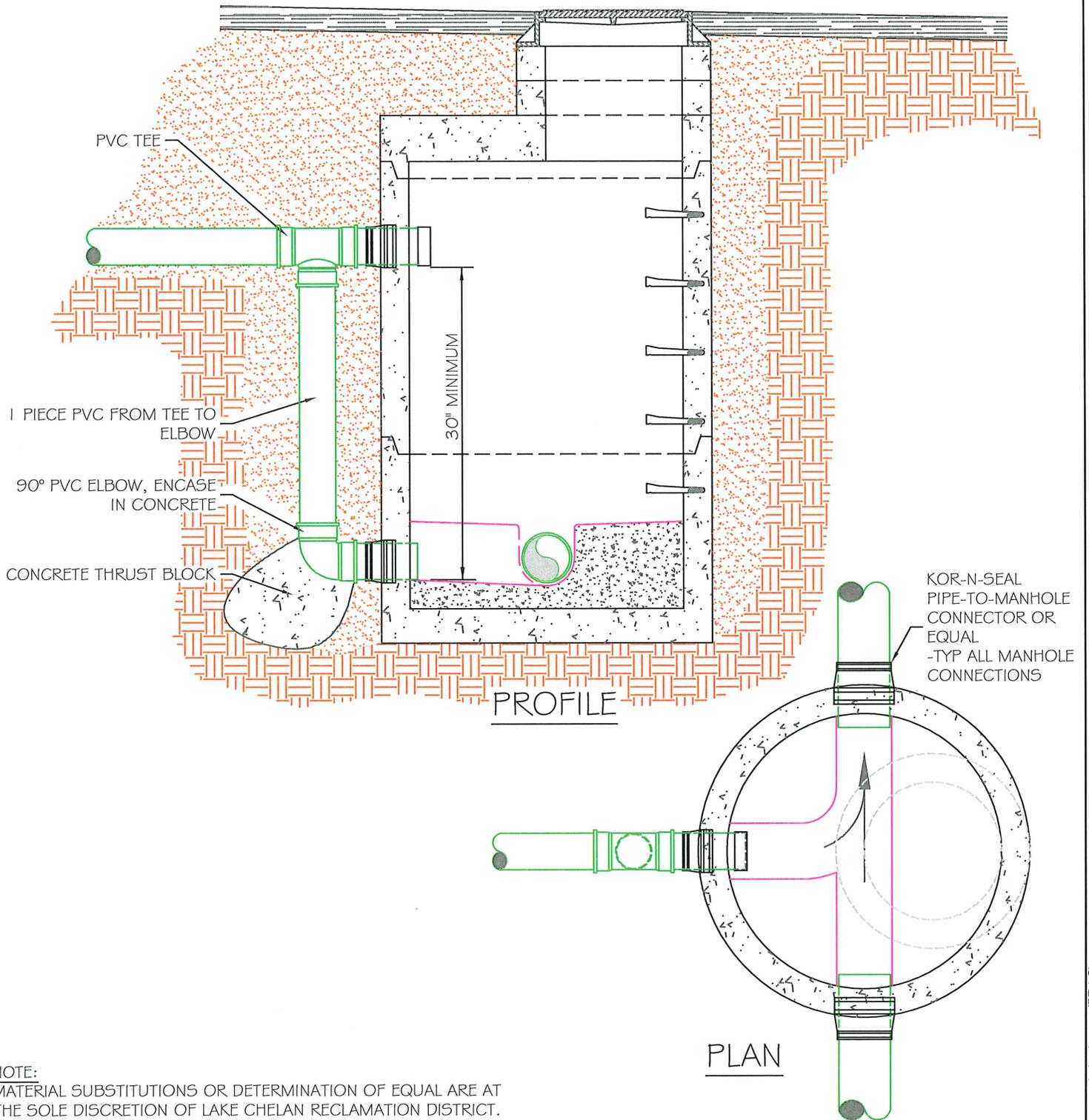
**NOTE:**  
MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

TYPE III MANHOLE SUPPLIED BY H2 PRE-CAST INC. OR EQUAL.

MANHOLE ASSEMBLY MUST CONFORM WITH WSDOT/APWA STANDARD SPECIFICATIONS.

BACKFILL AND SURFACE RESTORATION SHALL CONFORM TO THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER THE ROAD RIGHT-OF-WAY.

TITLE		
<p>TYPE III MANHOLE</p> <p>STANDARD SEWER DETAIL</p>		
SHEET	DWG SCALE	
6 OF SET	NO SCALE	



NOTE:  
 MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT  
 THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

ALL PIPE AND FITTINGS TO BE D3034 GASKETTED SEWER PIPE.

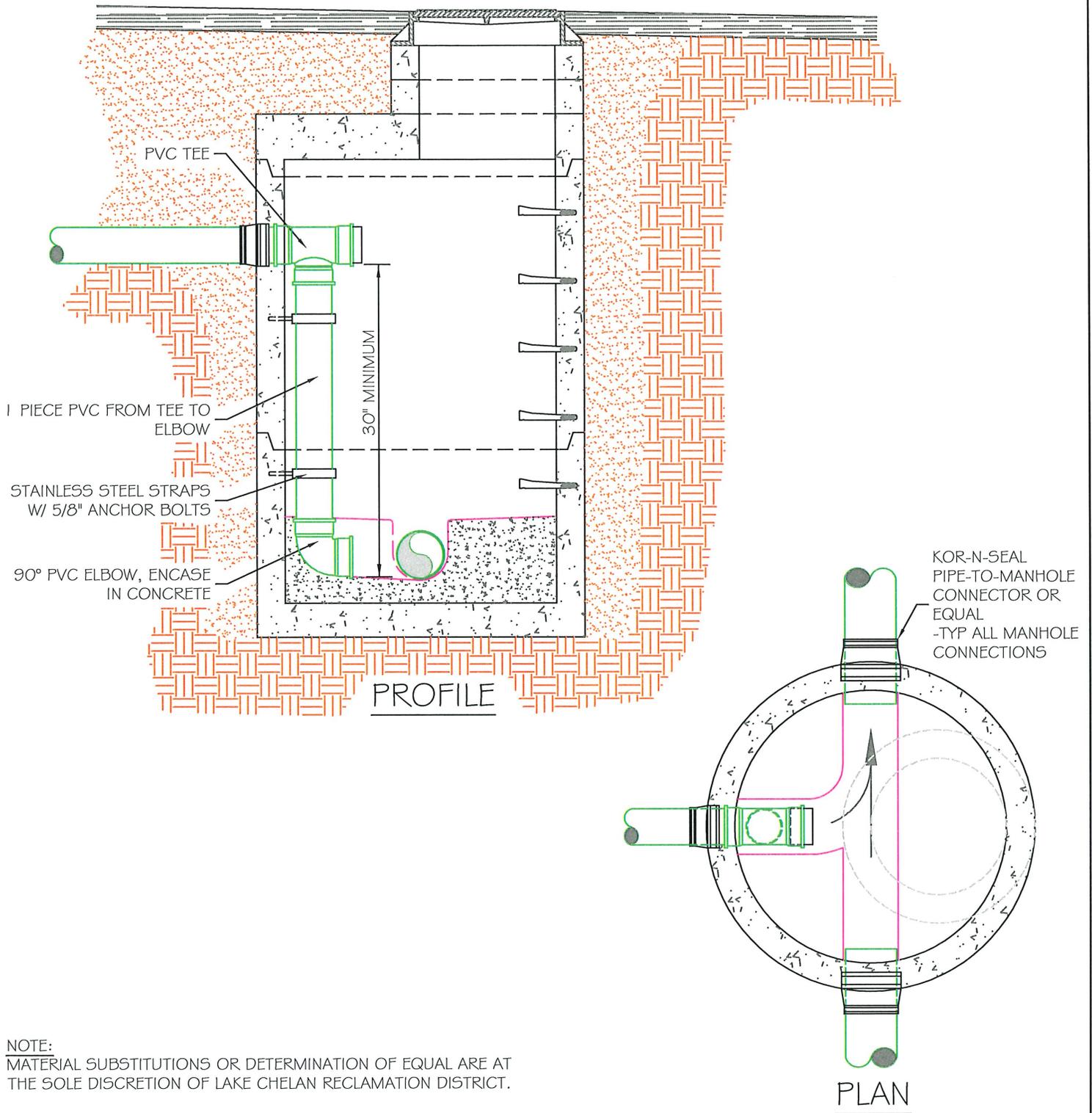
TYPE III MANHOLE SUPPLIED BY H2 PRE-CAST INC. OR EQUAL.

MANHOLE ASSEMBLY MUST CONFORM WITH WSDOT/APWA  
 STANDARD SPECIFICATIONS.

BACKFILL AND SURFACE RESTORATION SHALL CONFORM TO THE  
 REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER THE  
 ROAD RIGHT-OF-WAY.

TITLE	
OUTSIDE DROP MANHOLE	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
7 OF SET	NO SCALE





NOTE:  
 MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

ALL PIPE AND FITTINGS TO BE D3034 GASKETTED SEWER PIPE.

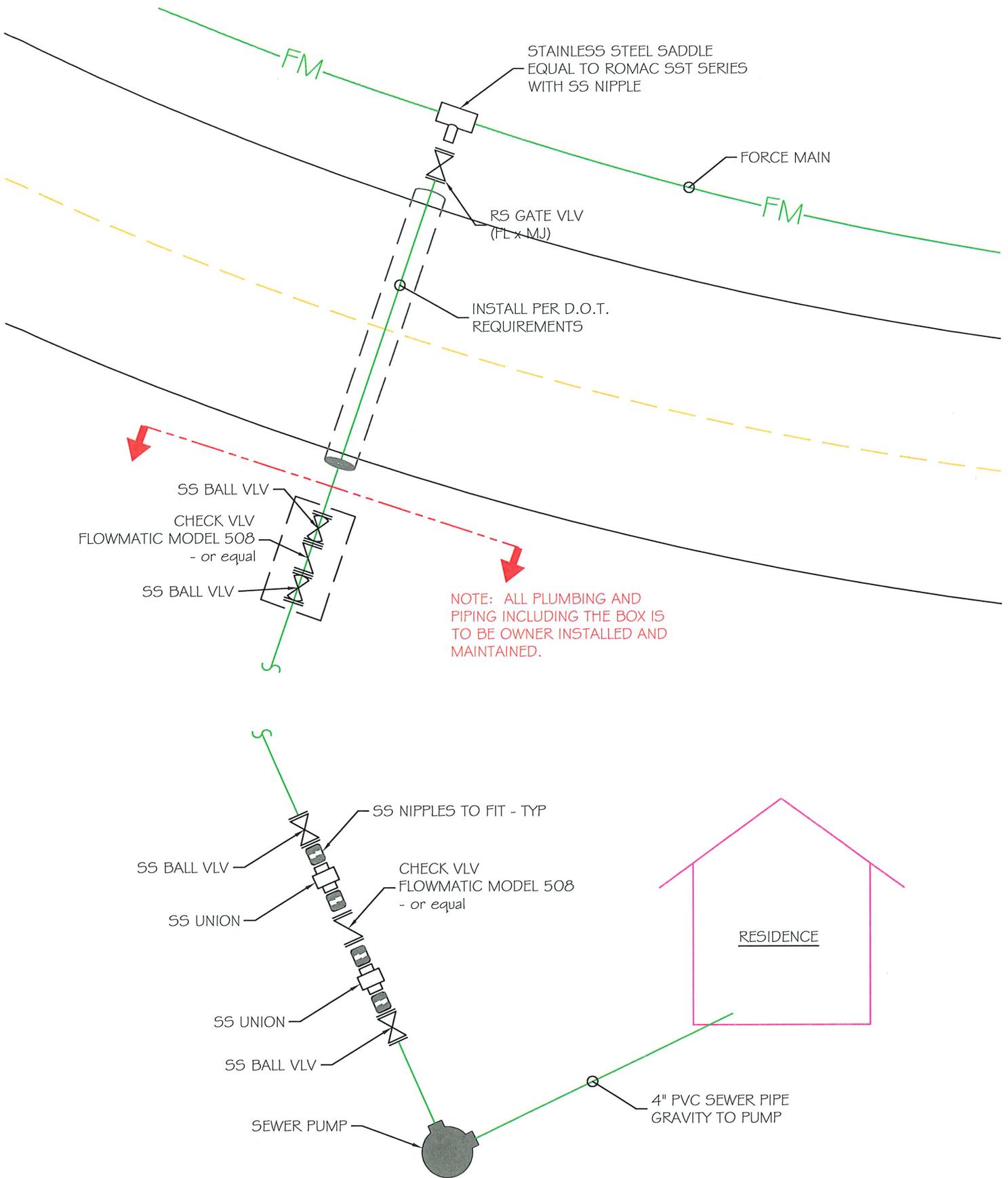
TYPE III MANHOLE SUPPLIED BY H2 PRE-CAST INC. OR EQUAL.

MANHOLE ASSEMBLY MUST CONFORM WITH WSDOT/APWA STANDARD SPECIFICATIONS.

BACKFILL AND SURFACE RESTORATION SHALL CONFORM TO THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION OVER THE ROAD RIGHT-OF-WAY.

TITLE	
INSIDE DROP MANHOLE	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
8 OF SET	NO SCALE



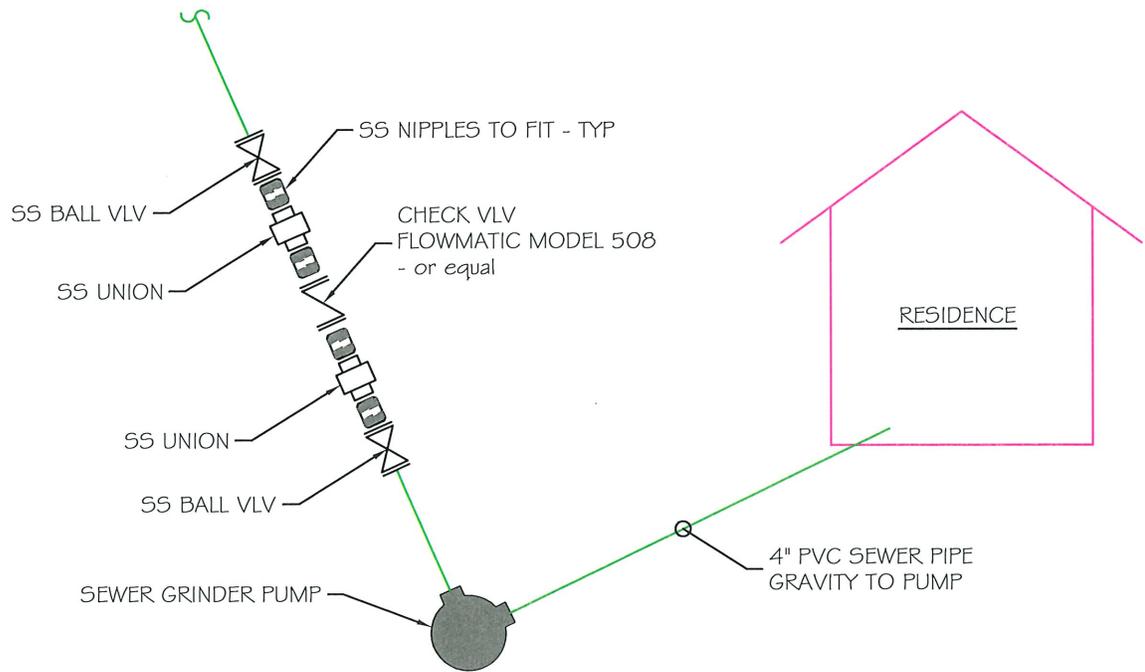
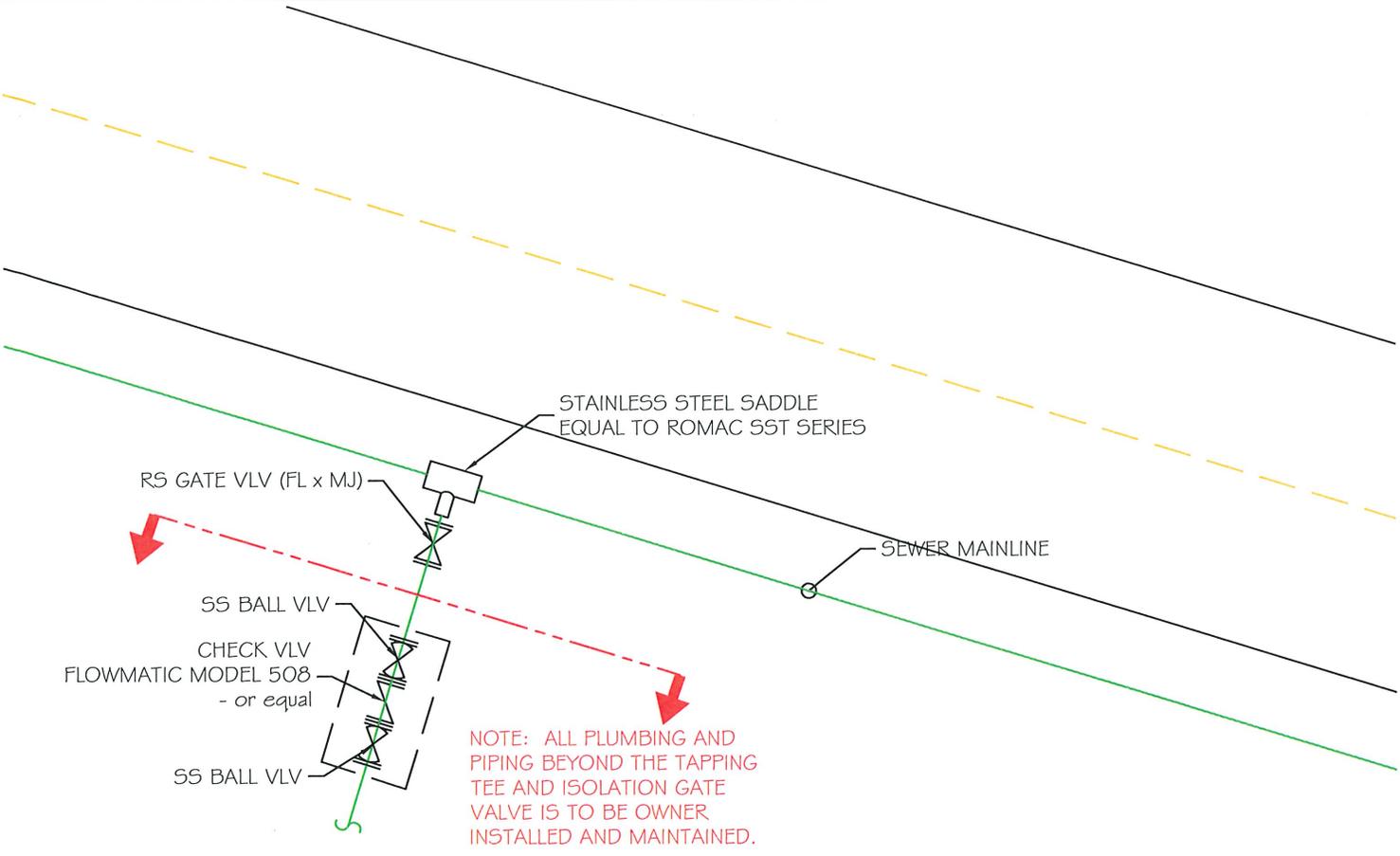


NOTE: ALL PLUMBING AND PIPING INCLUDING THE BOX IS TO BE OWNER INSTALLED AND MAINTAINED.

NOTES:  
 MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.  
 ALL 3" PIPE AND FITTINGS MAY BE SUBSTITUTED WITH 2" IF A GRINDER PUMP IS TO BE USED.

TITLE	
FORCEMAIN SEWER CONNECTION I	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
9 OF SET	NO SCALE





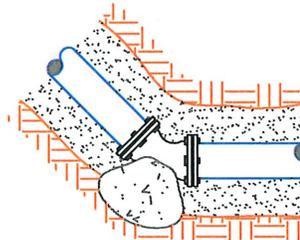
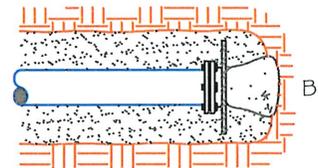
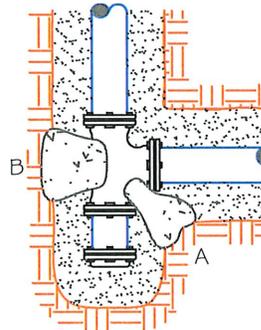
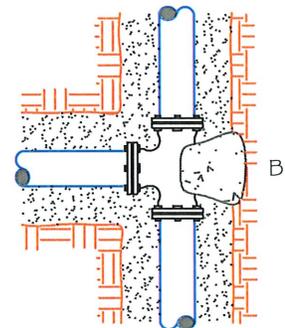
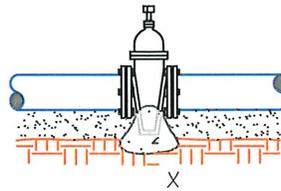
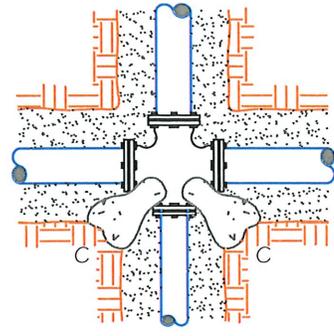
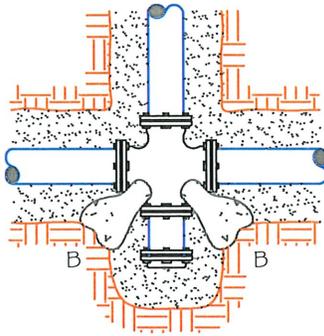
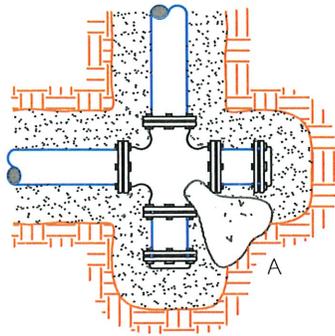
NOTES:  
 MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT  
 THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

TITLE	
FORCEMAIN SEWER CONNECTION II	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
10 OF SET	NO SCALE



DRAWN BY RIA

03.14.22 \SewerDetails\forcemain sewer connection - alt 11.dwg (REV D)



THRUST BLOCK TABLE  
MIN. BEARING AREA AGAINST UNDISTURBED SOIL  
(FT<sup>2</sup>)

PIPE SIZE	A	B	C	D	E	X
4"	3	1	1	1	1	NONE
6"	4	4	2	1	1	NONE
8"	7	6	4	2	1	4
10"	11	10	6	3	2	6
12"	16	14	9	5	3	9
14"	22	19	12	6	3	12
16"	29	25	16	8	4	16
18"	36	31	20	10	5	20
20"	45	39	24	13	6	24
22"	54	47	29	15	8	29
24"	64	56	35	18	9	35
28"	87	76	48	24	12	48
30"	101	87	55	28	14	55
36"	145	125	78	40	20	78
42"	197	171	107	55	27	107
48"	257	223	140	71	36	140

NOTES:  
BEARING AREA OF CONCRETE THRUST-BLOCK BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2,000 POUNDS PER SQUARE FOOT.

AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZES, PRESSURES AND SOIL CONDITIONS.

CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.

BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING OF JOINT.

CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATION PRESSURE UNDER ALL CONDITIONS OF SERVICE.

MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

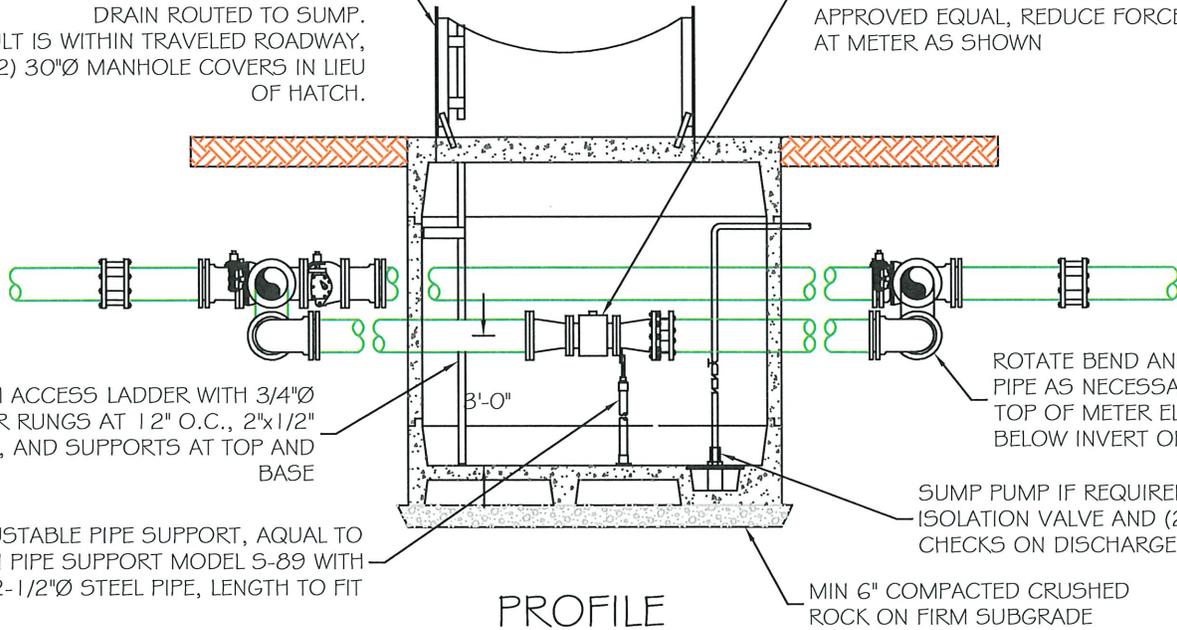
A FOR 90° BEND  
C FOR 45° BEND  
D FOR 22-1/2° BEND  
E FOR 11-1/4° BEND

TITLE	
CONCRETE BLOCKING	
STANDARD SEWER DETAIL	
SHEET	DWG SCALE
13 OF SET	NO SCALE

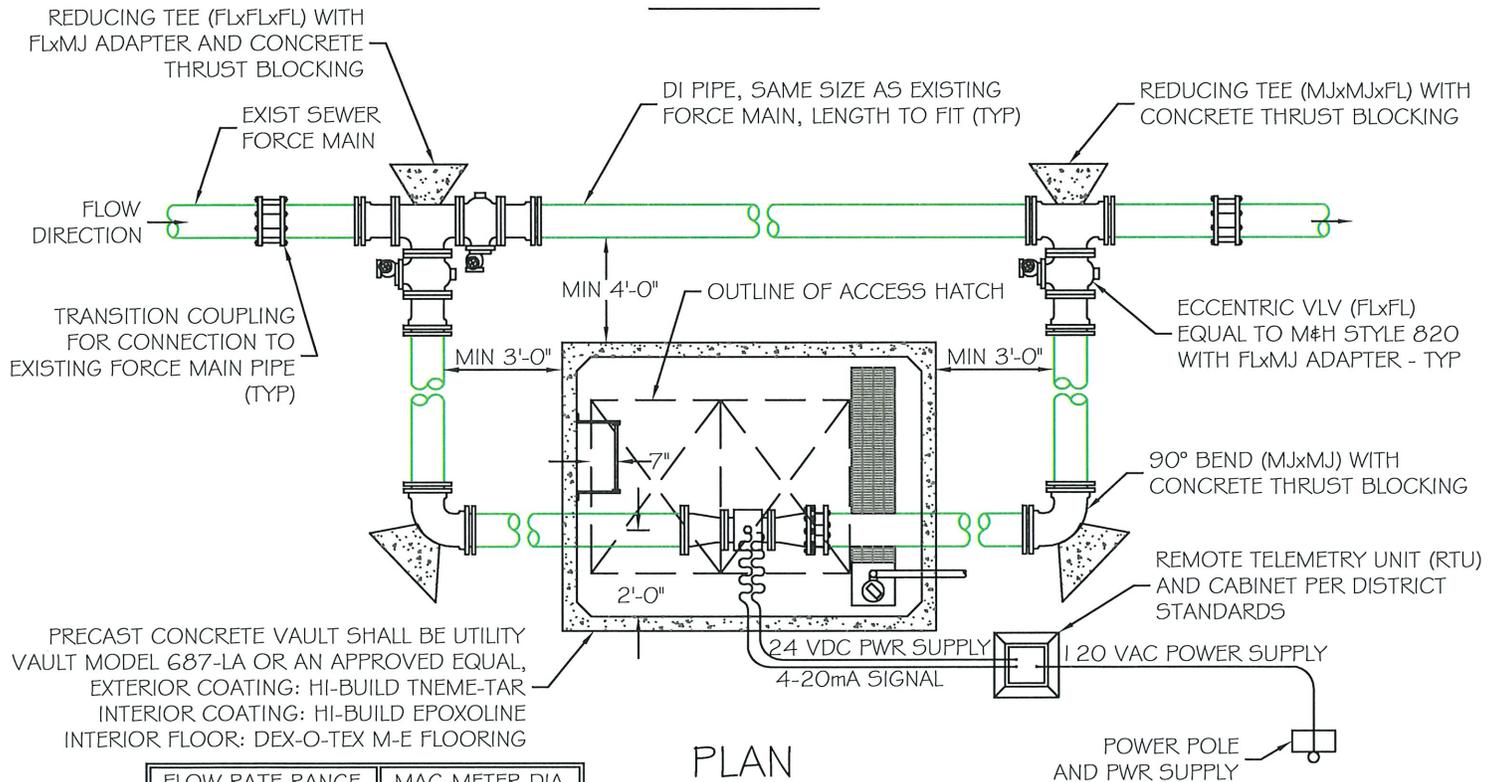


ALUMINUM ACCESS HATCH, 4'-0"W x 5'-0"L WITH SPRING ASSISTED DOUBLE LEAF H-20 LOAD RATED DOORS THAT LOCK IN THE VERTICAL POSITION, PROVIDE REMOVABLE SAFETY CHAINS, LADDER RUNGS ON UNDERSIDE OF DOOR WITH PIN LOCK, RECESSED LOCKING HASP COVERED WITH HINGED LID, 1-1/2"Ø FRAME.  
 DRAIN ROUTED TO SUMP.  
 IF VAULT IS WITHIN TRAVELED ROADWAY, PROVIDE (2) 30"Ø MANHOLE COVERS IN LIEU OF HATCH.

ELECTROMAGNETIC FLOW METER (FLxFL) WITH TRANSMITTER AND REMOTE INDICATOR, SPARLING TIGERMAG MODEL G55 OR APPROVED EQUAL, REDUCE FORCE MAIN SIZE AT METER AS SHOWN



**PROFILE**



**PLAN**

FLOW RATE RANGE (gpm)	MAG-METER DIA. (inches)
25-175	3
50-300	4
125-700	6
250-1250	8
* IF FLOW RATE IS NOT WITHIN RANGES SHOWN, CONSULT ENGINEER.	

NOTES:  
 MATERIAL SUBSTITUTIONS OR DETERMINATION OF EQUAL ARE AT THE SOLE DISCRETION OF LAKE CHELAN RECLAMATION DISTRICT.

TITLE

**FLOW METER VAULT**

STANDARD SEWER DETAIL

SHEET 14 OF SET

DWG SCALE NO SCALE



SewerDetailsflow meter vault.dwg (REV A) 01.15.02 DRAWN BY RIA