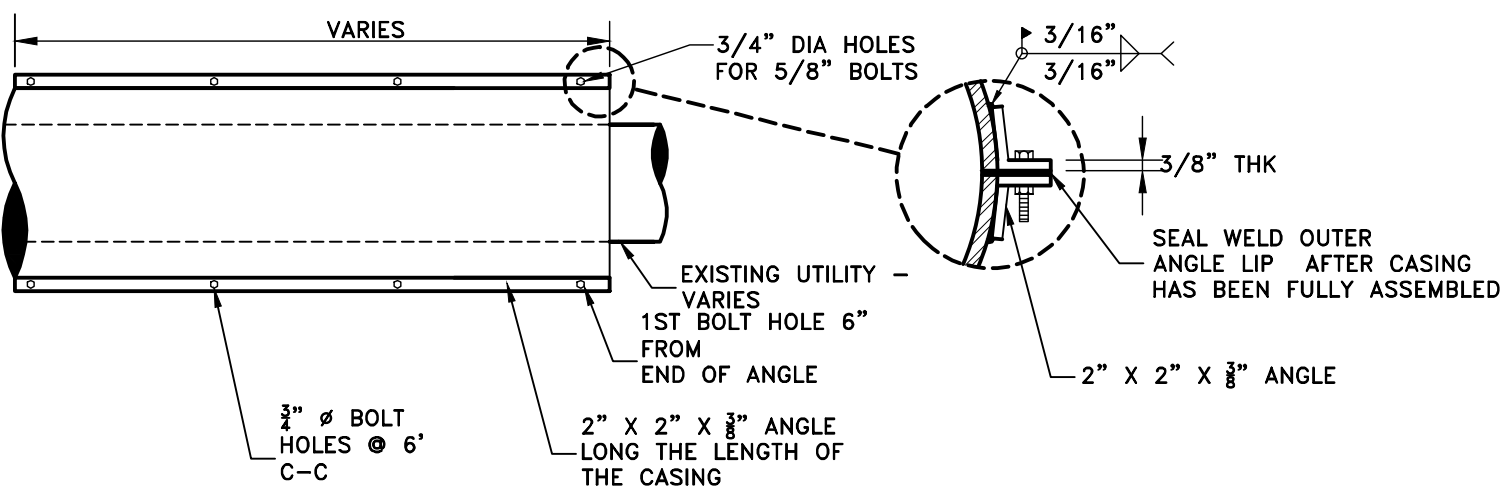
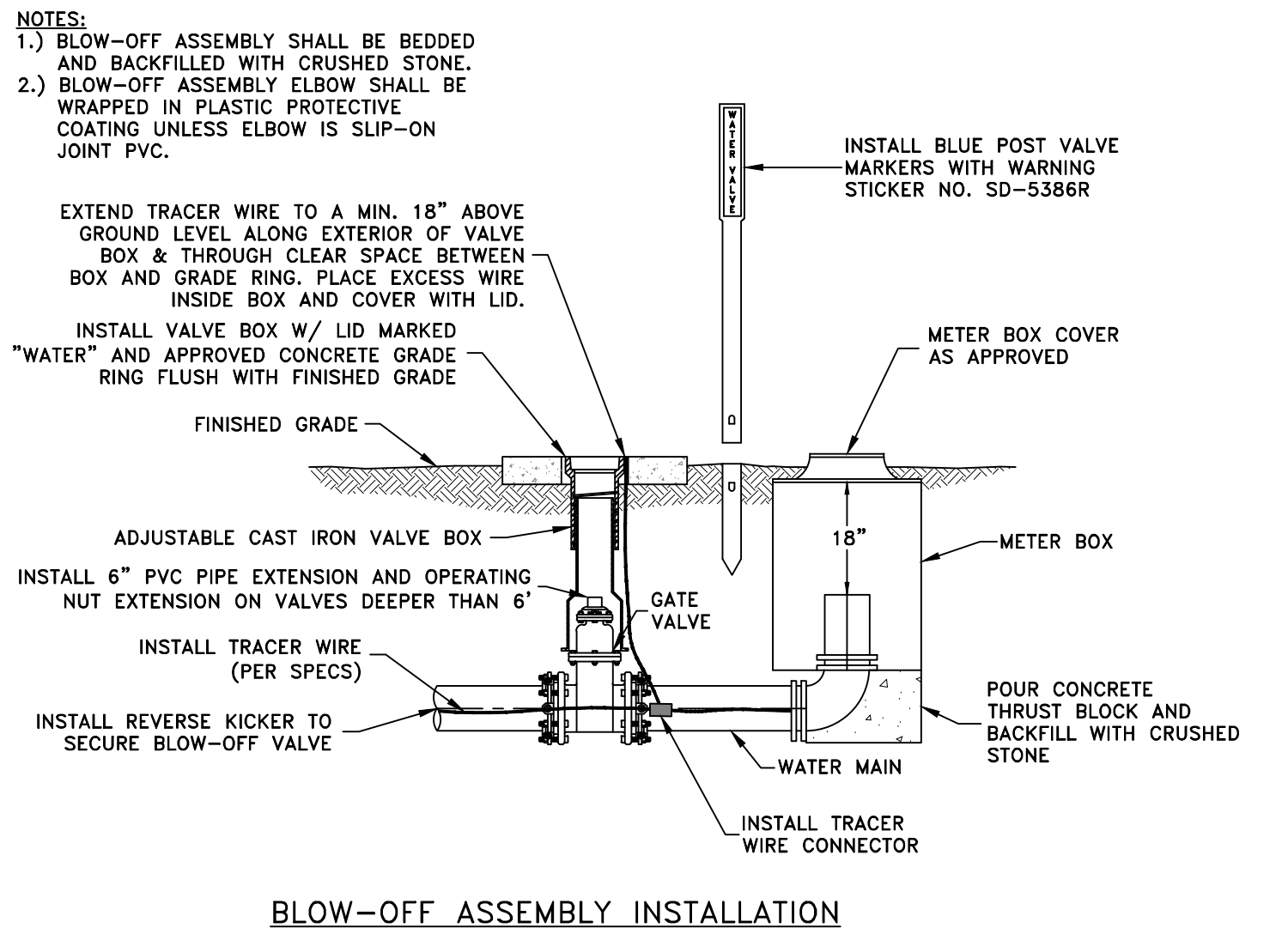


CARRIER TYPE AND CASING PIPE SIZES (MIN) IN INCHES											
CARRIER PIPE NOM. DIA. (D1)	4	6	8	10	12	16	20	24	30		
CASING PIPE NOM. DIA. (D2)	12	12	16	20	20	24	30	36	42		
WALL THICKNESS	0.375	0.375	0.375	0.375	0.375	0.500	0.500	0.500	0.625		

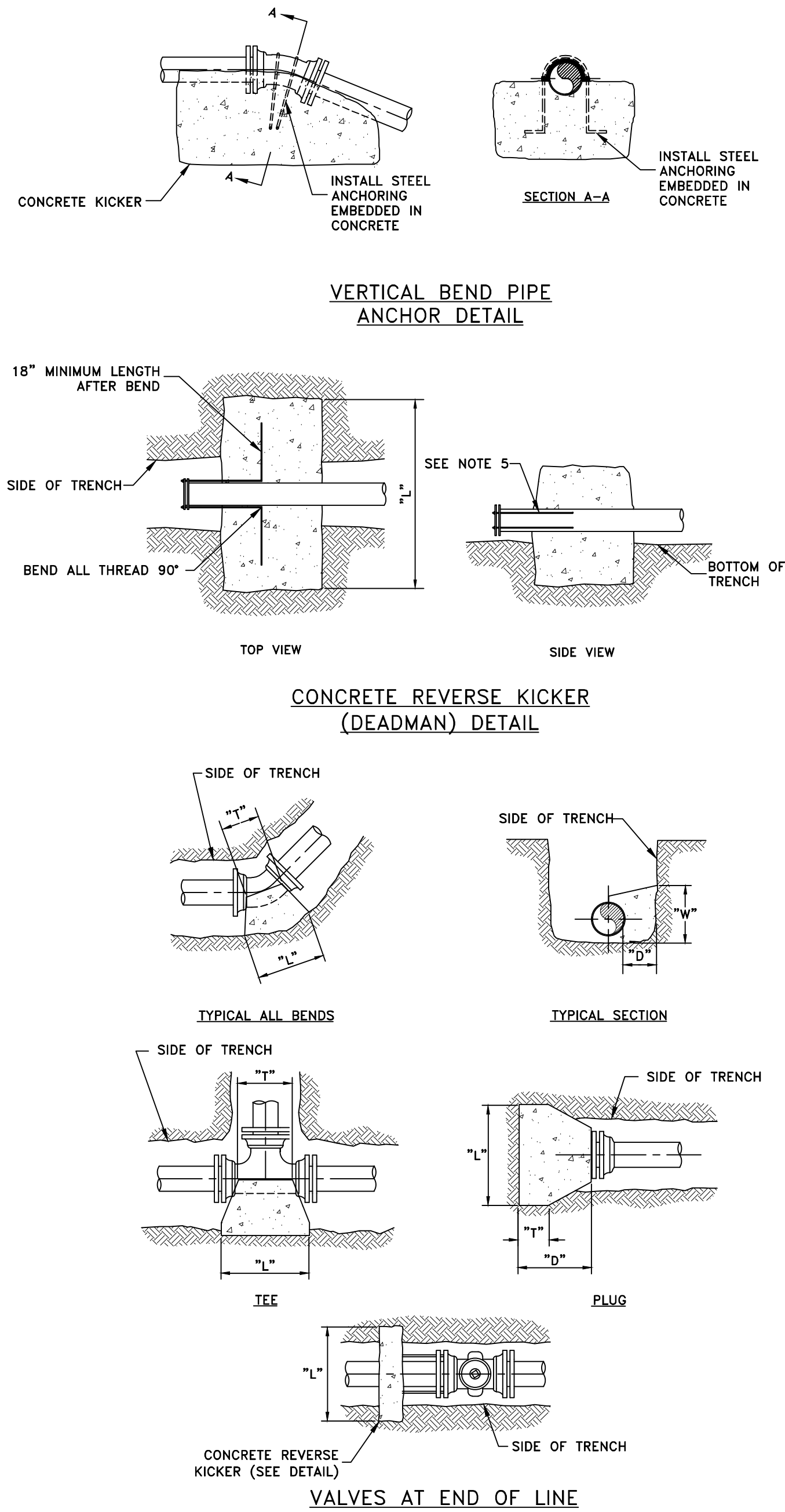
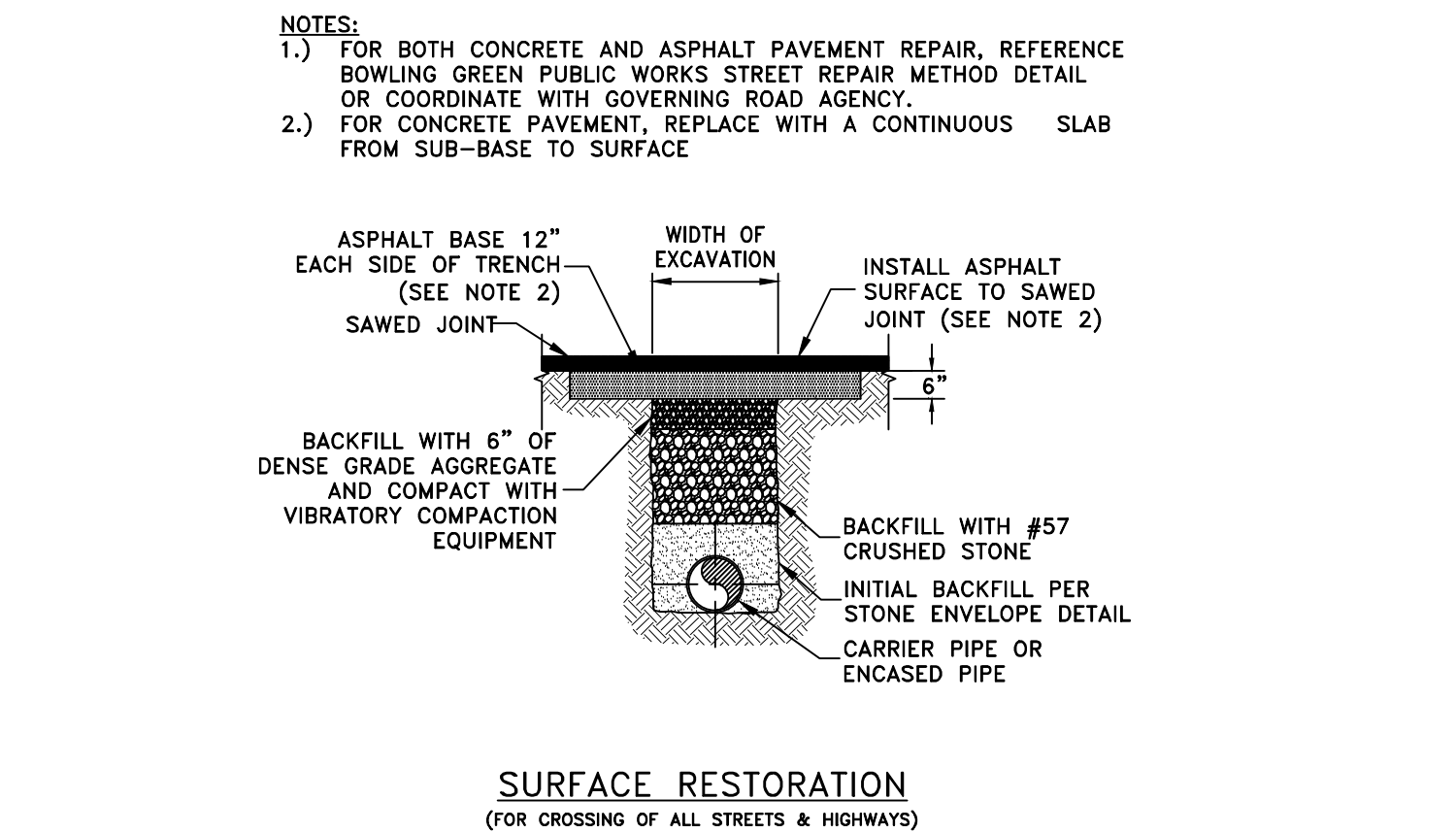
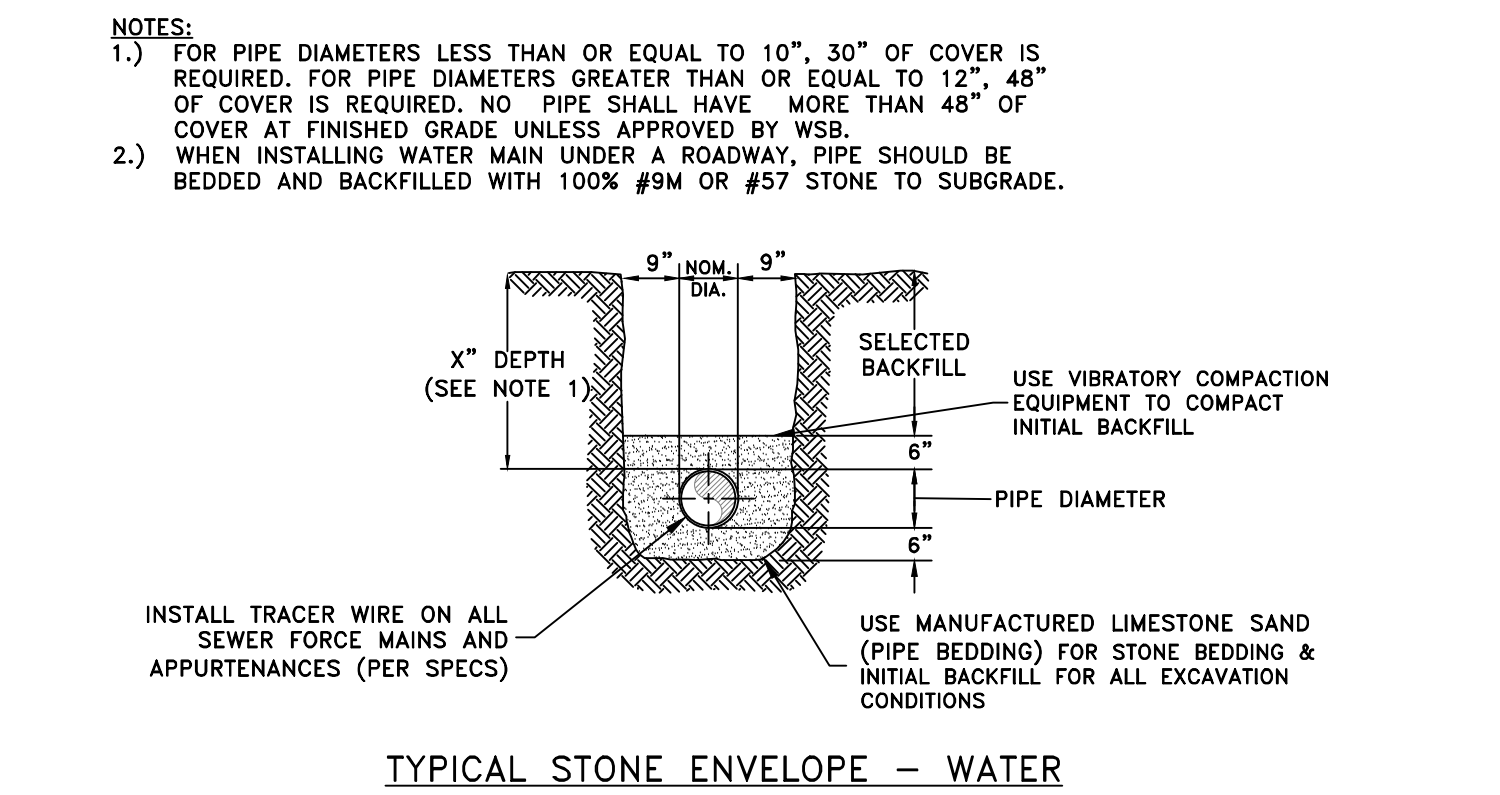
- CASING SCHEDULE
- NOTES
- CASING SIZES ARE BASED ON A TYPICAL TYTON JOINT WITH RESTRAINED JOINT GASKETS. IF A TRADITIONAL RESTRAINED JOINT SIMILAR TO TR FLEX OR EQUIVALENT IS UTILIZED, COORDINATE WITH WSB TO ENSURE SUFFICIENT CASING SIZE IS PROVIDED.
  - MINIMUM COVER AT LOWEST POINT IN RIGHT OF WAY SHOULD BE 4' TO TOP OF CASING FOR KYTC AND COUNTY ROADWAYS AND 5.5' TO BASE OF RAIL ON RAILROADS.
  - ALL CASINGS SHALL EXTEND THROUGH RIGHT OF WAY.
  - THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 4 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE CARRIER PIPE BELL OR COUPLING.
  - FOR CASINGS 50 FEET IN LENGTH OR LONGER, ALL CARRIER PIPE SHALL BE DUCTILE IRON PIPE AND HAVE MECHANICAL RESTRAINED JOINTS.
  - STAINLESS STEEL SPACERS SHALL BE USED FOR ALL DUCTILE IRON PIPE OR ANY PIPE 12" IN DIAMETER AND LARGER.
  - PIPE TO BE USED AS A CASING SHALL CONFORM TO ASTM A252 STANDARD SPECIFICATION FOR WELDED & SEAMLESS STEEL PIPE PILES WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI

TYPICAL CASING DETAIL - WATER



- NOTES
- SPLIT CASINGS ARE INTENDED FOR OPEN CUT INSTALLATIONS ONLY AND PRIMARILY FOR PROTECTING EXISTING UTILITIES.
  - SPLIT CASING WILL NOT BE ACCEPTABLE FOR BORE AND JACK INSTALLATIONS.
  - CASING SPACERS SHALL BE PROVIDED AS SPECIFIED FOR TYPICAL CASING INSTALLATIONS.
  - SIZING AND SPACER CONFIGURATION PER TYPICAL CASING DETAIL.

TYPICAL SPLIT CASING DETAIL



NOTES:  
1.) ALL FITTINGS SHALL INCLUDE RESTRAINT GLANDS: USE ROMAC RESTRAINT FOR PVC. USE ROMAC OR MEGALUG RESTRAINT FOR DIP.  
2.) CONCRETE THRUST BLOCKS TO BE POURED AGAINST UNDISTURBED EARTH.  
3.) PLASTIC BARRIER SHALL BE PLACED BETWEEN ALL CONCRETE AND PIPE AND/OR FITTINGS.  
4.) ANCHOR BAR SHALL BE 5/8" MINIMUM DIAMETER.  
5.) RODDING FOR A CONCRETE REVERSE KICKER SHALL BE AS FOLLOWS: 4" USE 2 RODS, 6"-10" USE 4 RODS & 12" PER ENGINEER.  
6.) FITTINGS SHALL BE INSTALLED AS REQUIRED PER WSB INSPECTOR.

90° BENDS											
SIZE	2	4	6	8	10	12	14	16	18	20	24
"D"	6	8	8	10	12	14	22	22	24	24	30
"L"	16	20	24	30	32	34	68	68	80	80	96
"W"	8	10	12	18	22	24	34	34	40	40	48
"T"	10	12	16	20	22	22	38	38	40	40	52

45° BENDS											
SIZE	2	4	6	8	10	12	14	16	18	20	24
"D"	6	6	8	10	12	12	22	22	24	24	30
"L"	14	18	18	22	24	24	51	51	60	60	72
"W"	8	10	12	16	18	18	25	25	29	29	36
"T"	10	12	16	18	18	18	38	38	40	40	52

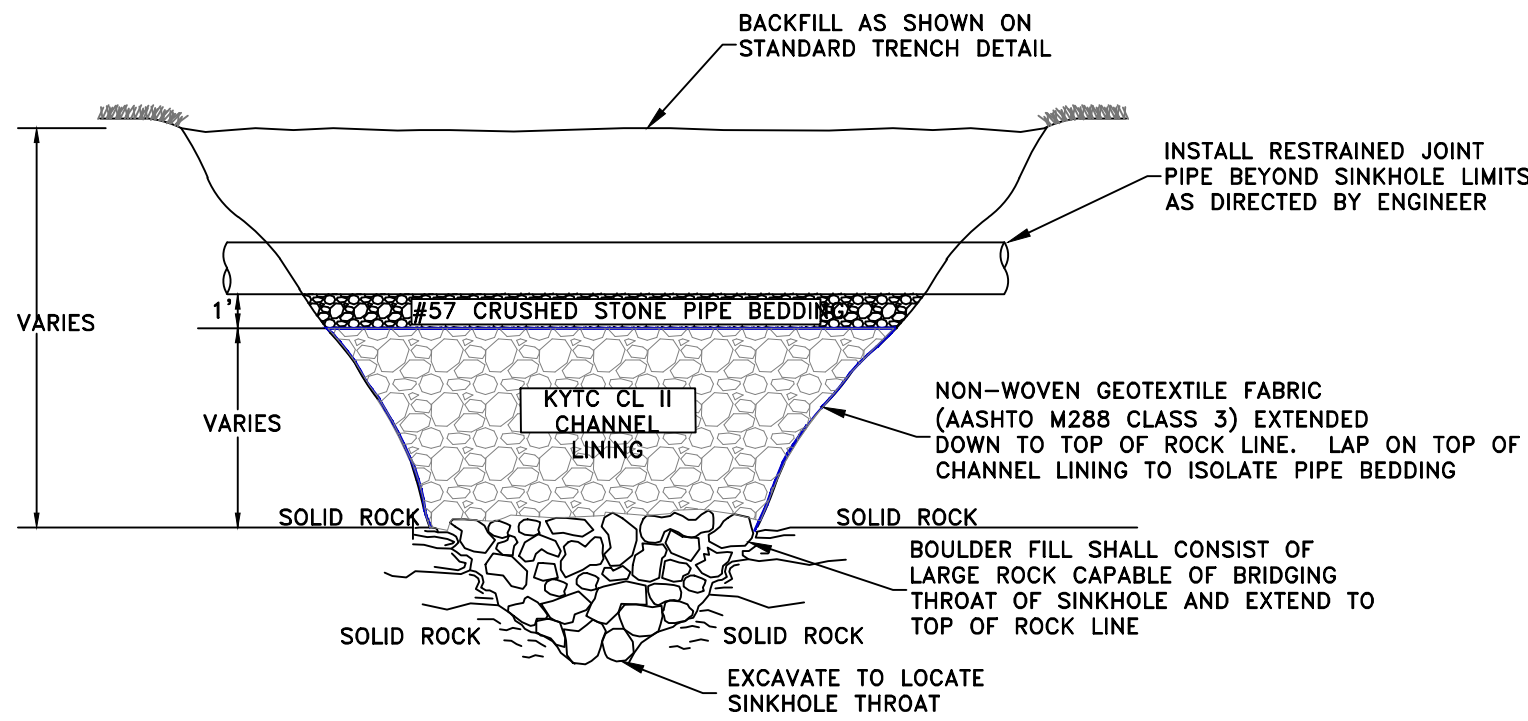
22 1/2" & 11 1/4" BENDS											
SIZE	2	4	6	8	10	12	14	16	18	20	24
"D"	6	10	14	18	20	20	22	22	24	24	30
"L"	20	24	28	28	28	28	36	36	42	42	54
"W"	18	20	22	24	24	24	18	18	21	21	24
"T"	12	14	16	18	18	18	38	38	40	40	52

TEES, PLUGS & BLOWOFFS											
SIZE	2	4	6	8	10	12	14	16	18	20	24
"D"	12	16	18	24	28	30	30	30	30	30	36
"L"	12	16	18	24	28	30	60	60	72	72	84
"W"	14	16	18	18	22	24	28	28	32	32	40
"T"	10	10	12	12	12	12	38	38	40	40	52

\*ALL DIMENSIONS ARE IN INCHES

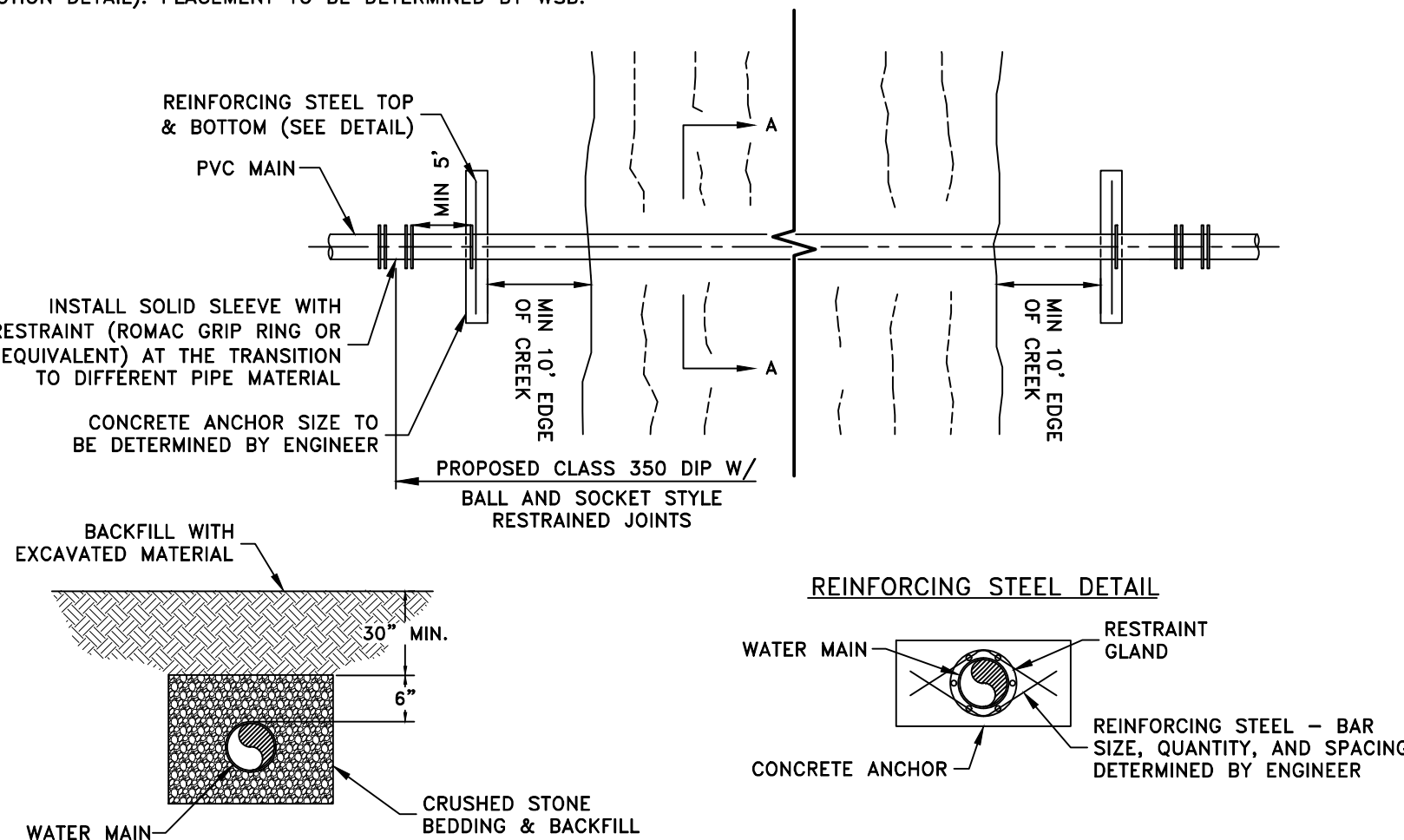
MINIMUM CONCRETE BLOCKING FOR PIPE & FITTINGS



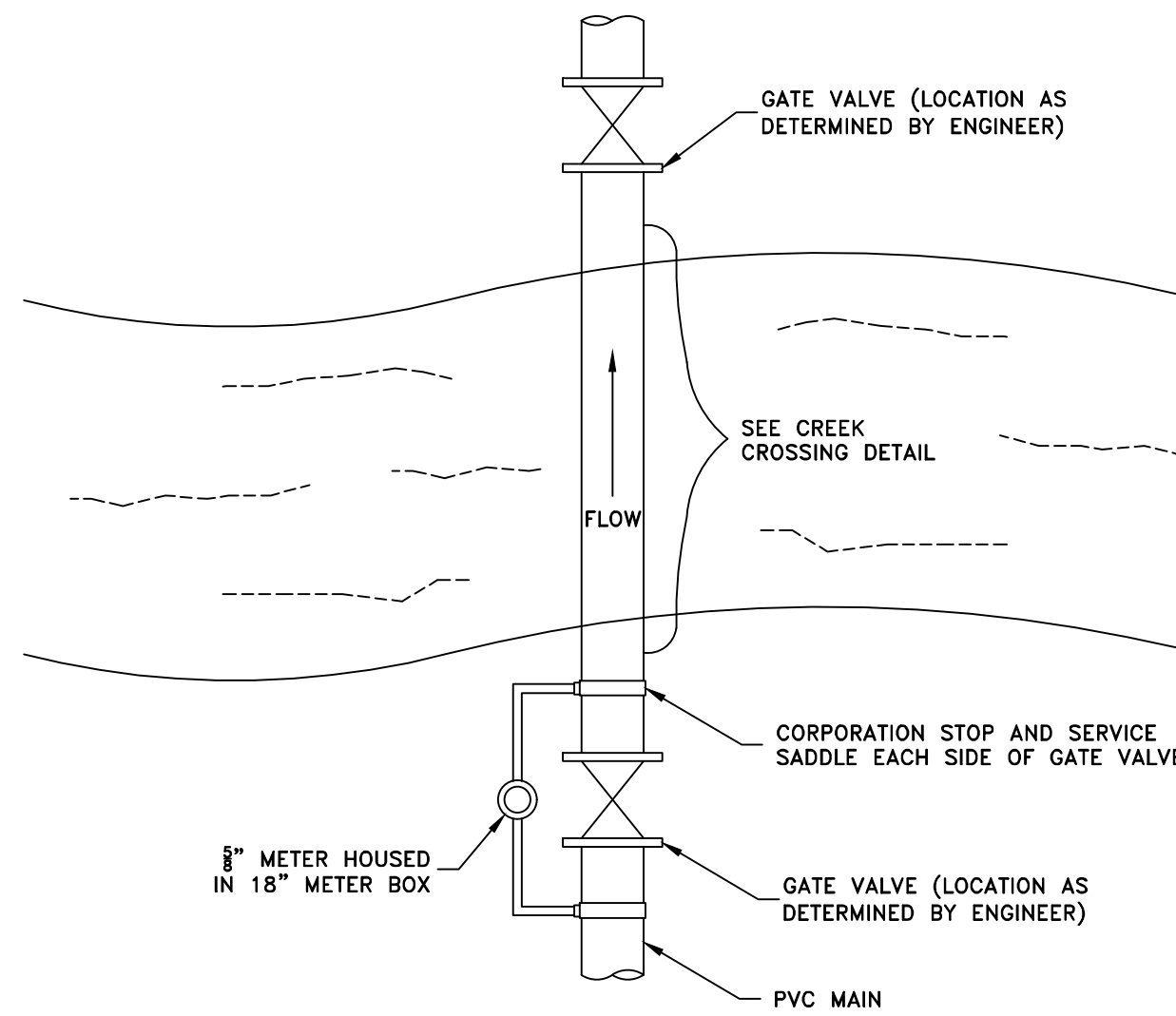


SINK HOLE REPAIR

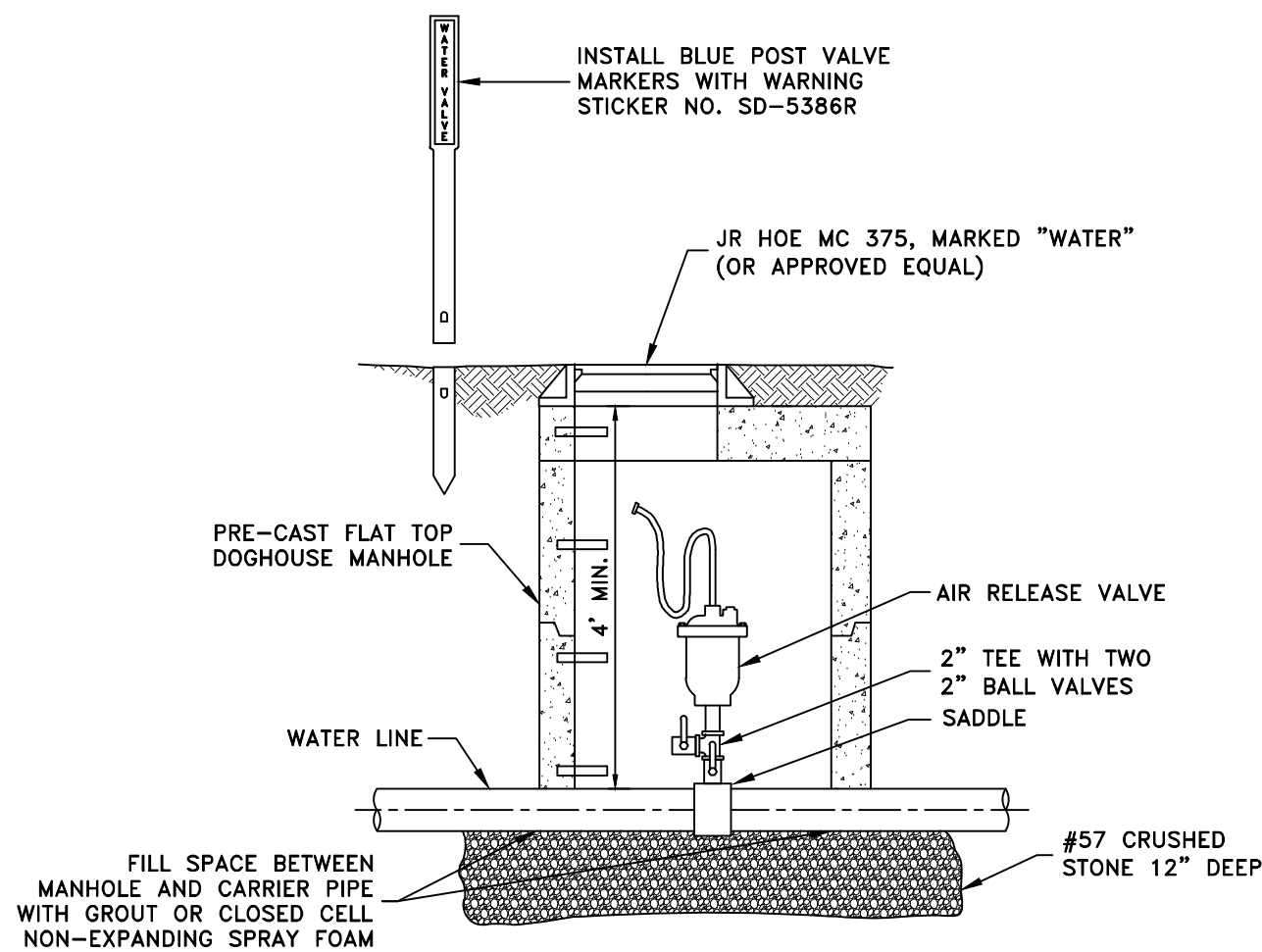
- NOTES:
- 1.) CREEK CROSSING AS SHOWN SHALL BE CONSTRUCTED ACROSS ALL MAJOR STREAMS AS INSTRUCTED BY ENGINEER.
  - 2.) CONSTRUCTION OF FITTINGS AND ANCHORS SHALL BE SYMMETRICAL ON EACH SIDE.
  - 3.) GATE VALVES ARE REQUIRED ON EACH SIDE OF THE CREEK CROSSING.
  - 4.) FOR CHANNELS GREATER THAN 15' IN WIDTH, A LEAK DETECTION STATION SHALL BE INSTALLED ON ONE SIDE OF THE STREAM (PER WSB LEAK DETECTION DETAIL). PLACEMENT TO BE DETERMINED BY WSB.



TYPICAL CREEK CROSSING

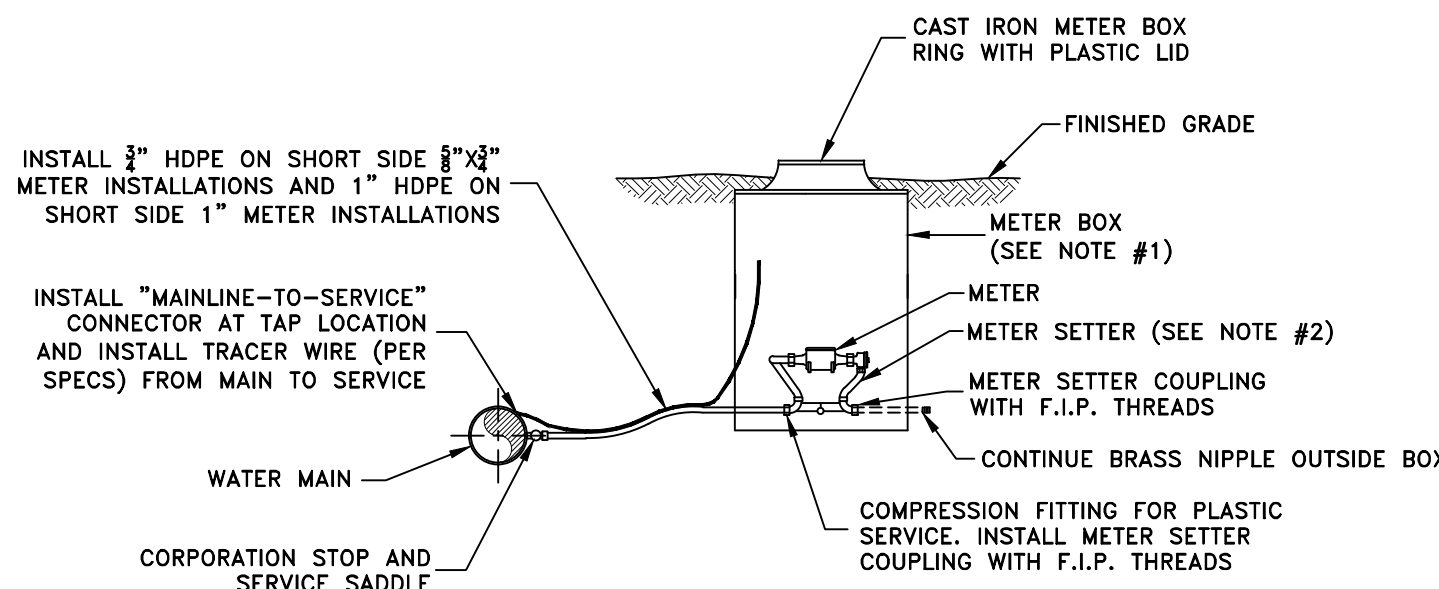


CREEK CROSSING LEAK DETECTION



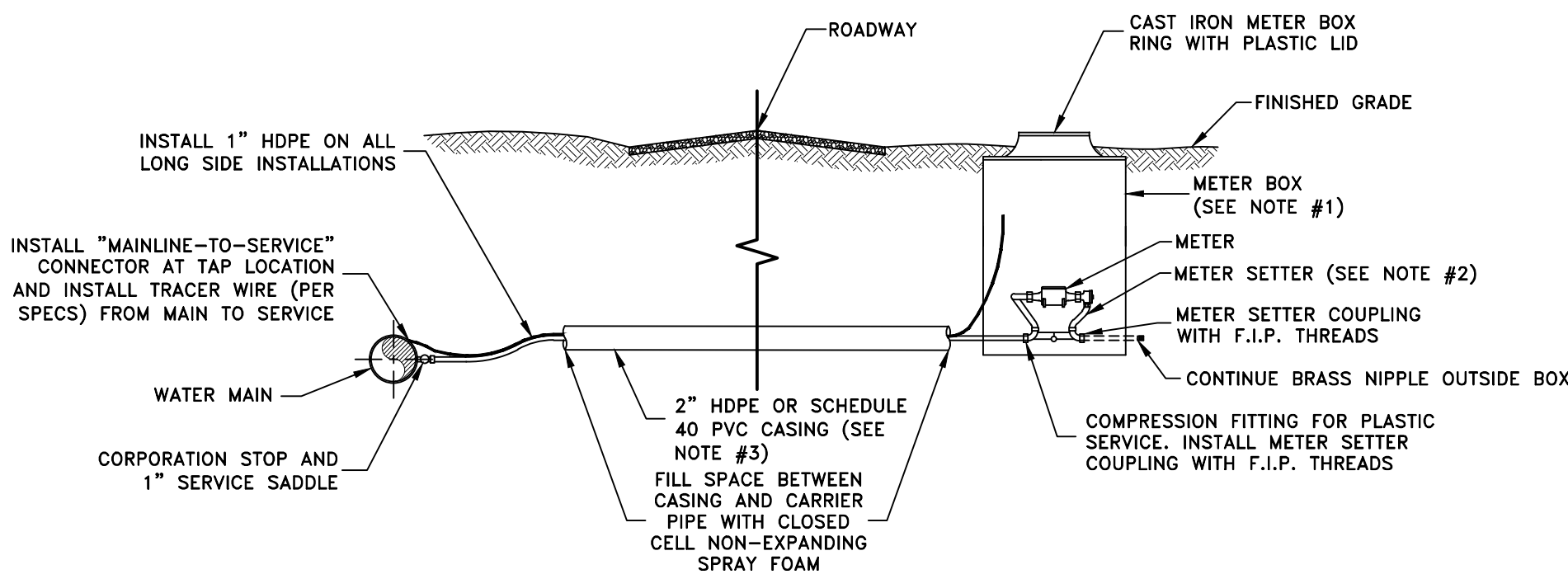
STANDARD AIR RELEASE STATION - WATER

- NOTES:
- 1.) ALL 3/4\"/>
  - 2.) FOR METER ASSEMBLIES REQUIRING PRESSURE REGULATORS, A TANDEM METER SETTER WILL BE REQUIRED. REFER TO STANDARD SPECIFICATIONS FOR REGULATOR AND TANDEM SETTER MODEL NUMBERS.
  - 3.) ON ROAD CROSSING SERVICE CONNECTIONS, REFER TO "LONG SIDE" SERVICE DETAIL.



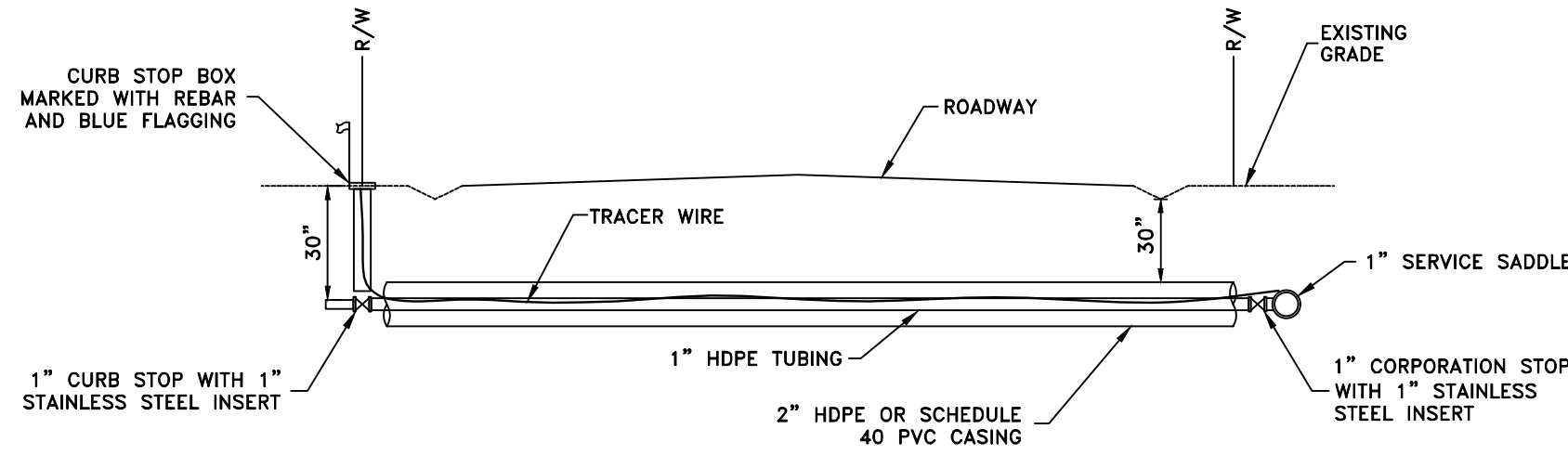
TYPICAL METER SETTING FOR "SHORT SIDE" 3/4" & 1" SERVICES

- NOTES:
- 1.) ALL 3/4\"/>
  - 2.) FOR METER ASSEMBLIES REQUIRING PRESSURE REGULATORS, A TANDEM METER SETTER WILL BE REQUIRED. REFER TO STANDARD SPECIFICATIONS FOR REGULATOR AND TANDEM SETTER MODEL NUMBERS.
  - 3.) 4" HDPE OR SCHEDULE 40 PVC CASING SHOULD BE USED FOR A 2" CARRIER PIPE. FOR CASINGS ON ALL OTHER CARRIER PIPE DIAMETERS, REFER TO THE CASING SCHEDULE DETAIL.



TYPICAL METER SETTING FOR "LONG SIDE" 3/4" & 1" SERVICES

- NOTES:
- 1.) NO TAPS SHALL BE MADE ON PRESSURIZED MAINS.
  - 2.) CURB STOP INSTALLED ON PROPERTY CORNERS AS DIRECTED BY WSB.
  - 3.) CASING SHALL EXTEND THE ENTIRE RIGHT OF WAY SHORTENED AS NEEDED FOR CURB STOP.
  - 4.) ALL CROSSINGS SHALL BE BACKFILLED WITH CRUSHED STONE.
  - 5.) IF MULTIPLE SERVICE CONNECTIONS ARE NEEDED, LARGER CASING MAY BE REQUIRED.
  - 6.) ALL FITTINGS SHALL BE INSTALLED WITH TEFLON TAPE OR JOINT COMPOUND.
  - 6.) ALL SHOWN MATERIAL SHALL BE SUPPLIED BY THE DEVELOPER.



SERVICE LINE CROSSING DETAIL FOR SUBDIVISION