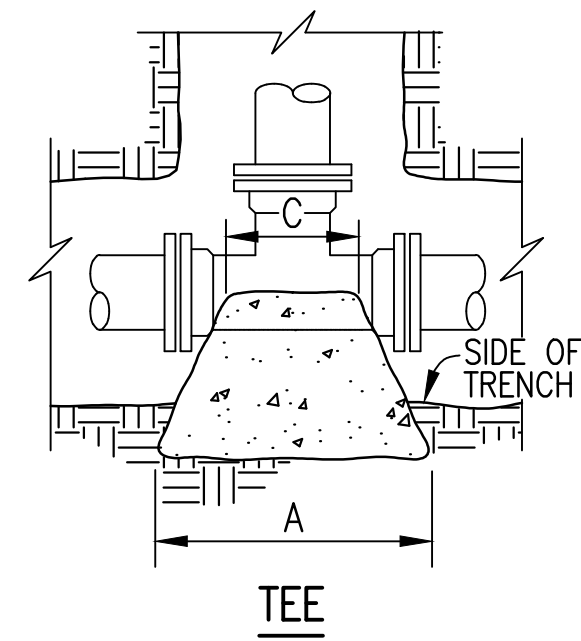
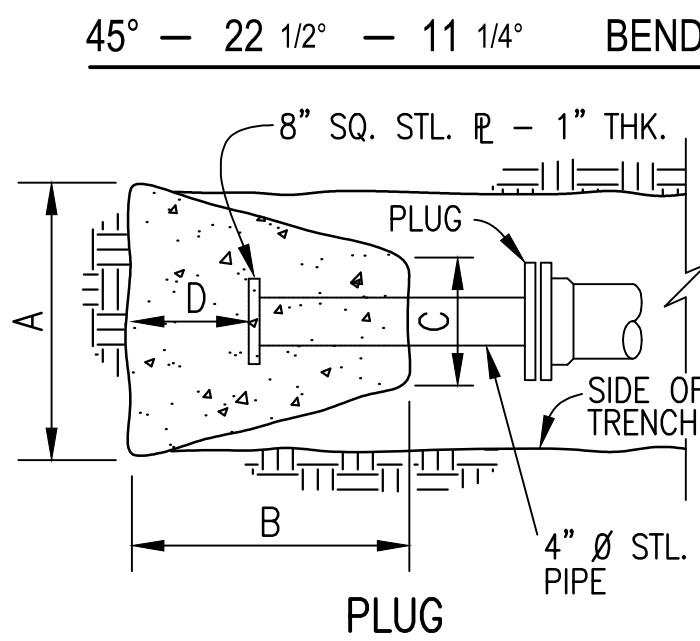
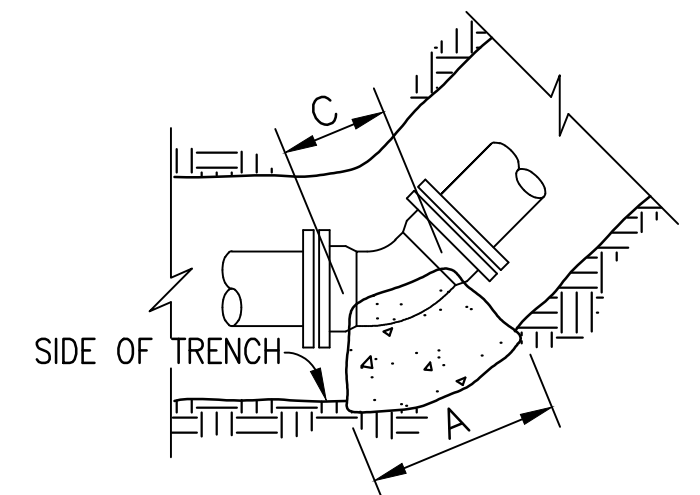
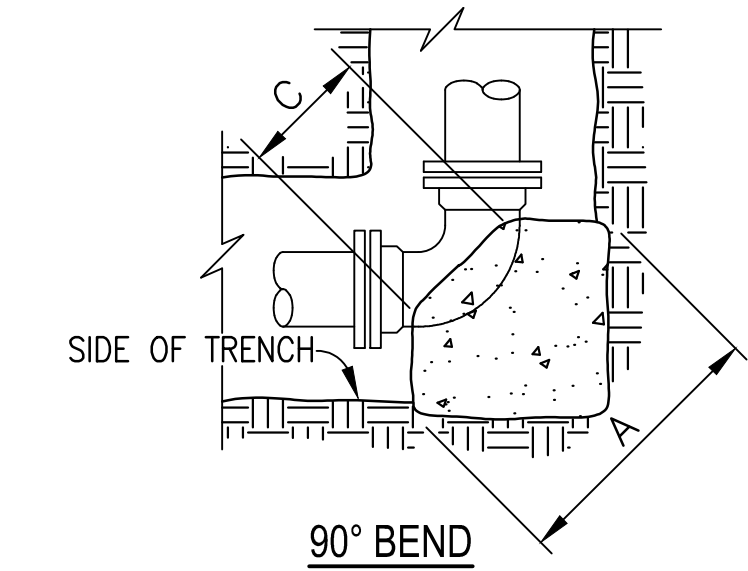
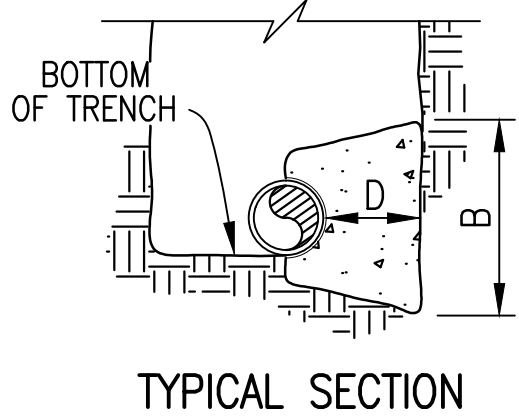




NOTES:

1. THRUST BLOCKS DESIGNED FOR 200 PSI PRESSURE AND 2000 PSF SOIL BEARING. FOR GREATER PRESSURE OR LESS SOIL BEARING, QUANTITIES WILL HAVE TO BE RECALCULATED.
2. THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
3. IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN, USE NEXT LARGER SIZE.
4. THRUST BLOCKING TO BE POURED IN PLACE CLASS C CONC.



THRUST BLOCKING DETAIL

NOT TO SCALE

90° BEND							
SIZE	16"	12"	10"	8"	6"	4"	2"
A	84	60	51	42	32	24	18
B	72	60	51	42	32	24	18
C	30	18	16	12	12	9	9
D	34	30	24	17	13	9	9

45° BEND							
SIZE	16"	12"	10"	8"	6"	4"	2"
A	58	43	38	32	24	18	12
B	58	43	38	32	24	18	12
C	24	16	14	12	12	8	8
D	24	18	15	12	9	6	6

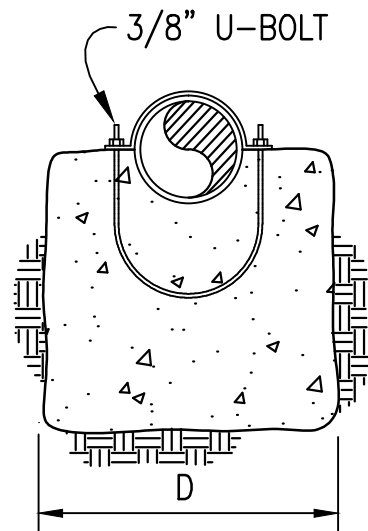
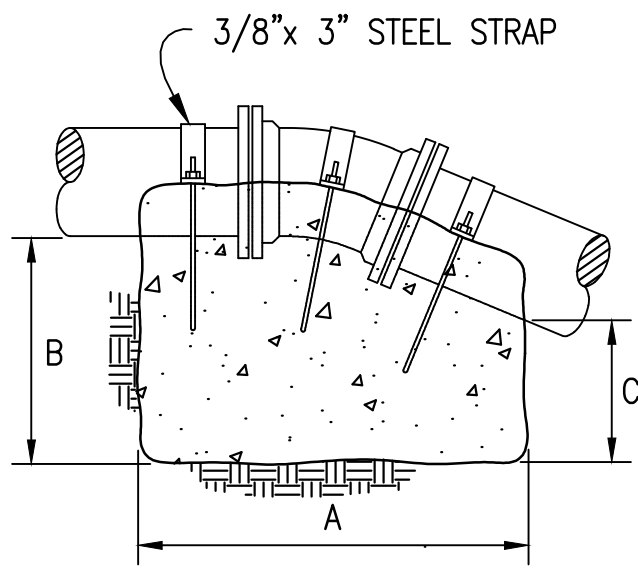
22 1/2° BEND							
SIZE	16"	12"	10"	8"	6"	4"	2"
A	42	32	27	24	18	12	9
B	42	32	27	24	18	12	9
C	18	16	14	12	10	8	8
D	18	13	11	9	6	4	4

11 1/4° BEND							
SIZE	16"	12"	10"	8"	6"	4"	2"
A	30	24	21	17	12	9	9
B	30	24	21	17	12	9	9
C	18	16	14	12	10	8	8
D	12	9	8	6	5	4	4

PLUG							
SIZE	16"	12"	10"	8"	6"	4"	2"
A	66	52	43	34	27	20	18
B	66	52	43	34	27	20	18
C	12	12	12	12	12	12	12
D	44	32	22	15	11	11	11

TEE							
SIZE	MAIN	16"	12"	10"	8"	6"	2"
BRANCH	16"	12"	8"-10"	2"-8"	8"-10"	8"-12"	2"-6"
A	66	52	43	34	43	26	26
B	66	52	43	34	43	26	26
C	30	12	12	12	12	12	12
D	30	26	21	14	21	13	13

DIMENSIONS ARE IN INCHES

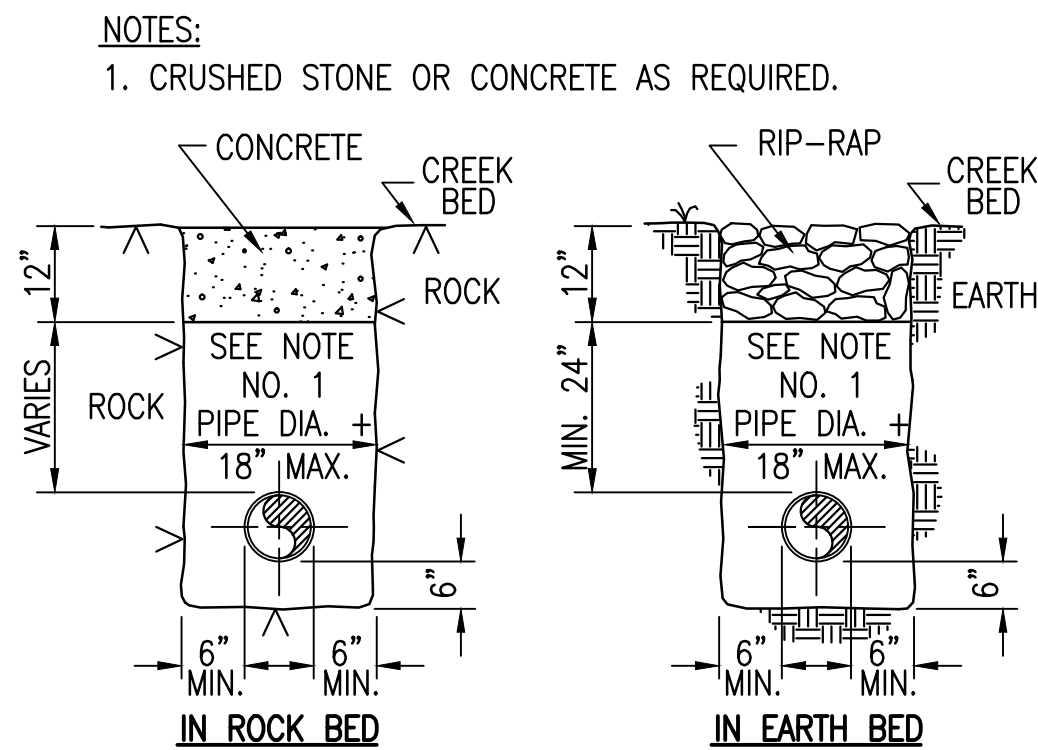


NOTES:

1. THRUST BLOCKS DESIGNED FOR 150 PSI PRESSURE. FOR GREATER PRESSURE QUANTITIES WILL HAVE TO BE RECALCULATED.
2. THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
3. IF EXACT SIZE PIPE BLOCKING IS NOT SHOWN, USE NEXT LARGER SIZE.
4. THRUST BLOCKING TO BE POURED IN PLACE - CLASS "C" CONCRETE.

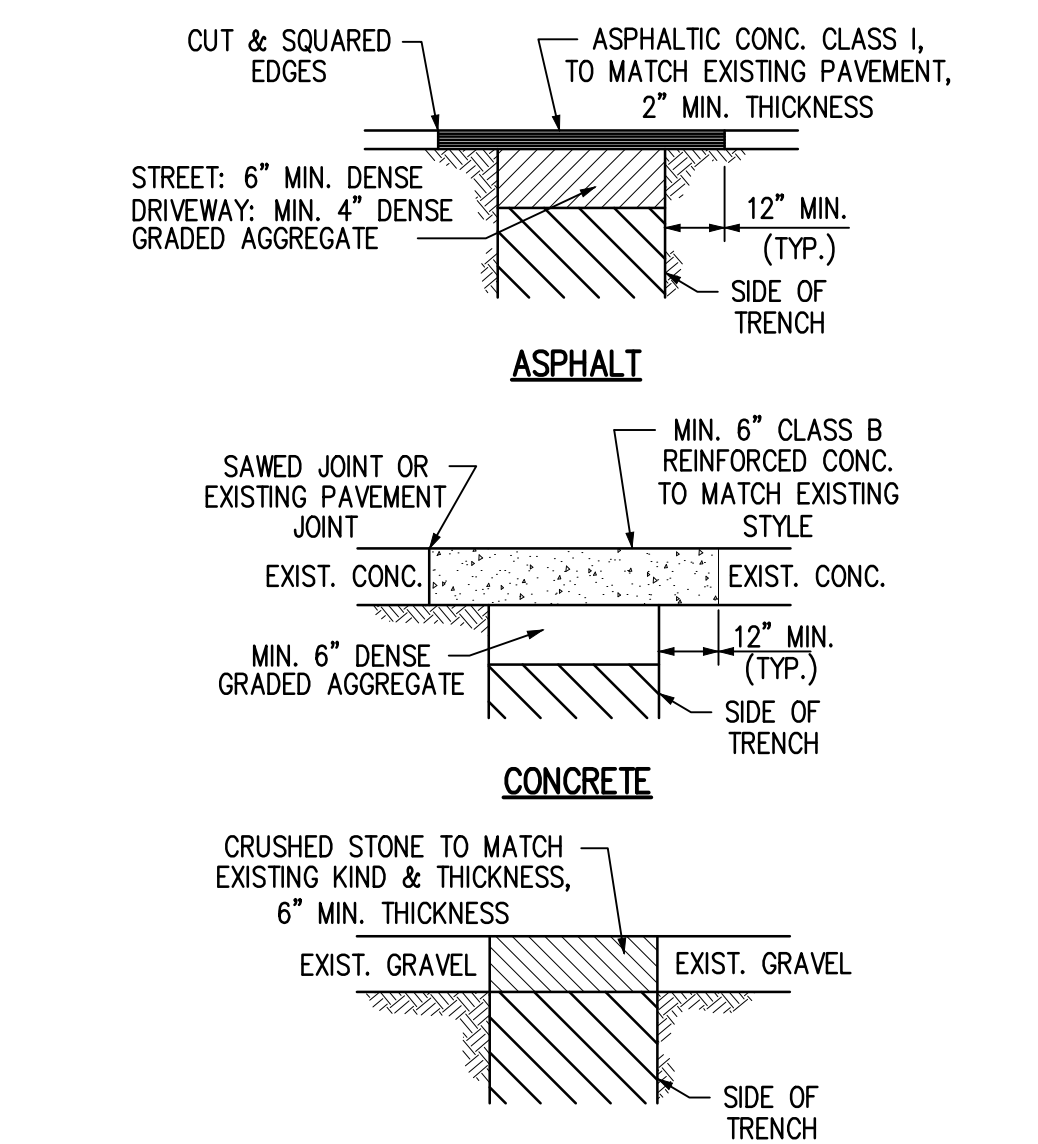
VERTICAL CONCRETE ANCHOR

NOT TO SCALE



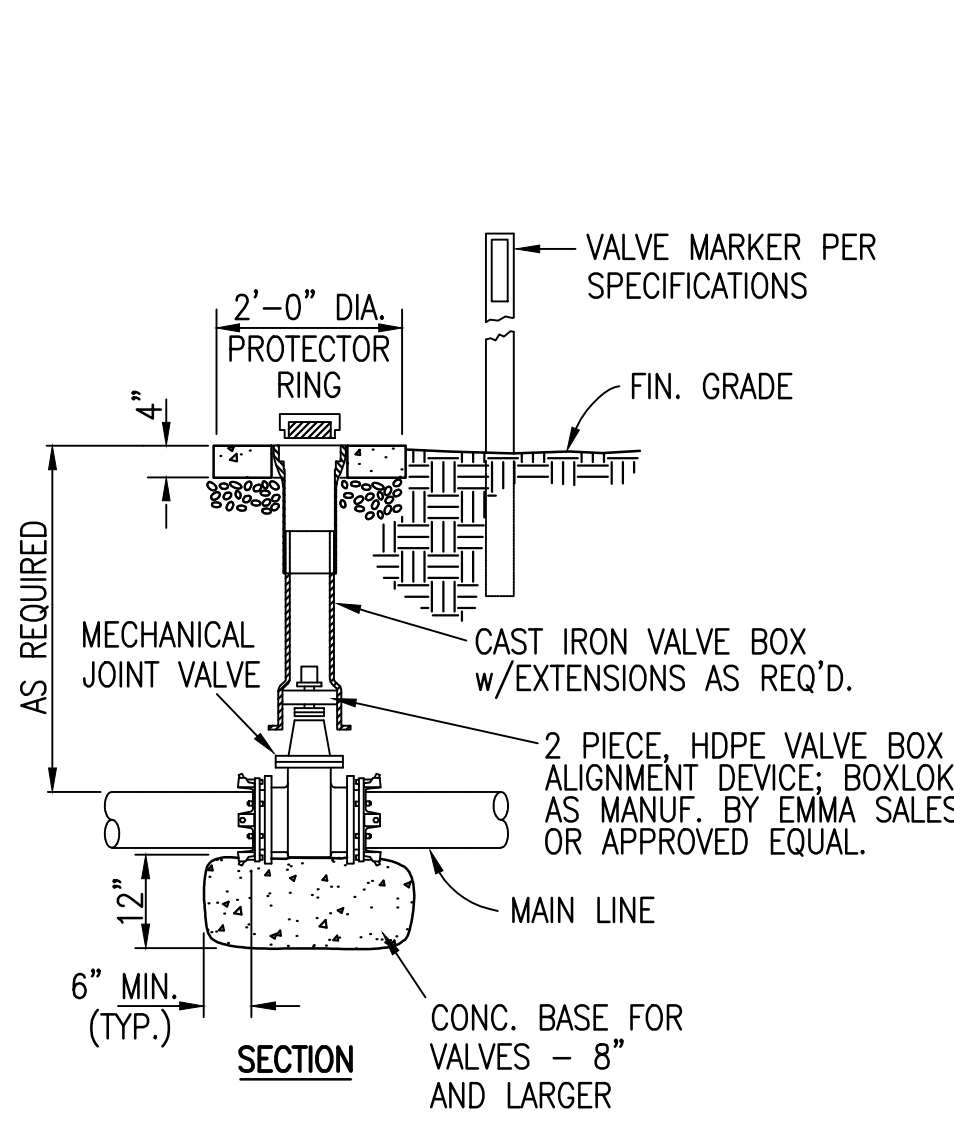
STANDARD DITCH CROSSING DETAIL

NOT TO SCALE



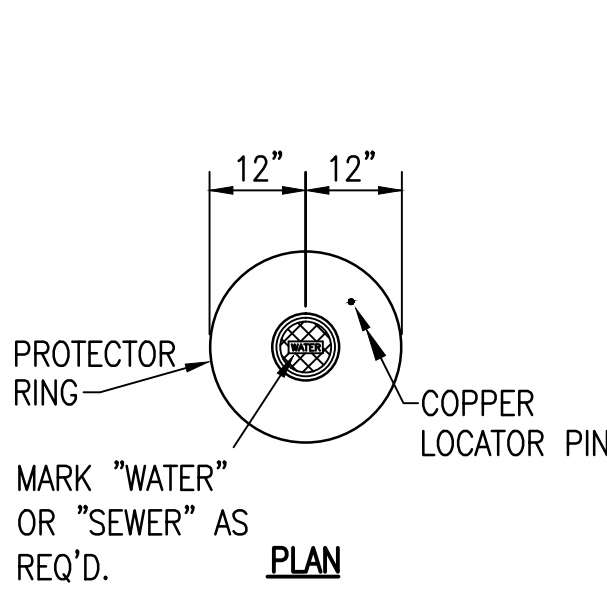
PAVEMENT REPLACEMENT DETAILS

NOT TO SCALE



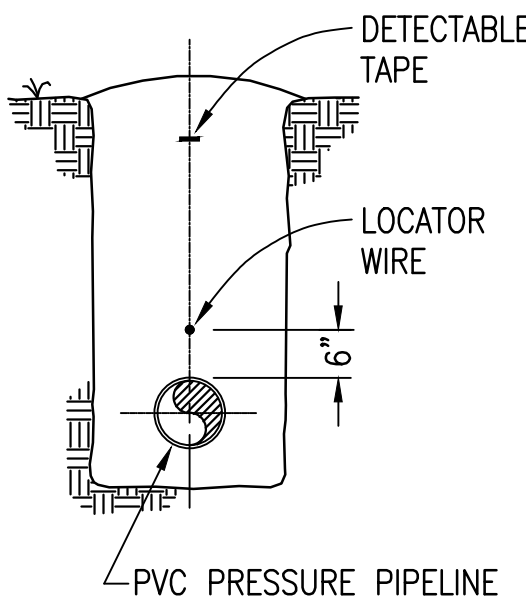
VALVE SETTING DETAIL

NOT TO SCALE



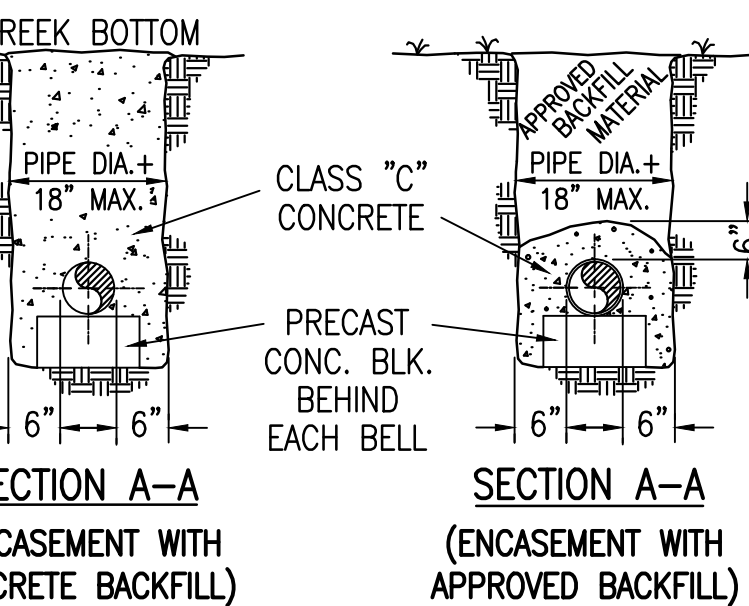
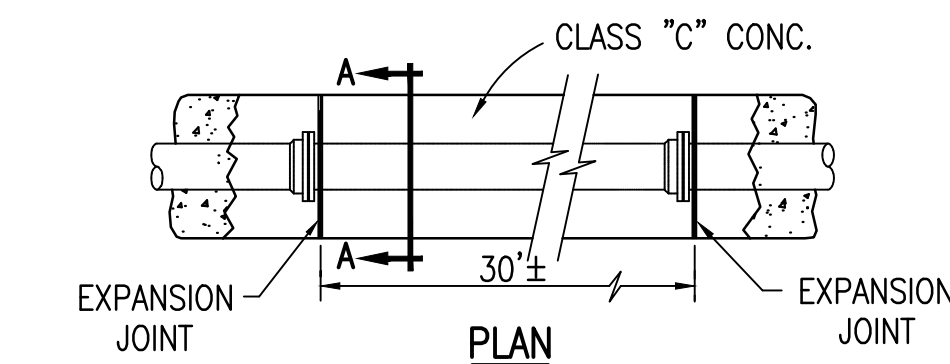
NOTES:

1. USE PRECAST CONC. PROTECTOR RING w/INTEGRAL COPPER LOCATOR PIN, AS MANUF. BY ROSS CONSTRUCTION OR APPROVED EQUAL, FOR VALVES OUTSIDE PAVED AREAS.
2. PLACE GROUT IN SPACE BETWEEN CONCRETE PAD AND VALVE BOX.
3. VALVES IN ROADWAY DO NOT REQUIRE A CONCRETE PAD OR MARKER.
4. VALVES SHALL BE RESTRAINED WITH MEGALUG TYPE RESTRAINT SYSTEM.



DETECTABLE WIRE DETAIL

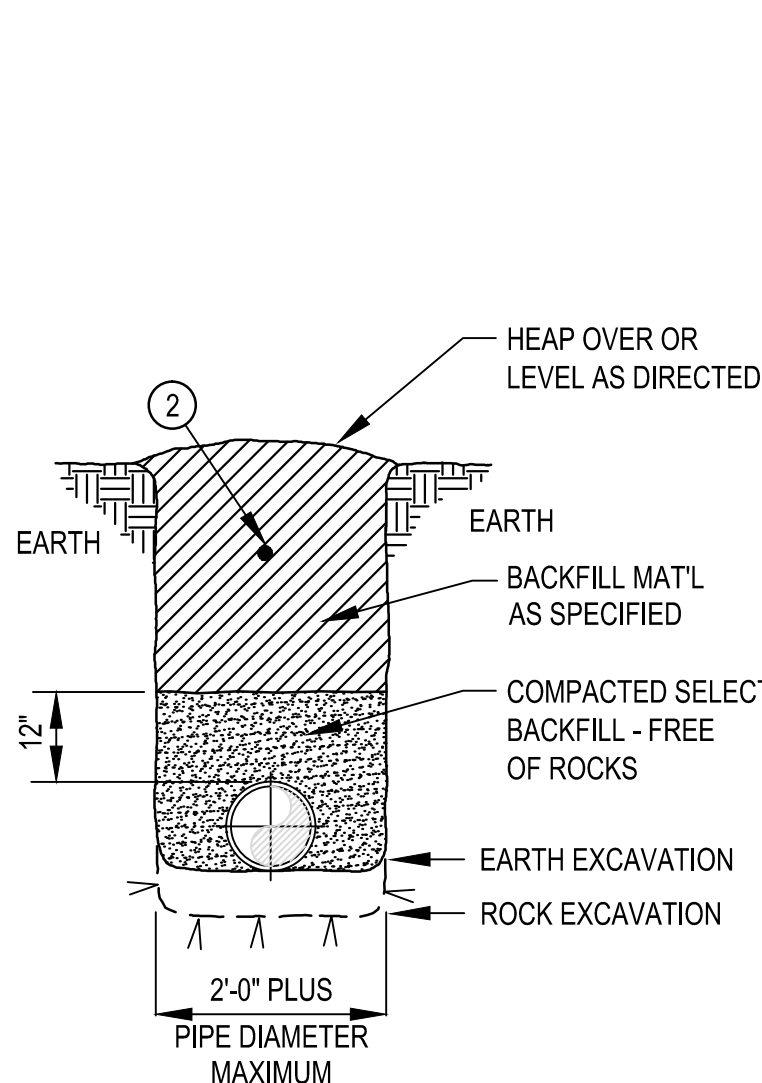
NOT TO SCALE



STANDARD CONCRETE ENCASEMENT

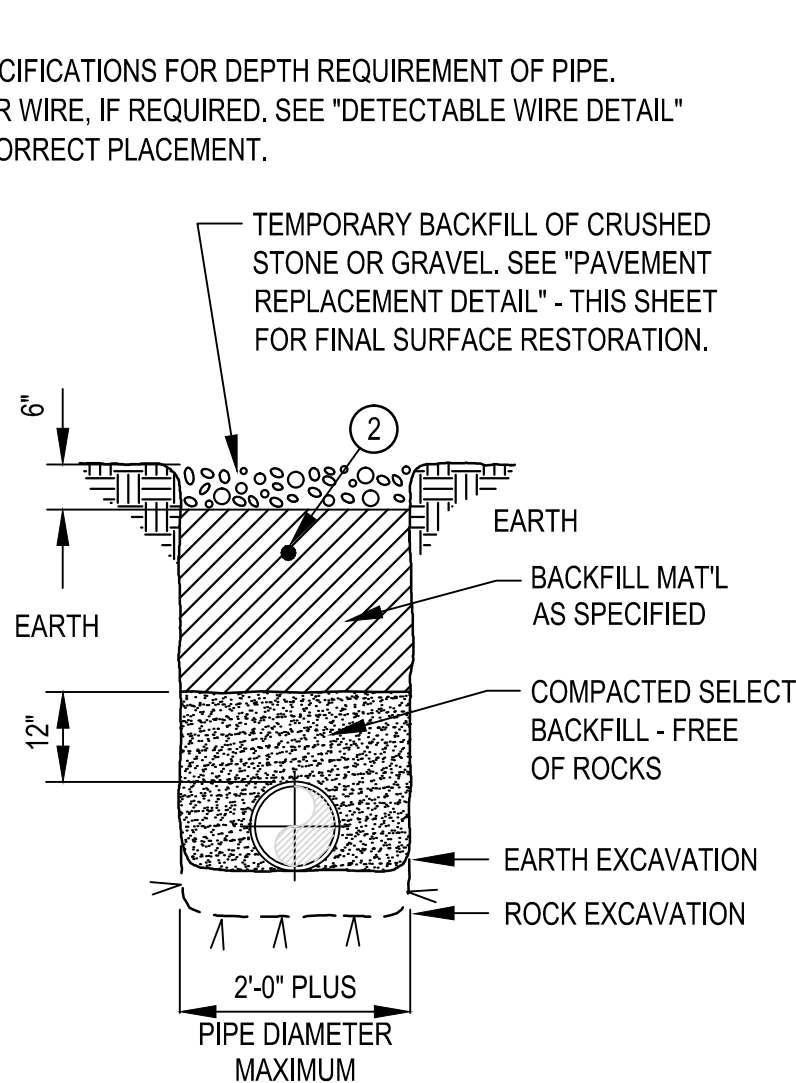
NOT TO SCALE

NOTE:
FOR ENCASEMENT OVER 30' LONG PLACE 3/4" FIBERBOARD EXPANSION JOINT AT PIPE JOINTS BETWEEN POURS APPROX. EVERY 30'



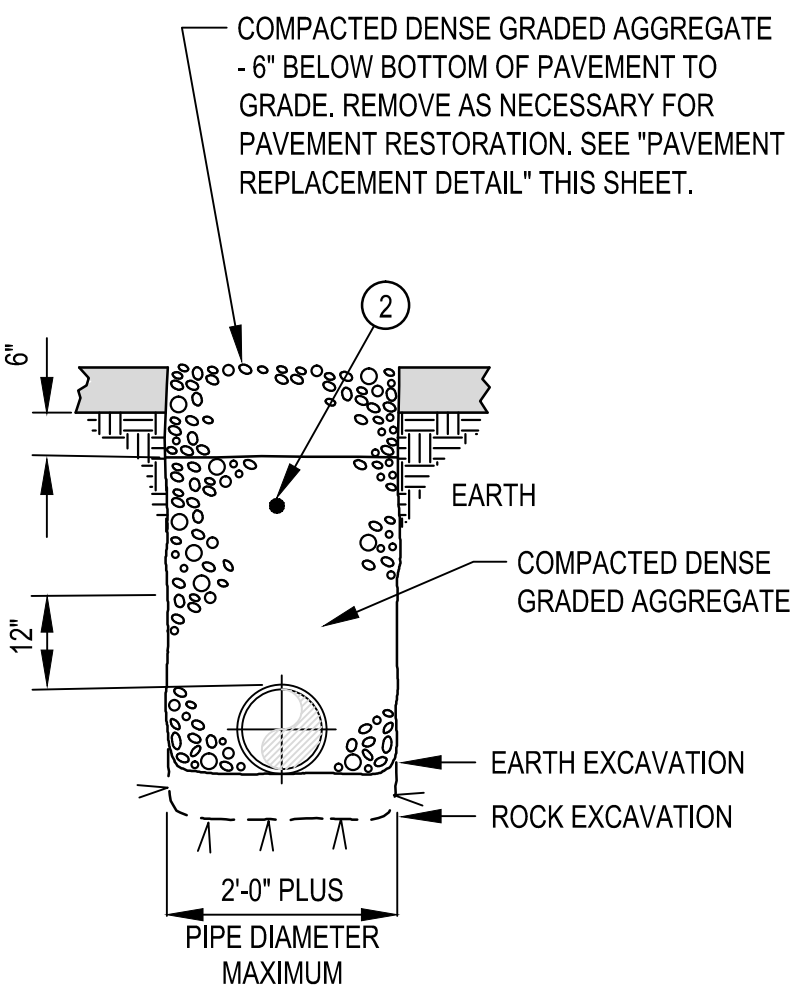
METHOD "A"

(IN OPEN TERRAIN)



METHOD "B"

(UNDER SIDEWALKS & UNPAVED DRIVEWAYS)



METHOD "C"

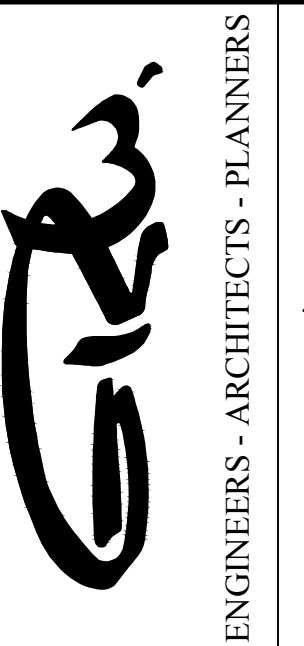
(UNDER PAVED STREETS, ROADS & DRIVEWAYS)

PRESSURE PIPE BEDDING & BACKFILLING DETAILS

NOT TO SCALE

This document, originally issued, sealed, and signed by James W. Hilborn, Kentucky Professional Engineer, No. 16514, on March 14, 2011, shall not be used in lieu of a certified document.

GRW PROJECT NO. 3927-02



STANDARD WATER LINE DETAILS

WATER LINE EXTENSION

CITY OF LOBELVILLE AND PERRY COUNTY TENNESSEE

DESIGNED:	LER	BY:	DATE:	DESCRIPTION:
	BROWN			
REVIEWED:	SG	REVIEWED:	LER	APPROVED:
SCALE CHECK:	THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED			

DATE:

JULY 2010

SCALE:

AS NOTED

SHEET NO.

C-11

THIS RECORD DOCUMENT HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR. GRW ENGINEERS, INC. HAS ATTEMPTED TO VERIFY THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION BUT SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

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engineering | architecture | geospatial
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ENGINEER/ARCHITECT: JAMES W. HILBORN
CONSTRUCTION COMPANY: WARD CONSTRUCTION
DATE: MAY 5, 2014