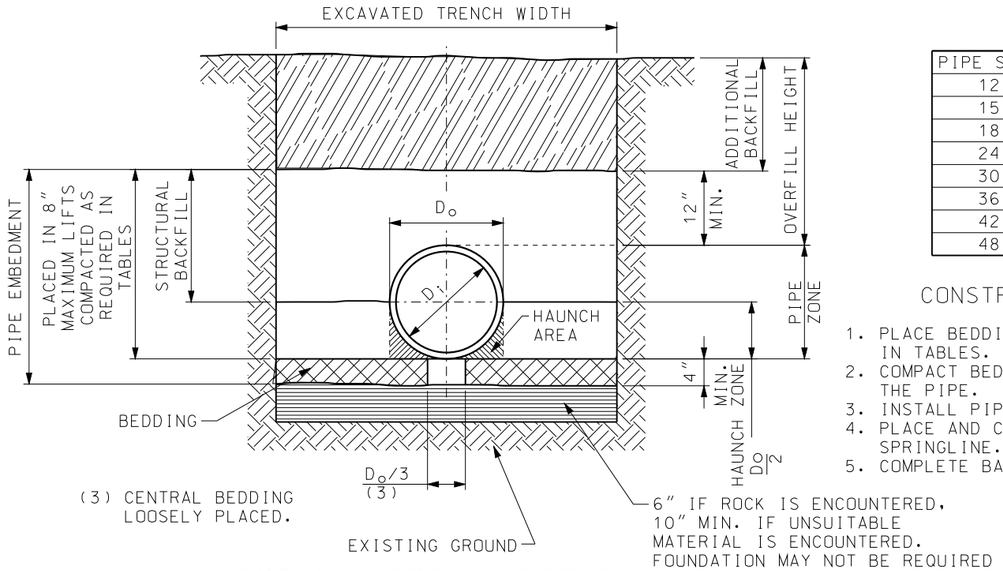
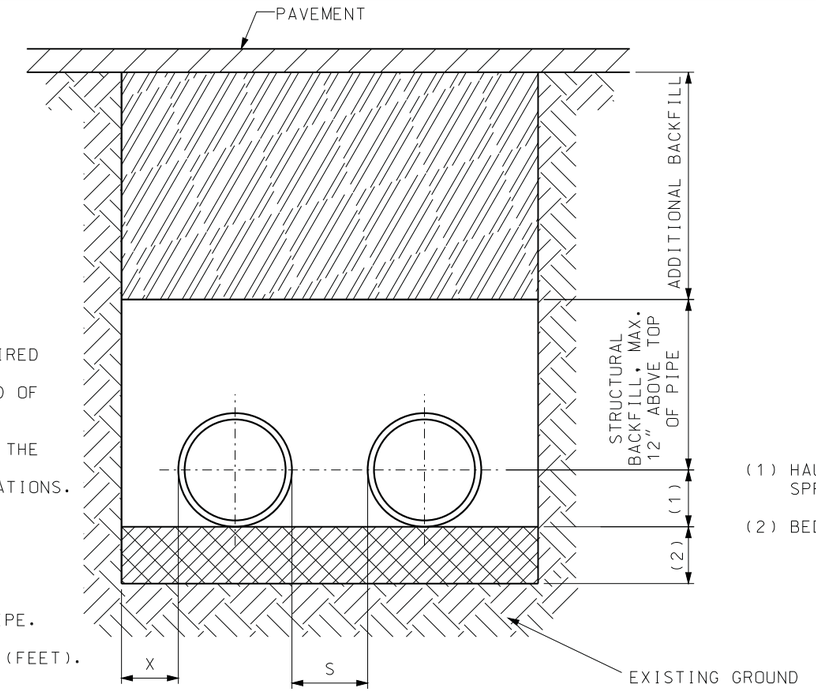


TYPICAL TRENCH DETAIL

PIPE SIZE	S (IN.)	X (IN.)
12	12	9
15	12	9
18	12	9
24	12	10
30	15	16
36	18	18
42	21	18
48	24	18

CONSTRUCTION SEQUENCE

1. PLACE BEDDING MATERIAL TO GRADE AS REQUIRED IN TABLES.
2. COMPACT BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
3. INSTALL PIPE TO GRADE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE SPRINGLINE.
5. COMPLETE BACKFILL ACCORDING TO SPECIFICATIONS.



(1) HAUNCHING, TO SPRINGLINE OF PIPE

(2) BEDDING MATERIAL.

PARALLEL PIPE INSTALLATION

TYPICAL TRENCH CROSS-SECTION

(FOR PIPE INSTALLATION DETAILS, SEE TYPICAL TRENCH DETAILS.)

LEGEND

D_i = NORMAL INSIDE DIAMETER OF PIPE.
D_o = OUTSIDE DIAMETER OF PIPE.
H = FILL COVER HEIGHT OVER PIPE (FEET).
MIN. = MINIMUM
MAX. = MAXIMUM
= UNDISTURBED SOIL

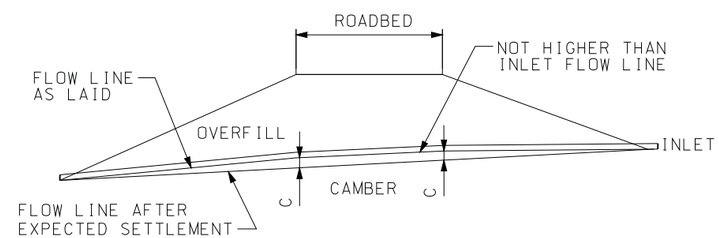
FILL LIMITS FOR THERMOPLASTIC PIPE

SPECIFIED DIA OF PIPE (IN.)	TRENCH WIDTH (IN.)	PE COMPACTION 90% S.P.D. MIN.	PE COMPACTION 90% S.P.D. MAX.	PE COMPACTION 95% S.P.D. MIN.	PE COMPACTION 95% S.P.D. MAX.	SRPE COMPACTION 90% S.P.D. MIN.	SRPE COMPACTION 90% S.P.D. MAX.	SRPE COMPACTION 95% S.P.D. MIN.	SRPE COMPACTION 95% S.P.D. MAX.	PVC COMPACTION 90% S.P.D. MIN.	PVC COMPACTION 90% S.P.D. MAX.	PVC COMPACTION 95% S.P.D. MIN.	PVC COMPACTION 95% S.P.D. MAX.	PP COMPACTION 90% S.P.D. MIN.	PP COMPACTION 90% S.P.D. MAX.	PP COMPACTION 95% S.P.D. MIN.	PP COMPACTION 95% S.P.D. MAX.
GRAVELLY SAND STRUCTURAL BACKFILL (Sn TYPES A1 & A3)																	
12	34	2	19	2	26	--	--	--	--	2	32	2	52	2	20	2	27
15	39	2	20	2	28	--	--	--	--	2	32	2	47	2	21	2	29
18	44	2	17	2	24	--	--	--	--	2	33	2	51	2	18	2	25
24	55	2	14	2	20	2	50	--	--	2	33	2	48	2	15	2	21
30	67	2.5	12	2	17	2	50	--	--	2	33	2	46	2	15	2	21
36	76	2	13	2	19	2	50	--	--	2	33	2	47	2	13	2	19
42	84	2	13	2	19	--	--	--	--	--	--	--	--	2	18	2	25
48	95	2	11	2	17	--	--	--	--	--	--	--	--	2	11	2	15
SANDY-SILT STRUCTURAL BACKFILL (Sn TYPES A1 & A3)																	
12	34	3.8	10	2	19	--	--	--	--	3.1	15	2	33	3.5	11	2	21
15	39	3.7	10	2	21	--	--	--	--	3.1	15	2	33	3.5	11	2	21
18	44	3.9	10	2	17	--	--	--	--	3.1	15	2	34	3.6	10	2	19
24	55	4.2	7	2	15	2	50	--	--	3	15	2	34	3.8	10	2	16
30	67	4.4	6	2.5	12	2	50	--	--	3	15	2	33	3.7	10	2	16
36	76	4.4	6	2	14	2	50	--	--	3	15	2	33	3.9	9	2	14
42	84	4.3	7	2	13	--	--	--	--	--	--	--	--	3.6	10	2	18
48	95	4.7	6	2	12	--	--	--	--	--	--	--	--	4	7	2	11

NOTE: MAXIMUM OVERFILL MEASURED FROM THE TOP OF PIPE TO SURFACE.

FILL LIMITS ACCOUNT FOR SHORT-TERM TEMPORARY WATER TABLE DEPTHS OF FIVE FEET ABOVE SPRINGLINE. TABLES ARE NOT APPLICABLE FOR LONG-TERM PERMANENT WATER TABLE DEPTHS ABOVE SPRINGLINE.

WHEN PIPES ARE USED AS GROUP A, FILL HEIGHTS ARE LIMITED TO SHADED VALUES.



NOTE:
ON YIELDING SOIL, PIPE CULVERTS SHALL BE PLACED ON A CAMBERED FLOW LINE. THE AMOUNT OF CAMBER WILL VARY WITH SOIL CONDITION AND WILL BE SPECIFIED ON THE DESIGN PLANS.

TYPICAL CAMBERED FLOW LINE

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIA. (IN.)	MINIMUM COVER (FT) FOR INDICATED AXLE LOADS (THOUSANDS OF POUNDS) 18-50	50-75	75-110	110-150
12-36	2.0	2.5	3.0	3.0
42-48	3.0	3.0	3.5	4.0

MINIMUM COVER LIMITS ARE NOT SUFFICIENT FOR SANDY-SILT STRUCTURAL BACKFILL COMPACTED TO 90% S.P.D.
THE CONTRACTOR SHALL PROVIDE MINIMUM COVER PLUS ANY ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. IN UNPAVED SITUATIONS, THE SURFACE MUST BE MAINTAINED TO A LEVEL AND NON-RUTTED CONDITION.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
KATHRYN PHILLIPS HARVEY
NUMBER PE-23751
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

THERMOPLASTIC PIPE INSTALLATION METHODS

DATE EFFECTIVE: 04/01/2011
DATE PREPARED: 3/31/2011

730.00D

SHEET NO. 1 OF 1

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.