

- 1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
- 2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- 3. <u>FOUNDATION:</u> WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- 4. <u>BEDDING:</u> SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
- 5. <u>INITIAL BACKFILL:</u> SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING TO THE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- 6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR TRAFFIC APPLICATIONS WITH LESS THAN FOUR FEET OF COVER, EMBEDMENT OF THE PIPE SHALL BE USING ONLY A CLASS I OR CLASS II BACKFILL.

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MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS**

	SURFACE LIVE LOADING CONDITION				
PIPE DIAM.	H-25	HEAVY CONSTRUCTION			
		(75T AXLE LAOD) *			
12" - 48"	12"	48"			
(300mm - 1200mm)	(305mm)	(1219mm)			
60"	24"	60"			
(1500mm)	(610mm)	(1524mm)			

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER **SEE BACKFILL REQUIREMENTS IN NOTE 6.

MAXIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

PIPE DIAM.	CLASS I		CLASS II		CLASS III	
	COMPACTED	DUMPED	95%	90%	95%	
4"	37	18	25	18	18	
(100mm)	(11.3m)	(5.5m)	(7.6m)	(5.5m)	(5.5m)	
6"	44	20	29	20	21	
(150mm)	(13.4m)	(6.1m)	(8.8m)	(6.1m)	(6.4m)	
8"	32	15	22	15	16	
(200mm)	(9.8m)	(4.6m)	(6.7m)	(4.6m)	(4.9m)	
10"	38	18	26	18	18	
(250mm)	(11.6m)	(5.5m)	(7.9m)	(5.5m)	(5.5m)	
12"	35	17	24	17	17	
(300mm)	(10.7m)	(5.2m)	(7.3m)	(5.2m)	(5.2m)	
15"	38	17	25	17	18	
(375mm)	(11.6m)	(5.2m)	(7.6m)	(5.2m)	(5.5m)	
18"	36	17	24	17	17	
(450mm)	(11.0m)	(5.2m)	(7.3m)	(5.2m)	(5.2m)	
24"	28	13	20	13	14	
(600mm)	(8.5m)	(4.0m)	(6.1m)	(4.0m)	(4.3m)	
30"	28	13	20	13	14	
(750mm)	(8.5m)	(4.0m)	(6.1m)	(4.0m)	(4.3m)	
36"	26	12	18	13	13	
(900mm)	(7.9m)	(3.7m)	(5.5m)	(4.0m)	(4.0m)	
42"	23	11	16	11	11	
(1050mm)	(7.0m)	(3.4m)	(4.9m)	(3.4m)	(3.4m)	
48"	25	11	17	11	12	
(1200mm)	(7.6m)	(3.4m)	(5.2m)	(3.4m)	(3.7m)	
60"	25	11	17	11	12	
(1500mm)	(7.6m)	(3.4m)	(5.2m)	(3.4m)	(3.7m)	

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS: NO HYDROSTATIC PRESSURE, UNIT WEIGHT OF SOIL (YS) = 120 PCF

6	INITIAL BACKFILL	JAB	04/02/20	
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

TRENCH INSTALLATION
DETAIL (N-12 PER AASHTO)

DRAWING NUMBER: STD-101



4640 TRUEMAN BLVD HILLIARD, OHIO 43026 DRAIN BY TJR

DATE 12/29/16

OKD BY:

BOALE NTS

BHEET 1 OF 1