



TABLE 1: ROUNDED TRENCH DIMENSIONS

PIPE DIAM.	X	X
10" (250mm)	13.5" (343mm)	5.7" (145mm)
12" (300mm)	16.5" (419mm)	7.3" (185mm)
15" (375mm)	19.6" (498mm)	8.8" (224mm)
18" (450mm)	23.3" (592mm)	10.6" (269mm)
24" (600mm)	29.9" (759mm)	14" (356mm)
30" (750mm)	37.2" (945mm)	17.6" (447mm)
36" (900mm)	43.2" (1097mm)	20.6" (523mm)
42" (1050mm)	49.8" (1265mm)	23.9" (607mm)
48" (1200mm)	55.7" (1415mm)	26.9" (683mm)
60" (1500mm)	68.6" (1742mm)	33.3" (846mm)

**NOTES:**

1. SHAPED TRENCH INSTALLATION RECOMMENDATIONS ARE FOR USE AS SUBSURFACE DRAINAGE AND GROUNDWATER CONTROL USING ADS HDPE AND PP PIPE PRODUCTS. THESE PRACTICES ARE NOT RECOMMENDED FOR SANITARY OR STORM SEWER, COMMERCIAL CONVEYANCE, ROAD CROSSINGS OR INSTALLATIONS WHERE A HIGH LEVEL OF PERFORMANCE IS REQUIRED.
2. ADS PRODUCTS, INCLUDING N-12 HDPE (PER AASHTO M252/M294), N-12 HDPE (PER ASTM F2648), AND HP STORM MAY BE INSTALLED IN A SHAPED TRENCH. HOWEVER FILL HEIGHT LIMITATIONS WILL VARY BETWEEN PRODUCTS AND IS DEPENDENT UPON THE SOIL TYPE AND COMPACTION DENSITY OF THE FILL MATERIAL. REFER TO ADS INSTALLATION GUIDE 1.03 FOR PRODUCT-SPECIFIC GUIDANCE AND INSTALLATION LIMITS.
3. **NATIVE SOIL:** SUITABLE IN-SITU MATERIAL SHALL BE OF ADEQUATE STRENGTH TO WITHSTAND TRENCHING OPERATIONS AND MAINTAIN THE FINAL TRENCH SHAPE. IF ANY PART OF THE TRENCH SIDEWALL SLOUGHS OFF DURING EXCAVATION, REMOVE MATERIAL FROM TRENCH AND REPLACE WITH SUITABLE MATERIAL.
4. **SHAPED TRENCH:** THE TRENCH SHALL BE CUT TO A DEPTH SUCH THAT THE TOP OF THE SHAPED TRENCH BOTTOM EXTENDS TO PIPE SPRINGLINE, OR HIGHER. SHAPED TRENCHES WHERE THE SIDEWALLS DO NOT EXTEND TO THE PIPE SPRINGLINE MAY AFFECT LONG-TERM PERFORMANCE.
5. **FILL MATERIAL:** AFTER PLACEMENT OF THE PIPE IN THE SHAPED TRENCH, FILL MATERIAL MEETING A CLASS I, II, III OR IV (SEE TABLE 2) MAY BE PLACED AND COMPACTED AROUND THE PIPE.
6. **MINIMUM COVER:** TO PREVENT DAMAGE TO THE PIPE, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED BEFORE ALLOWING VEHICLES OR EQUIPMENT TO TRAVEL OVER THE PIPE. BASED ON ADS BACKFILL RECOMMENDATIONS AND COMMON LARGE TRACTOR EQUIPMENT (JOHN DEERE 9630 OR EQUIVALENT), A MINIMUM COVER OF 24" (610MM) SHOULD BE PROVIDED. IT MAY BE NECESSARY TO ADD FILL OVER TIME AS THE SOIL SETTLES IN ORDER TO MAINTAIN ADEQUATE COVER ABOVE THE PIPE. HEAVIER EQUIPMENT OR SHALLOWER COVER MAY BE POSSIBLE AND SHOULD BE EVALUATED BY AN ADS REPRESENTATIVE FOR SPECIFIC INSTALLATION RECOMMENDATIONS.
7. **MAXIMUM COVER:** REFER TO ADS INSTALLATION GUIDE 1.03 FOR PRODUCT-SPECIFIC FILL HEIGHT RECOMMENDATIONS BASED ON FILL TYPE AND COMPACTION DENSITY. NON-PERFORATED PIPE IS RECOMMENDED FOR INSTALLATIONS WHERE FILL HEIGHTS EXCEED 8FT.

TABLE 2: ALLOWABLE FILL MATERIALS (PER ASTM D2321)

SOIL DESCRIPTION	ASTM D2321	ASTM D2487
GRADED OR CRUSHED STONE CRUSHED GRAVEL	CLASS I	-
WELL-GRADED SAND, GRAVELS AND GRAVEL/SAND MIXTURES; POORLY GRADED SAND, GRAVELS AND GRAVEL/SAND MIXTURES; LITTLE OR NO FINES	CLASS II	GW GP SW SP
SILTY OR CLAYEY GRAVELS, GRAVELS/SAND/SILT OR GRAVELS AND /CLAY MIXTURES, SILTY OR CLAYEY SANDS, SAND/CLAY OR SAND/SILT MIXTURES	CLASS III	GM GC SM SC
INORGANIC SILTS AND LOW TO MEDIUM PLASTICITY CLAYS; GRAVELLY, SANDY OR SILTY CLAYS; SOME FINE SANDS	CLASS IV	ML CL

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2	REVISED DRAWING NAME OR NUMBER	TJR	01/28/16	
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

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**SHAPED TRENCH INSTALLATION  
DETAIL (AGRICULTURAL)**

DRAWING NUMBER: STD-108



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ADVANCED DRAINAGE SYSTEMS, INC.

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DATE	11/11/14
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