

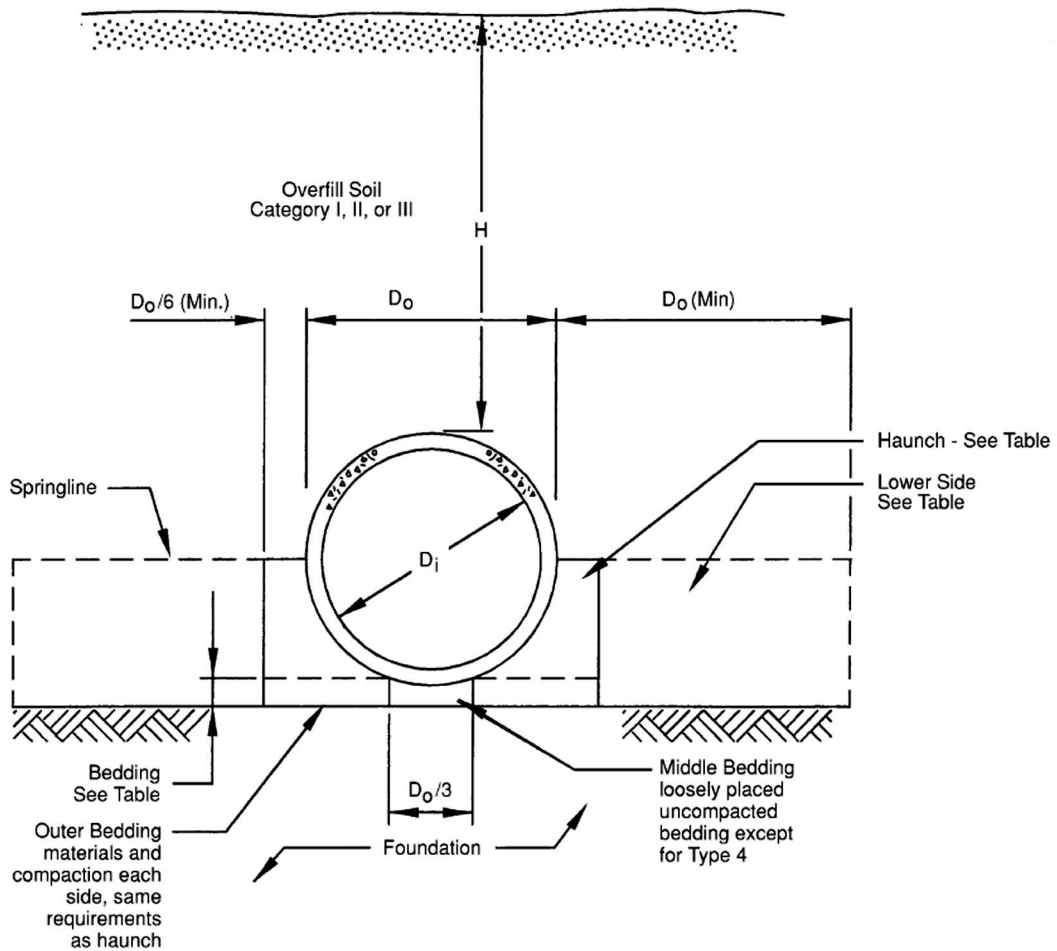
Pipe

Installation Guide



P.O. Box 2130, 1101 Hwy # 2, Lantz, NS, B2S 3G4
Tel: 902 883 2201, www.shawpipe.com

Figure I. Standard Embankment Installations



SHAW PIPE

Table I. Standard Embankment Soils And Minimum Compaction Requirements

Installation Type	Bedding Thickness	Haunch and Outer Bedding	Lower Side
Type 1	$D_o/24$ minimum, not less than 75 mm (3"). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6").	95% Category I	90% Category I, 95% Category II, or 100% Category III
Type 2	$D_o/24$ minimum, not less than 75 mm (3"). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6").	90% Category I or 95% Category II	85% Category I, 90% Category II, or 95% Category III
Type 3	$D_o/24$ minimum, not less than 75 mm (3"). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6").	85% Category I, 90% Category II, or 95% Category III	85% Category I, 90% Category II, or 95% Category III
Type 4	$D_o/24$ minimum, not less than 75 mm (3"). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6").	No compaction required, except if Category III, use 85% Category III	No compaction required, except if Category III, use 85% Category III

Notes:

1. Compaction and soil symbols - i.e. "95% Category I" refers to Category 1 soil material with a minimum standard Proctor compaction of 95%. See Table 1 for equivalent modified Proctor values.
2. Soil in the outer bedding, haunch, and lower side zones, except within $D_o/3$ from the pipe springline, shall be compacted to at least the same compaction as the majority of soil in the overfill zone.
3. **Subtrenches**
 - 3.1 A subtrench is defined as a trench with its top below finished grade by more than 0.1 H or, for roadways, its top is at an elevation lower than 0.3 m (1') below the bottom of the pavement base material.
 - 3.2 The minimum width of a subtrench shall be 1.33 D_o or wider if required for adequate space to attain the specified compaction in the haunch and bedding zones.
 - 3.3 For subtrenches with walls of natural soil, any portion of the lower side zone in the subtrench wall shall be at least as firm as an equivalent soil placed to the compaction requirements specified for the lower side zone and as firm as the majority of soil in the overfill zone, or shall be removed and replaced with soil compacted to the specified level.

Table 2. Soil Categories

SIDD Soil	Representative Soil Types		Percent Compaction		
	USCS,	AASHTO	Standard Proctor	Standard Proctor	
Gravelly Sand (Category 1)	SW, SP, GW, GP	A1,A3	100	95	
			95	90	
			90	85	
			85	80	
			80	75	
			61	59	
Sandy Silt (Category II)	GM, SM, ML, Also GC, SC with less than 20% passing #200 sieve	A2, A4	100	95	
			95	90	
			90	85	
			85	80	
			80	75	
			49	46	
Silty Clay (Category III)	CL, MH, GC, SC	A5, A6	100	90	
			95	85	
			90	80	
			85	75	
			80	70	
	CH			45	40
				100	90
				95	85
				90	80
				45	40