

TABLE 1

BEDDING MATERIAL GRADING (% weight passing)

Sieve size	Bed & Haunch zones	Side zones
75.0		100
19.0	100	
9.5		50 - 100
2.36	50 - 100	30 - 100
0.60	20 - 90	15 - 50
0.30	10 - 60	
0.15	0 - 25	
0.075	0 - 10	0 - 25

For Pavement and Road Surfacing Restoration Refer to Note 6

The use of Controlled Low Strength Material (CLSM) in lieu of the material in Table 1 is to be approved by the relevant Council.

NOTES

- PIPE SUPPORT TYPE – unless shown otherwise on the project drawings, the pipe support shall be HS3 within road reserve and H2 elsewhere.
- BEDDING MATERIAL shall comply with Table 1 and have a Plasticity Index of less than 6.
- minimum depth of OVERLAY ZONE above pipes / culverts as shown may include pavement. Pavement within this area to be compacted by hand or alternatively a lean mix concrete pavement layer may be used.
- BACKFILL MATERIAL shall be Select Backfill complying with the requirements of Aus-Spec 1352 Pipe drainage.
- WORKING LOADS are those due to fill material and standard highway vehicles as per AS 3725. Allowance for construction loads shall comply with Aus-spec 1352 Pipe Drainage.
- ROAD OPENINGS AND RESTORATION – Approved replacement pavement material shall extend a min 300mm (subject to depth of pavement) beyond the perimeter of any trench excavation. The road surfacing shall extend min 100mm beyond the perimeter of any pavement replacement.
- WINGWALLS fill/backfill material shall be placed 300mm thick behind wingwalls for the length and height of the wings.
- Increase excavation locally at spigot and socket joints (Rigid pipes) to ensure minimum cover as shown.
- Unless directed otherwise, provide pipe stub to de-water drainage trench. Stub to be 3m long x 100mm dia. corrugated polyethylene pipe class 400 to AS 2439 (with end cap) installed on the upstream face of manholes.
- All dimensions are in millimetres unless shown otherwise.

PIPE INSTALLATION DIMENSIONS

D (Dia.)	RIGID PIPE				FLEXIBLE PIPE			
	X	Y	Z	S*	X	Z	O	S*
>300 <450	100	0.3 D	–	300	100	Pipe Dia.	150	300
>450 <600	100	0.3 D	–	300	150	Pipe Dia.	150	300
>600 <900	100	0.3 D	–	600	150	Pipe Dia.	200	600
>900 <1200	100	0.3 D	–	600	150	Pipe Dia.	200	600
>1200 <1500	100	0.3 D	–	600	150	Pipe Dia.	200	600
>1500	150	0.3 D	> 0.7 D	900	150	Pipe Dia.	0.25 D	900

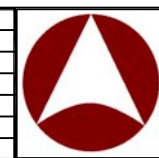
S* – Where the use of Controlled Low Strength Material (CLSM) has been approved, the space between multiple pipes and the side of the trench can be reduced in accordance with the requirements of the relevant Australian Standard.

- REFERENCED DOCUMENTS**
- Australian Standards:
 AS 3725 Loads on Buried Concrete Pipes
 AS 4139 Fibre reinforced concrete pipes and fittings
 AS/NZS 2566.1 Buried Flexible Pipelines –Structural Design
 AS/NZS 2566.2 Buried Flexible Pipelines – Installation

- Specifications:**
 Nat-Spec 1352 Pipe drainage
 Nat-spec 1152 Road Openings and Restorations
 Nat-Spec 1112 Earthworks (Roadways)

These drawings have been developed in consultation between the participating Councils.
 BEFORE USE, the user shall confirm that the drawing has been adopted by the appropriate Council.

Rv.	DATE	REVISIONS
C	06/14	Review
B	03/14	Amended Drawing Number
A	10/12	ORIGINAL ISSUE



INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA
STANDARD DRAWINGS

EXCAVATION, BEDDING AND BACKFILLING
RIGID & FLEXIBLE DRAINAGE PIPES

DS-030