







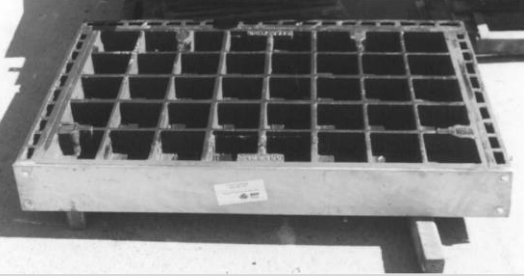
Accepted Drainage Products



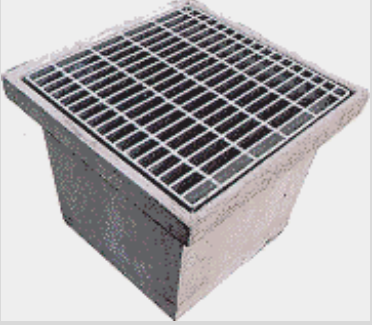

1. Accepted drainage products


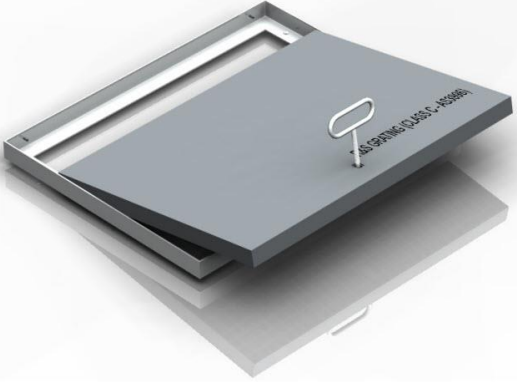
Product Name & Supplier	Description	Austrroads/AS Reference	Image
1.1. Pipes			
Fibre Reinforced Concrete Pipe and Fittings (FRC Pipe) James Hardie Australia Pty Ltd	Concrete pipe reinforced with Cellulose Fibre. Applicable to Stormwater Drainage Systems. Abrasion resistant.	AS 4139: Fibre Reinforced Concrete Pipes and Fittings. AS 1646: Elastomeric Seals for Water Works. For conditions of use see notes below.	
RIB LOC Series 2000 Hepworth Drainage, Nunawading VIC	High density, steel reinforced, polyethylene structural wall drainage pipe. Pipe wall incorporates T-shaped stiffening ribs. Flexible, Abrasion resistant. Light weight.	AS 2566.1:1998 Buried Flexible Pipes Part 1: Structural Design. Restricted for use to locations outside the road pavement area.	

Product Name & Supplier	Description	Austroads/AS Reference	Image
<p>ADS N12 Flexible Pipe Cubic Solutions Pty Ltd</p>	<p>High density polyethylene profile wall pipe. Ribbed structural wall. Buried flexible pipe applications. Abrasion resistant. Light weight.</p>	<p>AS 2566.1:1998 Buried Flexible Pipes Part 1: Structural Design. Restricted for use to locations outside the road pavement area.</p>	
<p>BlackMAX IPLEX Pipelines Australia Pty Ltd</p>	<p>Polypropylene profile wall pipe. Ribbed structural wall. Buried flexible pipe applications. Abrasion resistant. Light weight.</p>	<p>AS 2566.1:1998 Buried Flexible Pipes Part 1: Structural Design. Restricted for use to locations outside the road pavement area.</p>	
<p>The Green Pipe Recycled Plastic Technology Ltd.</p>	<p>Recycled High Density Polyethylene pipe.</p>	<p>AS 2566.1:1998 Buried Flexible Pipes Part 1: Structural Design. Restricted for use to locations outside the road pavement area.</p>	
<p>StormPRO Flexible Pipe Vinidex Pty Ltd</p>	<p>Polypropylene profile wall pipe. Ribbed structural wall. Buried flexible pipe applications. Abrasion resistant. Light weight.</p>	<p>AS 2566.1:1998 Buried Flexible Pipes Part 1: Structural Design. Restricted for use to locations outside the road pavement area.</p>	

1.2. Pit Covers and Grates

<p>Cast Iron Pit Covers and Grates R & S Grating, Mentone VIC</p>	<p>D298H Heavy Duty Pit Cover 600mm diameter x 90mm. D288H Heavy Duty Pit Cover 750mm x 750mm x 150mm. D294B Heavy Duty Pit Cover 1050mm x 600mm x 150mm.</p>	<p>AS 3996: 2006 Access Covers and Grates.</p>	
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Product Name & Supplier	Description	Austroads/AS Reference	Image
	Suitable for junction pit applications in traffic lanes and behind kerb.		
Mild Steel Extra Heavy Duty Weaved Grate R & S Grating, Mentone VIC	Extra Heavy Duty weaved pattern grate. Lock down bolts, (not shown), are required when placed in traffic lane. Suitable for grated pit use in heavy vehicle locations. Bicycle friendly.	AS 3996: 2006 Access Covers and Grates.	
SAFE-T-GRATE Jack Engineering Hastings VIC	Mild Steel Heavy Duty weaved grate. Lock down bolts are required when placed in traffic lane. Suitable for grated pit use in heavy vehicle locations. Bicycle friendly. Various sizes available.	AS 3996: 2006 Access Covers and Grates	
WG- 17 SM Steel Grate WG- 23 Steel Grate Webforge VIC	Mild steel drainage pit cover. Bicycle friendly. WG- 17 SM applicable to side entry pit 1m inlets (SM Kerb). Hot dip galvanised.	AS 3996: 2006 Access Covers and Grates.	
ICON-SEPTECH Industries Pty Ltd	Heavy Duty Cast Iron Access Pit Cover. Suitable for junction pit applications in traffic lanes and behind kerb.	AS 3996: 2006 Access Covers and Grates.	

Product Name & Supplier	Description	Austroads/AS Reference	Image
<p>Precast Concrete Apron SD1411 Type 1</p> <p>Aus Pits (Formerly Vic Pits)</p>	<p>Drainage Pit for use in medians and table drains.</p> <p>Not suitable for areas accessible by pedestrians.</p>	<p>AS 3996: 2006 Access Covers and Grates.</p>	
<p>Terra Firma Pit Lid</p> <p>Terra Firma Industries Pty Ltd</p>	<p>AS 3996: Class C</p> <p>UV stabilised composite fibre glass pit lid.</p> <p>Galvanised steel frame.</p> <p>Keyed locking mechanism.</p> <p>Lightweight / Durable.</p> <p>Can be manufactured to suit VicRoads pit dimensions.</p>	<p>AS 3996: 2006 Access Covers and Grates.</p>	
<p>Terra Firma D400 Series Pit Lid</p> <p>Terra Firma Industries Pty Ltd</p>	<p>AS 3996: Class D & E</p> <p>UV stabilised composite fibre glass pit lid.</p> <p>Keyed locking mechanism.</p> <p>Lightweight / Durable.</p>	<p>AS 3996: 2006 Access Covers and Grates.</p>	
<p>FRP Ecolite Pit Lid</p> <p>R & S Grating, Mentone VIC</p>	<p>AS 3996: Class C</p> <p>UV stabilised composite fibre glass pit lid.</p> <p>Galvanised steel frame.</p> <p>Keyed locking mechanism.</p> <p>Lightweight / Durable.</p> <p>Can be manufactured to suit VicRoads pit dimensions.</p>	<p>AS 3996: 2006 Access Covers and Grates.</p>	

Product Name & Supplier	Description	Austroads/AS Reference	Image
1.3. Drainage Systems			
<p>ACO Drains and Grates, K & S ranges</p> <p>ACO Polycrete Pty Ltd</p>	<p>Modular drainage systems.</p> <p>'Polycrete' Polymer Concrete.</p> <p>Applicable to line and point stormwater drainage.</p>	<p>AS 3996: 2006 Access Covers and Grates.</p>	
<p>ORCA Drain channels and Grates, GV, SV and CV ranges</p> <p>ORCA Civil Products Pty Ltd</p>	<p>Modular drainage systems.</p> <p>Australian made polymer concrete.</p> <p>Applicable to line and point storm water drainage.</p>	<p>AS 3996: 2006 Access Covers and Grates.</p>	
1.4. Pits			
<p>Fibre-Struct Technology Fibre Reinforced Pit</p> <p>Aus Pits (Formerly Vic Pits)</p>	<p>Precast fibre reinforced pit. The pit is made from a patented and commercially sensitive design and has been submitted to VicRoads under a confidentially agreement.</p> <p>Stormwater applications.</p>	<p>AS 1170: Structural Design Actions Parts 1&2.</p> <p>AS 3600: Concrete Structures.</p> <p>AS 3735: Concrete Structures For Retaining Liquids.</p> <p>AS 5100: Bridge Design Code.</p>	
<p>CPO Stormwater Pits</p> <p>Rocla Pipeline Products</p>	<p>Precast Concrete Circular Punch Out Drainage Pits.</p> <p>Stormwater applications.</p> <p>Manufactured in a range of modular heights.</p> <p>Holes for pipes are punched out of the pits on site using a hammer or cut out with an abrasive disc.</p>	<p>AS 4058: 2007 Precast Concrete Pipes (Pressure and Non-pressure).</p>	
<p>Side Entry for CPO Stormwater Pits</p> <p>Rocla Pipeline Products</p>		<p>AS 3996: 2006 Access Covers and Grates.</p>	

2. Notes

At the time of publishing this RDN, with the exception of those products listed in this RDN, no other composite pit lids have been accepted for use on the VicRoads declared road network.

The following conditions are placed on the use of FRC pipes:

- They can be used for all drainage applications including under roads provided the pipe is manufactured and supplied as a rigid pipe.
- The rigid pipe strength requirements meet that of Clause 11.1(a) of AS 4139 with a load regression factor (R) as specified in AS 4139 determined in a manner consistent with the design life of 100 years.
- Being manufactured and supplied as a rigid pipe the diameter used can be up to and including DN 750.
- All joints shall have the ADCOL flexible elastomeric dual v-ring joint with external collar in accordance with AS 4139 Appendix M figure M1 (b) (i).
- All other requirements of Section 701 with respect to FRC pipes are to be complied with.

3. References

- Supersedes RDN 05-02 D – October 2018.
- VicRoads Standard Section 701 Underground Stormwater Drains.

4. For further information please contact

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Road Design Notes are subject to periodic review and may be superseded.

Approved by



Daniel Cassar

Manager – Safe System Engineering.
Network Design Services, VicRoads

Road Design Note 05-02 – Revision Summary

Issue	Approved	Date	Amendment
A-C	<i>On request</i>		
D	M-SSE	Oct 2018	<u>Products added:</u> - ORCA Drain channels
E	M-SSE	Dec 2018	<u>Products added:</u> -FRP Ecolite