

Stormwater drainage assessment

Submission information pack

Roads and Maritime Services | May 2019



Contents

1. About this document	1
1.1 Definitions	1
1.2 Fees	1
1.3 Product categories	1
1.4 Objectives	1
1.5 Confidentiality	2
1.6 Reference documents	2
2. About the assessment	4
2.1 Key steps in the assessment process	4
2.2 Preliminary check	4
2.3 Assessment	5
2.4 Doing business with Roads and Maritime Services	5
3. Information for applicants	6
3.1 Submission of applications	6
3.2 Format of information	6
3.3 Submission requirements	6
3.3.1 Product Manuals.....	7
3.4 Checklist	7
3.5 Drainage assessment process	8

1. About this document

This document describes the procedure used in the assessment of stormwater drainage products by Roads and Maritime Services.

1.1 Definitions

Proponent: The company requesting assessment of a stormwater drainage product.

Drainage product list: Published list of stormwater drainage products deemed 'fit for purpose' by Roads and Maritime for use on the New South Wales classified road network.

1.2 Fees

Roads and Maritime fund the assessment process and **do not** require applicants to pay a fee for the assessment. This preserves the ability to impartially assess and consider or not consider products.

1.3 Product categories

Assessments are completed for:

- Pipes
- Culverts
- Headwalls
- Pits and Risers
- Grates and Covers
- Lintels
- Modular drainage
- Repair.

1.4 Objectives

The objective of the stormwater drainage assessment procedure is to:

- Ensure that stormwater drainage products which are deemed fit for purpose for the road network support road design and operational objectives
- Ensure that fit for purpose stormwater drainage products have high quality performance, durability and sustainability
- Provide designers with guidance on the appropriate use of stormwater drainage products
- Ensure fair access to the road construction market

- Ensure duty-of-care expectations are met in assessment of the suitability of products used on road networks
- Facilitate the process of product improvement and expansion of the stormwater drainage product market.

1.5 Confidentiality

Submission information is treated as Commercial-in-Confidence and shall not be distributed to any other party unless otherwise authorised under Freedom of Information or legal subpoena.

1.6 Reference documents

The stormwater drainage assessment procedure refers to the following documents:

- Standards Australia (2017), AS/NZS 4441:2017 Oriented PVC (PVC-O) Pipes for Pressure Applications
- *Standards Australia (2017), AS 5100:2017 Bridge Design*
- Standards Australia (2015), AS/NZS 3500.3:2015 Plumbing and Drainage - Stormwater Drainage
- Standards Australia (2011, 2010), AS/NZS 2041.1:2011, AS/NZS 2041.2:2011, AS/NZS 2041.6:2010 *Buried Corrugated Metal Structures Part 1: Design Methods, Part 2: Installation, Part 6: Bolted Plate Structures*
- *Standards Australia (2010), AS/NZS 1254:2010 PVC-U Pipes and Fitting for Stormwater and Surface Water Applications*
- Standards Australia (2009), AS 3600-2018 *Concrete Structures*
- Standards Australia (2009), AS 3571.1-2009, AS 3571.2-2009, *Plastics Piping Systems – Glass-reinforced Thermoplastics (GRP) Systems based on Unsaturated Polyester (UP) Resin Part 1: Pressure and Non-pressure Drainage and Sewerage, Part 2: Pressure and Non-pressure Water Supply*
- Standards Australia (2007), AS 1646-2007 *Elastomeric Seals for Waterworks purposes*
- Standards Australia (2007), AS/NZS 3725:2007 *Design for Installation of Buried Concrete Pipes*
- Standards Australia (2007), AS/NZS 4058:2007 *Precast Concrete Pipes (Pressure and non-Pressure)*
- Standards Australia (2006), AS 3996-2006 *Access Covers and Grates*
- *Standards Australia (2005), AS/NZS 5065:2005 Polyethylene and Polypropylene Pipes and Fittings for Drainage and Sewerage Applications*
- Standards Australia (2003), AS 4139 *Fibre-reinforced Concrete Pipes and Fittings*
- Standards Australia (2001), AS/NZS 4671:2001 *Steel Reinforcing Materials*
- Standards Australia (1998), AS/NZS 2566.1:1998 *Buried Flexible Pipelines – Structural Design*
- *Standards Australia (1997), AS/NZS 3572:1997 Plastics – Glass Filament Reinforced Plastics (GRP)*
- Standards Australia (1994), AS 4198-1994 *Precast Concrete Access Chambers for Sewerage Applications*
- Standards Australia, AS 1597.1-2010, AS 1597.2-2013 *Precast Reinforced Concrete Box Culverts – Small Culverts, Large Culverts*

- Austroads (2013), Guide to Road Design Part 5, 5A, 5B: *Drainage - General and Hydrology Considerations, Road Surface, Networks, Basins and Subsurface, Open Channels, Culverts and Floodways*
- Roads and Maritime Services (RMS) QA Specification R11 *Stormwater Drainage*
- Roads and Maritime Services (RMS) QA Specification R16 *Precast Reinforced Concrete Box Culverts*
- Roads and Maritime Services (RMS) QA Specification R23 *Plastic Flexible Pipes*
- Roads and Maritime Services (RMS) QA Specification R53 *Concrete (for General Use), Mortar and Grout*
- Roads and Maritime Services (RMS) QA Specification B80 *Concrete Work for Bridges*
- Roads and Traffic Authority (RTA) *Rehabilitation Guideline for Corrugated Steel Culverts.*

2. About the assessment

2.1 Key steps in the assessment process

Upon receipt of a submission, the following will occur:

1. **Preliminary check of supplied information:** Roads and Maritime will check that submissions contain all of the required documentation.
2. **Assessment:** An evaluation is undertaken by Roads and Maritime to determine the product's consideration for use. The stormwater drainage assessment procedure is founded on objective selection criteria based on Australasian and Roads and Maritime standards and specifications performance criteria. Design, construction and maintenance personnel may be involved in the process.

3. Assessment outcomes

The assessment will result in one of the three following outcomes:

- **Fit for purpose:** The product is considered suitable for general use.
 - **Not fit for purpose:** The product is not considered suitable for general use and must be subject to a site specific risk assessment prior to use.
 - **Phase out:** Existing installations may remain in service until the end of service life subject to any special conditions. There will be no new installations of the product permitted after a specified date.
4. **Drainage product list:** Roads and Maritime will publish the product's consideration for use as part of the assessment process. If necessary, product conditions will also be included. Roads and Maritime may periodically re-assess, modify or withdraw products, status or conditions of use without notice.

If it is determined that the product is not being used in accordance to its conditions enforced by Roads and Maritime or information evident in the submission, Roads and Maritime will review the product's status with the potential of a withdrawal from the drainage product list.

5. **Feedback:** A cover letter notifying the outcomes of the assessment will be provided to the proponent. If applicable, the reason(s) for a product not being considered fit for purpose will be provided.

2.2 Preliminary check

When submissions are received, Roads and Maritime will ensure the following documentation has been provided:

- Cover letter
- Assessment form
- Product photographs
- Product drawings
- Product manual(s)
- Compliance:

1. Test Certificate(s); or
 2. Third party certification to relative Australian Standards and Roads and Maritime Specifications
- ISO 9001 Certificate.

Incomplete submissions will be returned to the proponent and will not proceed to the assessment stage.

2.3 Assessment

The issues considered in the assessment include, but are not limited to:

- **Design** – including durability assessment, siting and installation limitations, constructability, consideration for all road users, environmental considerations (flood, fire, contamination, sustainability etc.), provisions of standard drawings or similar.
- **Compliance** – refers to compliance with Australian Standards, Roads and Maritime specifications, any relevant international standards.
- **Work Health and Safety** – refers to compliance with SafeWork NSW requirements, compliance with requirements for Work Health and Safety in Design, compliance with New South Wales Work Health and Safety Policies, safe operating procedures.
- **Materials** – including durability of materials, product meets disposal guidelines, provision of material safety data sheets, provision of appropriate quality systems for production.
- **Performance** – including strength, deflection, creep, test providence and credibility, completeness of test data supplied, performance during test, consequences of test, in-service performance (where available).
- **Maintenance** – including maintenance requirements, complexity, intricacy, repair procedures, site modification requirements, compatibility with the design of associated existing road infrastructure and maintenance systems, reinstatement after failure, blockage, need for specialist tools, training or personnel.

2.4 Doing business with Roads and Maritime Services

Dealings between Roads and Maritime and the private sector are required to be conducted to the appropriate standards as detailed in the Statement of Business Ethics found on the Roads and Maritime website:

http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/business-ethics/business_ethics_statement.pdf

In submitting an application, the proponent agrees to abide by the standards set in the Statement of Business Ethics and declares all submitted information to be true.

3. Information for applicants

3.1 Submission of applications

Submissions can be **posted** or **e-mailed** to Roads and Maritime. Contact details are:

Standards and Technology Analyst
Roads and Maritime Services
PO Box 3035
PARRAMATTA NSW 2124

Product.Assessment@rms.nsw.gov.au

By submitting a product for assessment, the proponent agrees that all information provided in the submission may be used by Roads and Maritime for business activities.

Only one product per submission is permitted. When submitting multiple products, please provide multiple submissions packages.

3.2 Format of information

Submissions are to be in electronic format. The data **must be organised into folders** titled as follows:

- 'Submission'- includes 'Cover letter' and 'Assessment Form'
- 'Product photographs'
- 'Product drawings'
- Product manual(s)'
- 'Compliance' – including 'ISO 9001 Certification'.

3.3 Submission requirements

The following documentation must be submitted to have a complete submission suitable for assessment:

- Cover letter (signed and dated on company letterhead)
- Completed assessment form (all four sections: 'Overview', 'Standards & Specifications', 'Testing' and 'Additional Information').
- Product photographs (.JPG format with 3 x 4 aspect ratio)
- Product drawings (.JPG or .PDF format)
- Product/Installation manual(s)
- Compliance – Certificate(s) of compliance is mandatory (from a recognised accredited training body*). Additional test report(s), photos and/or videos are optional.
- ISO 9001 Certificate (from a recognised accredited training body*).

*Compliance with Standards Australia (2018), AS ISO/IEC 1702:2018 General Requirements for the Competence of Testing and Calibration Laboratories.

Evidence of compliance with relative Australian Standards and Roads and Maritime Specifications by a reputable engineering organisation (via design and structural analysis) is also acceptable.

3.3.1 Product Manuals

Manual(s) covering design, installation, maintenance, inspection and repair for the product must be provided. The instructions in the manuals must include, but are not limited to:

- Installation procedures including:
 - Supporting photographs and/or diagrams
 - A comprehensive installation tools list
 - Material data sheets.
- Maintenance, inspection and repair procedures:
 - Supported by photographs and/or diagrams
 - Inspection and maintenance frequency
 - Including maintenance requirements for repair after environmental exposures (e.g. bushfires, flooding, sunlight/heat)
 - A comprehensive maintenance tools list.
- Limitations in installation (e.g. soil specifications, limitations on flame cutting)
- Installation tolerances and fail mechanisms
- Environmental issues (e.g. recycling, toxicity, contamination, biodiversity, wildlife)
- Documentation control (version number and date)
- Safe Work Method Statement (SWMS).

3.4 Checklist

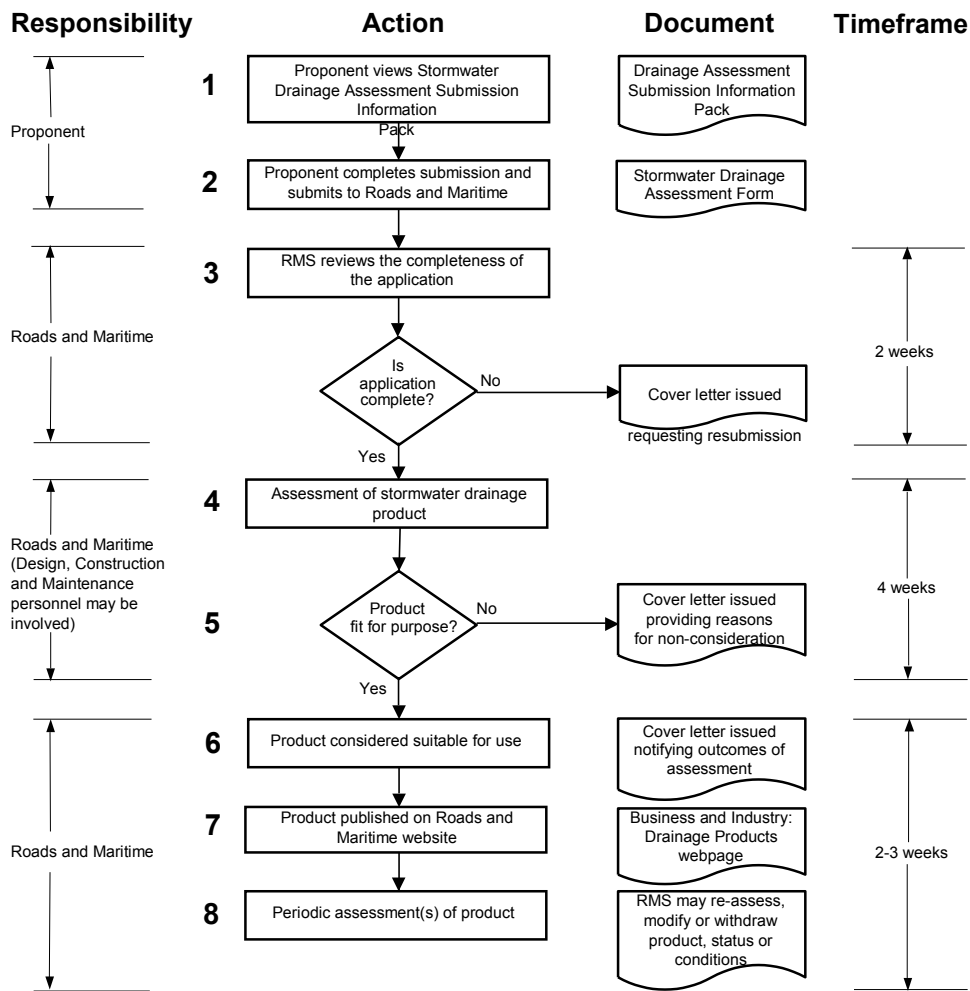
Complete checklist of attachments below before submitting product.

Item	Attachment	✓
1	Cover letter	<input type="checkbox"/>
2	Assessment form	<input type="checkbox"/>
3	Product photos	<input type="checkbox"/>
4	Product drawings	<input type="checkbox"/>
5	Product manual(s)	<input type="checkbox"/>
6 (a)	Test Certificate(s)	<input type="checkbox"/>

6 (b)	Third party certification (Australian Standards / Roads and Maritime Specifications)	<input type="checkbox"/>
7	ISO 9001 Certificate	<input type="checkbox"/>

3.5 Drainage assessment process

The drainage assessment process is shown in Figure 1.



Notes

Products not considered for use or that fall outside the required conditions must be subject to site specific risk assessment).

Timeframes are approximate and may be subject to change.

Figure 1 Drainage assessment process



www.rms.nsw.gov.au/business-industry/partners-suppliers/approved-products-materials/drainage-products.html



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