



Government of **Western Australia**
Department of **Health**

Our ref: F-AA-30918-5
Enquiries: Jared Chong (9222 2000)

Mr Gareth Wallis
COERCO
23 Harris Rd
Malaga WA 6090

Dear Mr Wallis

**APPROVAL FOR THE COERCO FLATBED LEACH DRAINS SL SYSTEM IN
WESTERN AUSTRALIA**

I write in regard to your application to the Department of Health seeking approval for the Coerco Flatbed Leach Drains SL System.

I am pleased to advise that this product is approved for use in Western Australia under the brand: **Coerco Flatbed Leach Drains SL System**

Approval is granted in accordance with the drawings and documents listed below:

- Drawings: **Coerco drawing title 20220728CFB-SL02, 20220117DC01, 20220118FP01**
- Documents: **Coerco Flatbed Leach Drains-SL Product & Installation Guide**

This approval is subject to the following conditions:

- 1) Coerco Flatbed Leach Drains SL System is permitted to be installed in the following soil types following specific requirements:

Soil type	Two 30mm layers (60mm depth)
1. Sand and gravels	Min 100mm of clean sand underneath
2. Sandy loams	Min 100mm of clean sand underneath
3. Loams	Min 100mm of clean sand underneath
4. Clay loams	Not permitted
5. Light clays	Not permitted
6. Medium to heavy clay	Not permitted



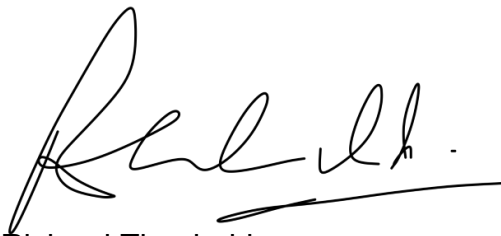
- 2) All Coerco Flatbed Leach Drains SL System shall be assembled and installed in accordance with the installation instructions specified by Coerco Pty Ltd.
- 3) No alteration to the design or specifications of the Coerco Flatbed Leach Drains SL System as detailed in this approval shall occur without prior approval of the Chief Health Officer (CHO).
- 4) This approval is valid for 5 years from the date of approval and may be varied or withdrawn at the discretion of the CHO.
- 5) The Coerco Flatbed Leach Drains SL System has an infiltrative area of 2.3m² per metre length.
- 6) The bottom of Coerco Flatbed Leach Drains SL System shall be at least the following distances above the highest groundwater level, considering long-term variability and perched water tables:
 - Public Drinking Water Source Areas - 2 metres; and
 - All other areas –
 - a) loams - 0.6 metres
 - b) gravels – 1 metre
 - c) sands - 1.5 metres.
- 7) The Coerco Flatbed Leach Drains SL System shall be sized and installed in accordance to *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* and Table L7, AS/NZS 1547 – On-site domestic wastewater management.
- 8) The Coerco Flatbed Leach Drains SL System shall be supplied, constructed and installed in accordance with this approval.
- 9) The Coerco Flatbed Leach Drains SL System must be installed in a manner that ensures even distribution throughout the entire length of the flatbed by laser levelling.
- 10) The Coerco Flatbed Leach Drains SL System is not approved to be trafficable and must be located at least 1.2m from an area that is subject to vehicular traffic.
- 11) The minimum setback distance between the Coerco Flatbed Leach Drains SL System is 1.8m.
- 12) The minimum topsoil cover for the Coerco Flatbed Leach Drains SL System is 100mm.
- 13) The maximum topsoil cover for the Coerco Flatbed Leach Drains SL System is 300mm.



- 14) For each installation, an application to install an apparatus shall be submitted as required under the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*. Each application for installation shall be made to the Local Government and include full plans and specifications, a completed application form, and receipts of all fees as prescribed.
- 15) When a pump dosing system is used, Coerco Pty Ltd shall determine the pump rate for the system taking into account the volume of each pump event and the length of the Coerco Flatbed Leach Drains SL System.
- 16) Each Coerco Flatbed Leach Drains SL System owner shall be provided with the following documents:
- The site plan detailing the location and dimensions of the Coerco Flatbed Leach Drains SL System on the lot.
 - The date of installation.
 - Warranty certification for the system and the installation.

Should you have any questions regarding this approval, please contact the Environmental Health Directorate of the Health Department WA on (08) 9222 2000.

Yours sincerely



Richard Theobald
**Delegate of
CHIEF HEALTH OFFICER**



10 August 2022



coerco
mining & civil

Flat Bed Leach Drains-SL

Product & Installation
Guide

WA



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1. Conforming Standards

Design Area Sizing: AS/NZS1547:2012 L4

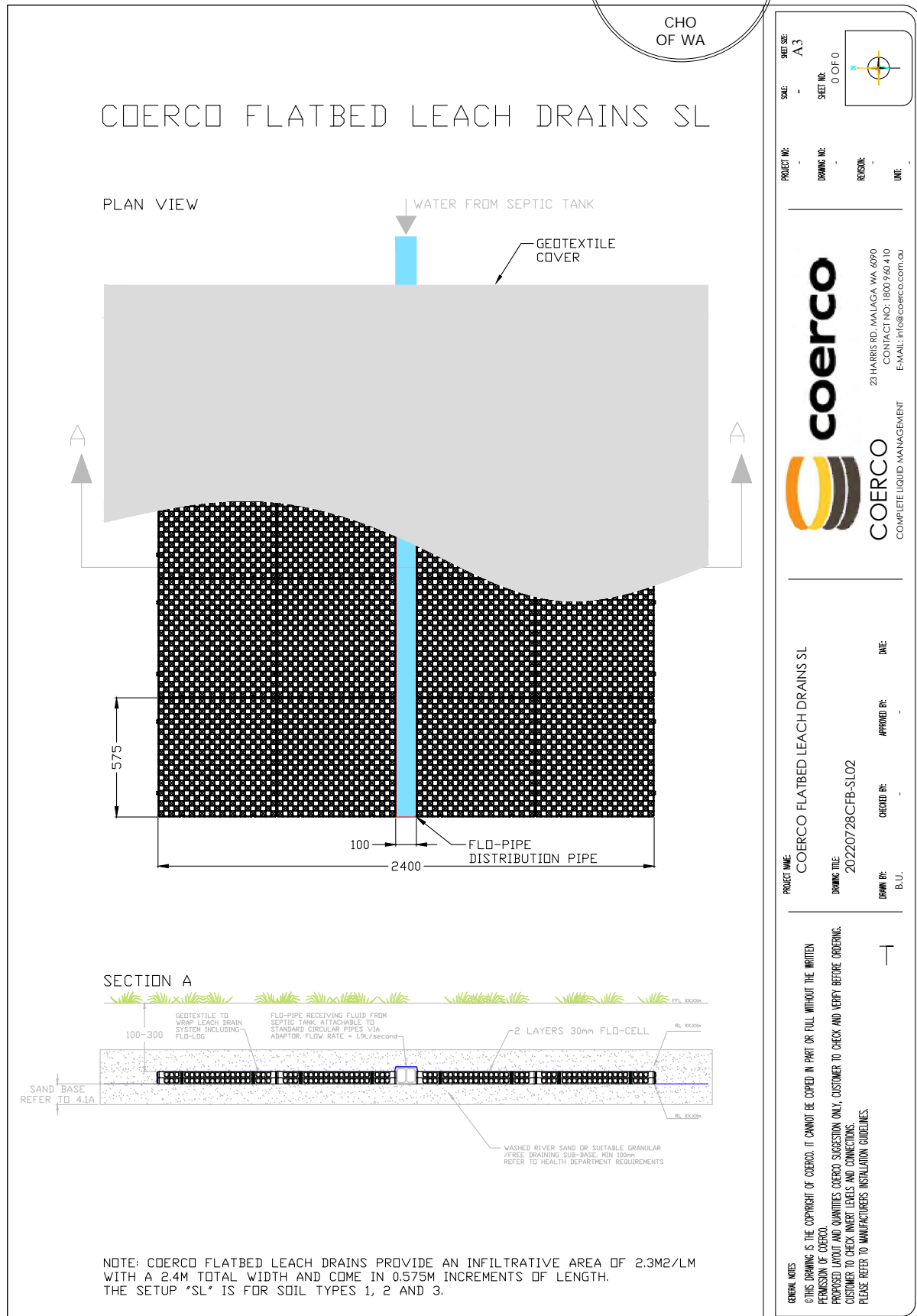
Effluent Loading: AS/NZS1547:2012 L6

Distribution Line: AS/NZS1547:2012 L6.1.2



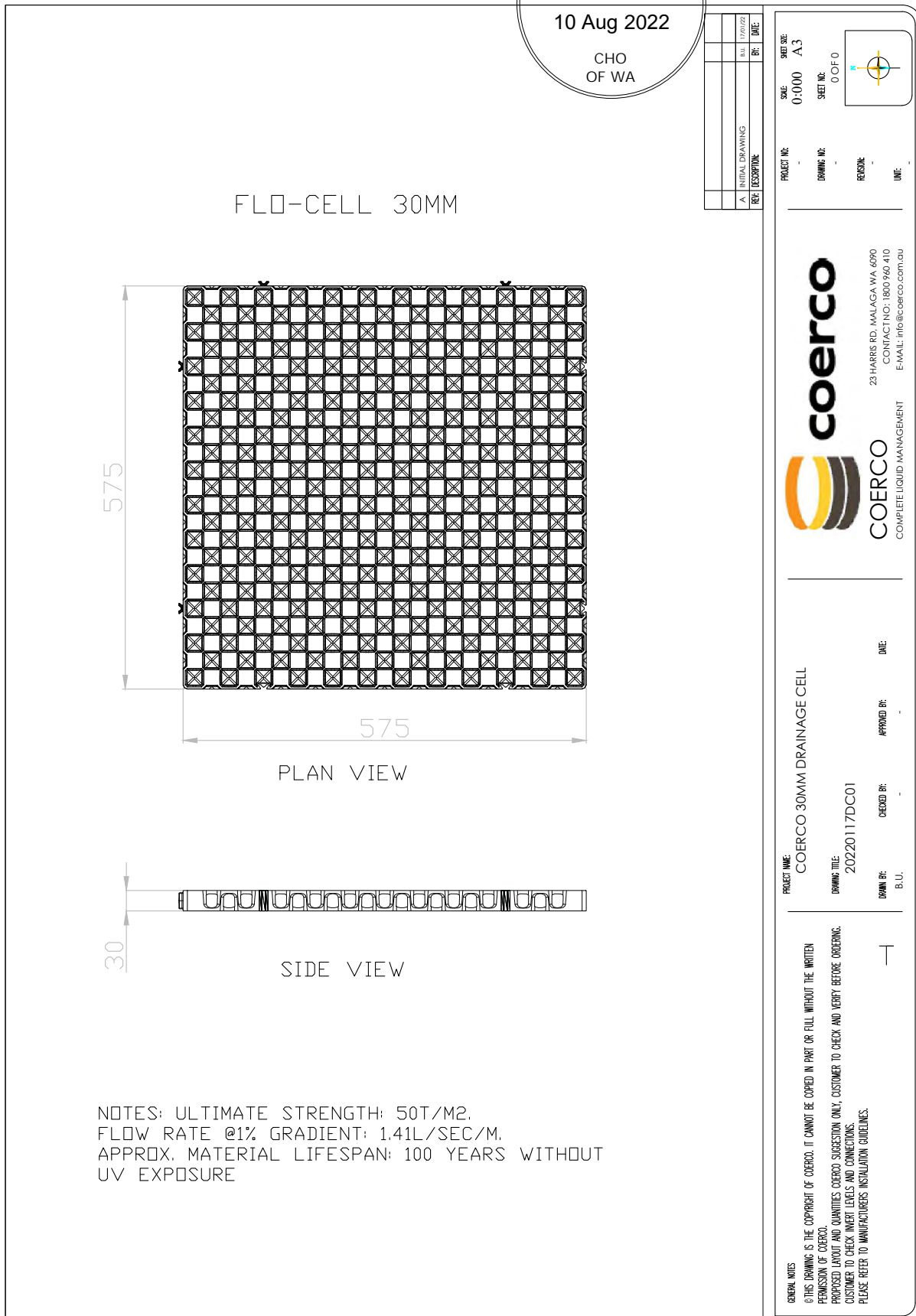
2. Drawings

2.1. COERCO Flatbed Leach Drain-SL Setup



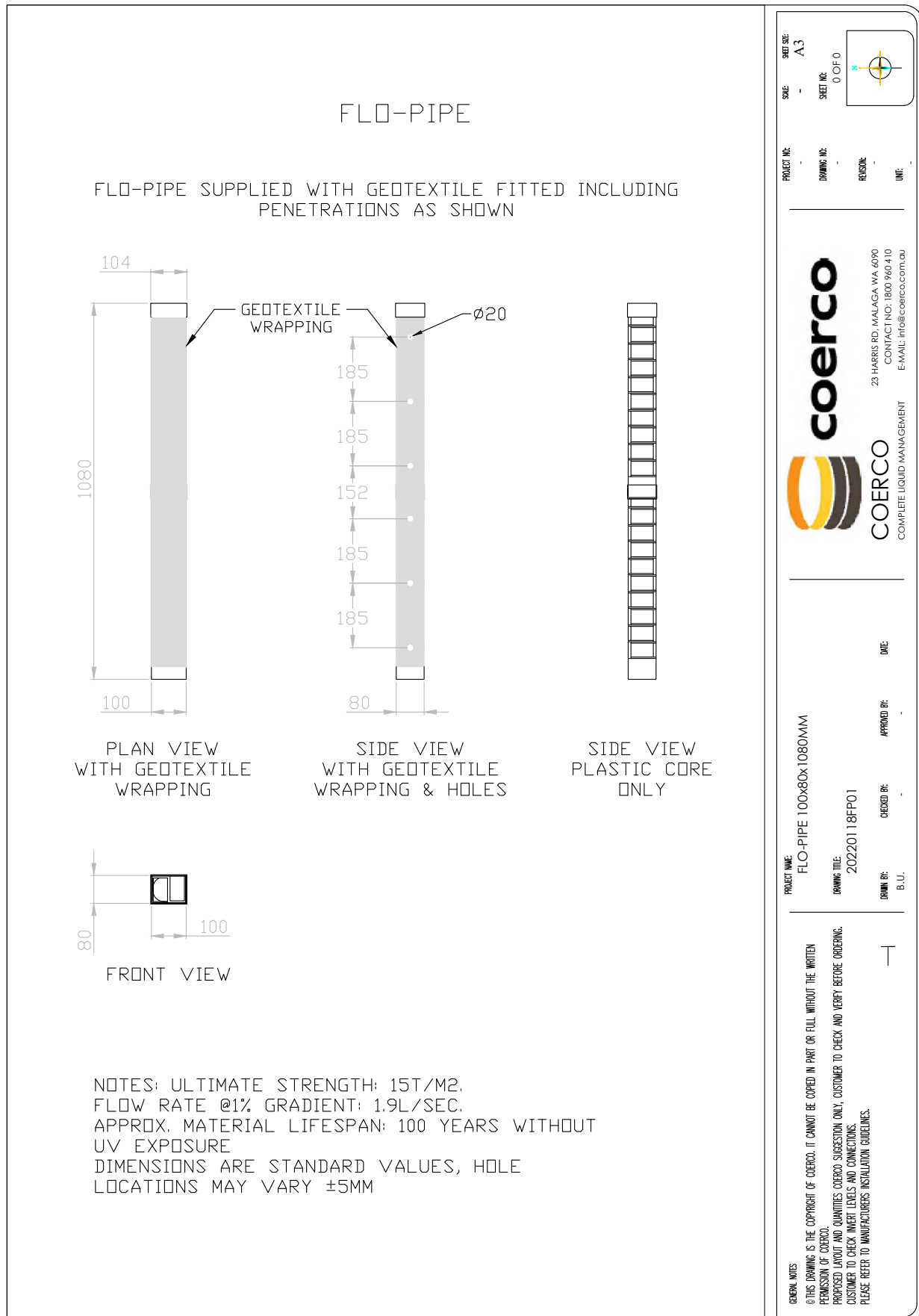
2. Drawings

2.2. Flo-Cell Drainage Cell 30mm



2. Drawings

2.3. Flo-Pipe Drainage Pipe



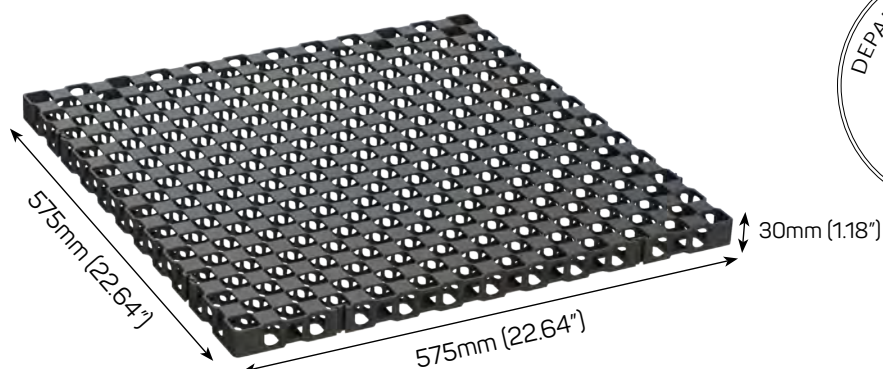
3. Datasheets

3.1. Flo-Cell 30mm



PRODUCT SPECIFICATION

FLO-CELL® NEO 30MM



Part Number	80033
Part Size	(H) 30mm (W) 575mm (L) 575mm (H) 1.18" (W) 22.64" (L) 22.64"
Part Weight	650 grams
Weight Per Square Metre	1.95 kg
Ultimate Strength (RECYCLED PP)	50 tonnes/SQM (100 PSI)
Ultimate Strength (VIRGIN PP)	80 tonnes/SQM (114 PSI)
Flow Rate	1.41 Litres/Sec/m @ 1% gradient
Pieces Per Square Metre	3
Volume Void	90%
Surface Void	70%
Material	85% Recycled Polypropylene 15% Propriety Selected Materials
Colour	Black
Chemical & Biological Resistance	Unaffected by molds, algae, soil-bourne chemicals, bacteria and bitumen.
Service Temperature	-10° C - 70° C (14 F° - 158 F°)
Approximate Material Lifespan	100 years + with no ultra violet exposure

*Ultimate strength till failure (not yield)

Note: Atlantis® product specifications are updated on a regular basis. Please contact Atlantis® technical department for the latest data sheet available



ATLANTIS CORPORATION AUSTRALIA PTY LTD

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3. Datasheets

3.2. Flo-Pipe



Technical Product Specification Flo-Pipe

Date: 14/03/2016

Atlantis Corporation reserves the right to change its products specifications at any time. It is the responsibility of the specifier and purchaser to ensure that the product specifications used for design and procurement proposes are current and consistent with the products used in each instance.

Product Type: Integrally Formed Strip Filter Pipe
Polymer: 85% Recycled Polypropylene, 15% Proprietary Selected Materials
Recommended Applications: Trench Drainage, Sub-soil Drainage,
Wall & Foundation Drainage, Sub-surface Drainage,
Podium Landscape, Sports Fields



Product Properties

Unconfined Compressive Strength Compressive Strength

Maximum 15 tonnes/m² (21.34 psi)

Dimension-Void

Width

100mm (4 in)

Length

560mm (22.05 in) *Customizable

Height

80mm (3.15 in)

Void Ratio

> 80-90 %

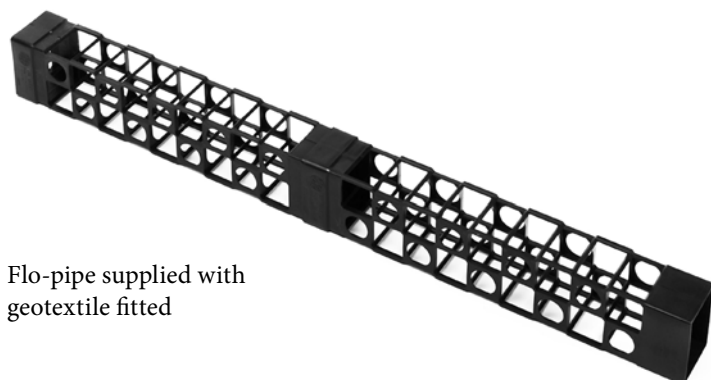
Hydraulic Properties

Manning Value 'n'

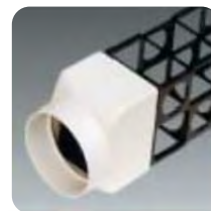
0.085 (0.076 – 0.089)

Permeability

12 m/s (7-26 m/s)



Flo-pipe supplied with
geotextile fitted



Easy Connection to
Standard Stormwater
Fittings

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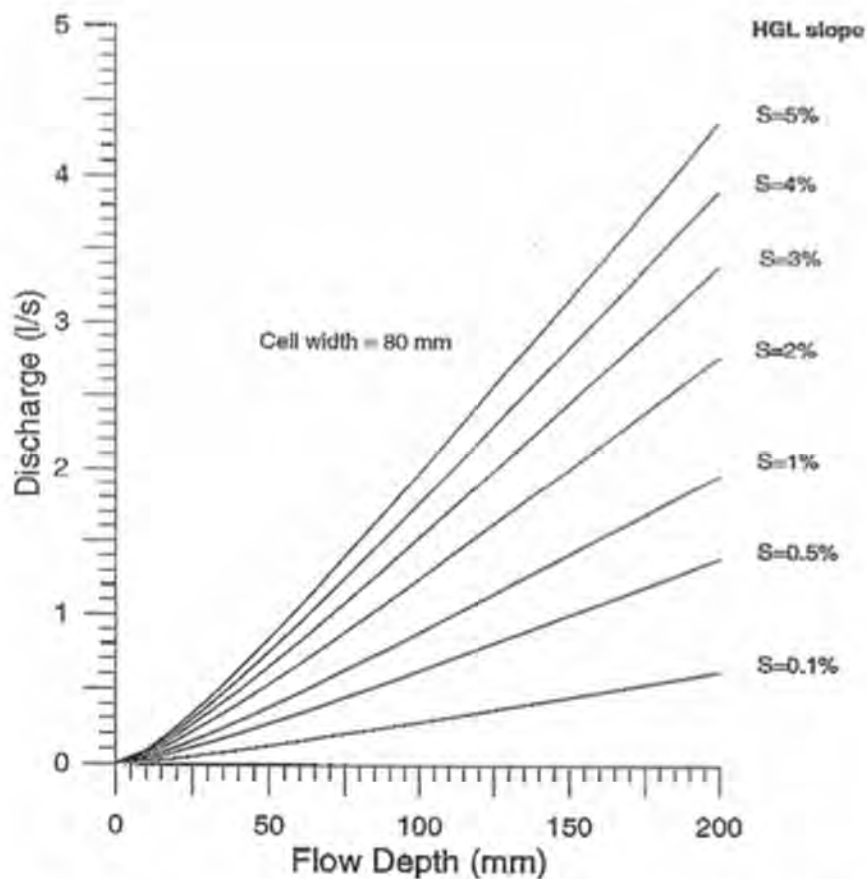
3. Datasheets

3.2. Flo-Pipe



Water Flow

	H.G = 0.1% (0.1V:100H)	H.G = 0.5% (0.5V:100H)	H.G = 1% (1V:100H)
Flow Depth (mm)	200	200	200
Flow Rate (l/min)	36	80	114
Flow Depth (in)	7.9	7.9	7.9
Flow Rate (gal/min)	9.5	21.1	30.1



Flow rates were tested and evaluated by the Water Research Laboratory, UNSW, on the basis of Manning's 'n' = 0.085.

Note:

Standard and conservative values, they may vary. Sizes slightly vary, ± 4 mm

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4. Installation Guideline

4.1. Excavation

Ensure that the level bed is prepared to max. ± 20 mm tolerance with clean sand layer underneath, layer height per below chart.

Soil Type	Sand Base Thickness
1. Sand and gravels	Min 100mm of clean sand underneath
2. Sandy loams	Min 100mm of clean sand underneath
3. Loams	Min 100mm of clean sand underneath
4. Clay loams	Not permitted
5. Light clays	Not permitted
6. Medium to heavy clay	Not permitted

Table 4.1A: Sand Base Thickness

4.2. Installation

4.2.1. Flo-Pipe Distribution Pipe

After preparing the bed as explained in 4.1, Lay distribution pipes centered in the trench, with the pipe orientation 80mm high and 100mm wide. Join pipes ensuring they finish at max. 1000mm from the end of the leach drain. NB: Seal end of pipe by using a plug or with other measures.

4.2.2. Base Layer – Flo-Cell

Lay the drainage cells by clipping or abutting to form a 1150mm wide continuous blanket on either side of the distribution pipe.

NB: LPED lines can be used as distribution lines when dose-loading effluent into beds.

4.2.3. Second Layer – Flo-Cell

Lay the drainage cells by clipping or abutting to form a second layer on top of the base layer. Flip cells diagonally where required to match blanked surfaces and maximize flow continuity.

4.2.4. Geotextile

Cover the top and sides of the setup with infiltration grade geotextile supplied (140gsm recommended).

4.2.5. Backfill

The excavated material can be used to carefully backfill.



5. Warranty

Coerco Flatbed Leach Drains supplied by Coerco are guaranteed to be free from defects in material and workmanship for fifteen (15) years from the date of shipment from factory. The obligation of this warranty, statutory or otherwise, is limited to replacement or repair at factory or at a point designated by Coerco, of such part as shall appear to us, upon inspection at such point, to have been defective in material or workmanship.

This warranty does not obligate Coerco to bear the cost of labour or transportation charges in connection with replacement or repair of defective part. No express limited or statutory warranty, other than herein set forth is made or authorised to be made by Coerco.

In no event shall Coerco be liable for consequential damages or contingent liabilities arising out of failure of any Coerco Flatbed Leach Drains or parts thereof to operate properly. Coerco Flatbed Leach Drains must be installed by licensed tradesmen. Failure to do so voids all Warranty.



Notes:

This image shows a single page of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook or composition paper. There are no margins, text, or other markings on the page.



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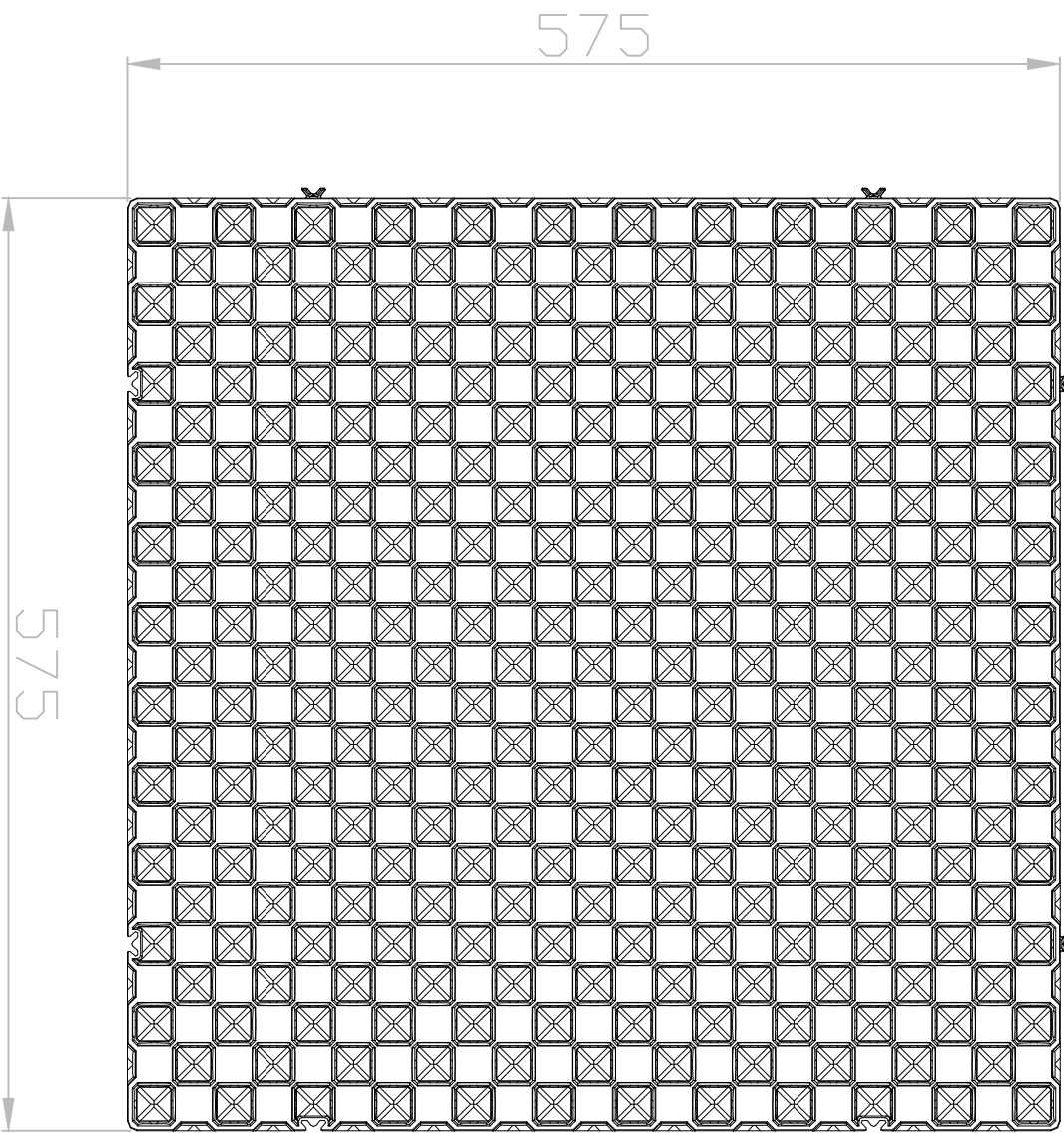
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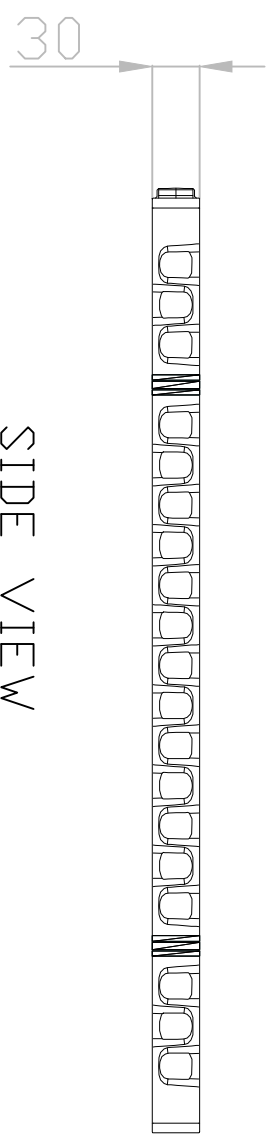
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www.coerco.com.au



FLO-CELL 30MM



PLAN VIEW



SIDE VIEW

NOTES: ULTIMATE STRENGTH: 50T/M².
FLOW RATE @1% GRADIENT: 1.41L/SEC/M.
APPROX. MATERIAL LIFESPAN: 100 YEARS WITHOUT
UV EXPOSURE

A	INITIAL DRAWING	B.U.	17/01/22
REV:	DESCRIPTION:	BY:	DATE:

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PLEASE REFER TO MANUFACTURERS INSTALLATION GUIDELINES.

PROJECT NAME:
COERCO 30MM DRAINAGE CELL

DRAWING TITLE:
20220117DC01

DRAWN BY: B.U. CHECKED BY: - APPROVED BY: - DATE: -



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COERCO
COMPLETE LIQUID MANAGEMENT

23 HARRIS RD, MALAGA WA 6090
CONTACT NO: 1800 960 410
E-MAIL: info@coerco.com.au

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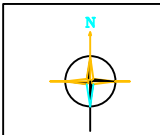
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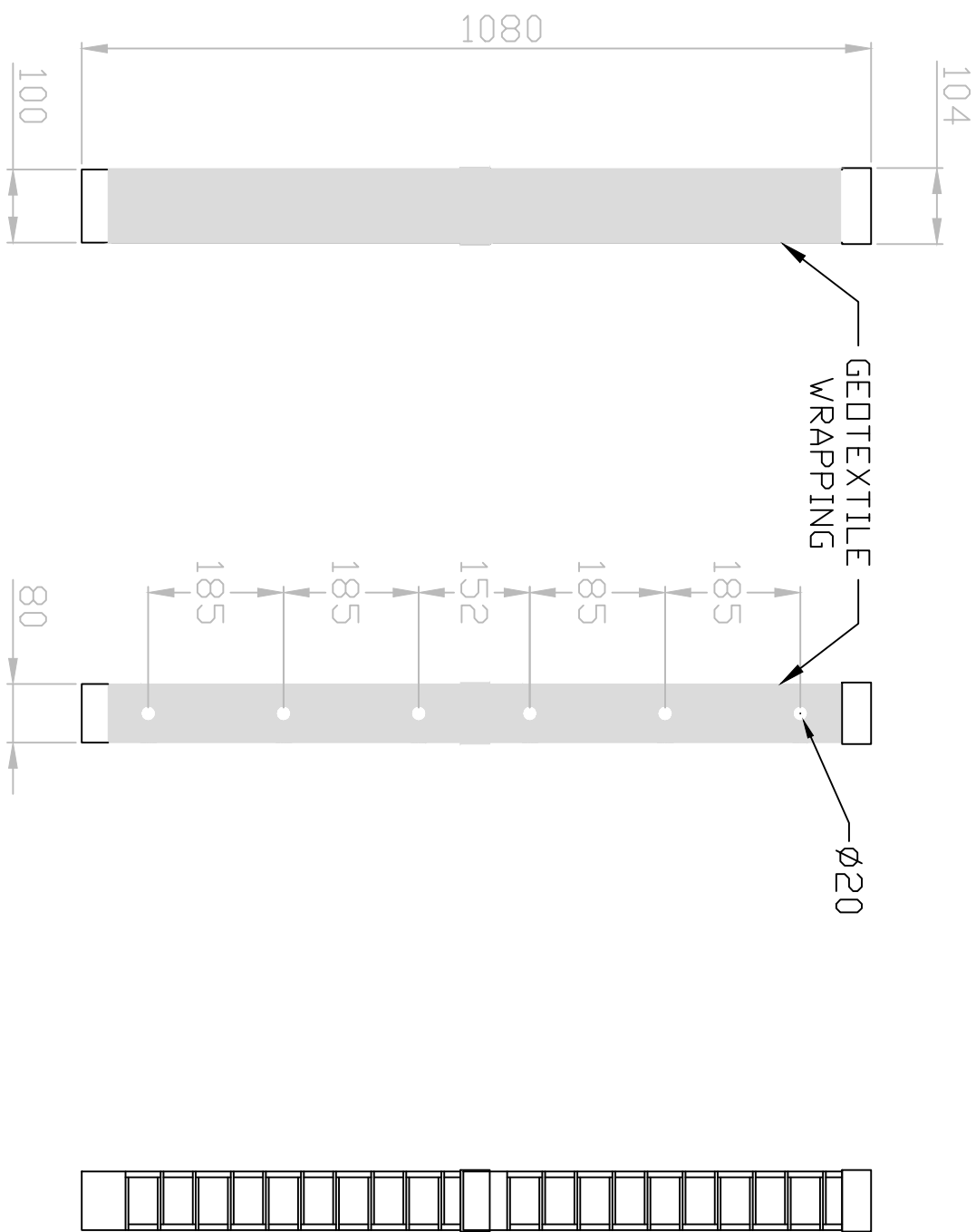
SHEET NO: 0 OF 0



SHEET SIZE: A3

FLO-PIPE

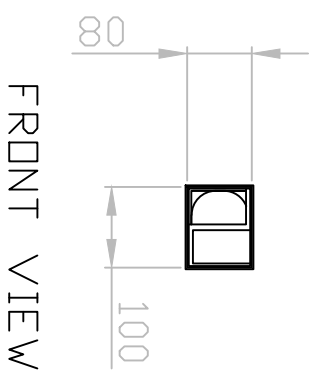
FLO-PIPE SUPPLIED WITH GEOTEXTILE FITTED INCLUDING PENETRATIONS AS SHOWN



PLAN VIEW
WITH GEOTEXTILE
WRAPPING

SIDE VIEW
WITH GEOTEXTILE
WRAPPING & HOLES

SIDE VIEW
PLASTIC CORE
ONLY



FRONT VIEW

NOTES: ULTIMATE STRENGTH: 15T/M2.
FLOW RATE @1% GRADIENT: 1.9L/SEC.
APPRDX. MATERIAL LIFESPAN: 100 YEARS WITHOUT
UV EXPOSURE
DIMENSIONS ARE STANDARD VALUES, HOLE
LOCATIONS MAY VARY ± 5 MM

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PROJECT NAME:

FLO-PIPE 100x80x1080MM

DRAWING TITLE:

20220118FP01

DRAWN BY:
B.U.

CHECKED BY:
-

APPROVED BY:
-

DATE:



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