May 2017

Domestic Septic Systems

Council Application Pack

1,450ltr Septic Tank (SEP-1450)

2,200ltr Septic Tank (SEP-2200)

4,000ltr Septic Tank (SEP-4000)

Rainsmart® Leach Drain

OVERVIEW

Thank you for your interest in Coerco's Domestic Septic system products.
Welcome to Coerco. A name of an established and trusted Australian supplier for innovative polyethylene products; essential for every type of liquid or dry storage, and transportation.

We guarantee products of consistent quality, manufactured in Australia from high grade Australian materials. Processing our own Hexene Polyethylene material, sourced only from reputable Australian suppliers, mean we can guarantee our products will be stronger, and have a greater impact resistance, than cheaper alternatives.

Based in Western Australia we know first-hand the wear and tear our range of products frequently encounter. We also know the cost of product failure is too high to contemplate.

That's why we offer this water tight promise; pay a small premium and we will provide you with a product that not only performs better, but provides the reassurance of continued reliability over time.

CONTENTS

SYSTEM OVERVIEW

A septic tank is an apparatus for the bacteriolytic treatment of sewage designed to retain sewage for bacteriolytic treatment. These septic tanks are also suitable to act as a combined system, designed to receive household and such other liquid wastes as approved by the relevant Public Health organisations applicable to the installation site.

PRODUCT COMPLIANCE & CERTIFICATIONS

Coerco's septic tank range is manufactured and subjected to continual rigorous testing and analysis in accordance with Australian Standard AS/NZS1546.1 and have also been reviewed and accepted by various State department health bodies throughout Australia. See attached for supporting approval certification and approval documents.

PRODUCT DRAWINGS

Coerco range of septic general dimensional drawings are available showing inlet and outlet heights along with other useful information for your plumber, council authority and for your own records.

WARRANTY

Coerco as manufacturer of the septic tank or the reseller agent on behalf of Coerco warrants the product to be manufactured to **Australian Standard AS/NZS 1546.1** and to repair or replace (supply only) such tanks due to defective manufacture for a period of **5 years** from date of initial purchase. Further warranty information can be found on company website located here www.coerco.com.au/warranty

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

Our ref F-AA-30918
Enquiries Henry Tan (9388 4936)

Mr Jerry Wallis
Coerco
PO Box 319
DALWALLINU WA 6609

Dear Mr Wallis,

APPROVAL OF THE COERCO PLASTIC SEPTIC TANKS

I am pleased to advise that the above approval has been granted for use of the Coerco septic tanks in Western Australia under:

Brand name: Coerco
Model name: URT-3500; URT-4000; URT-7000;
SEP-4000; SEP-1450; SEP-2200

Approval is granted in accordance with the attached conditions of approval and the approved plans.

The above documents all bear the official approval stamp of the Western Australian Department of Health (DOH). These documents may not be altered in any manner without the prior approval of the Chief Health Officer.

All local governments will be advised of this approval and shall be provided with full copies of the approval documentation.

If you have any questions regarding this approval, please contact the Water Unit of the Health Department on (08) 9388 4999.

Yours sincerely

Richard Theobald
delegate of
CHIEF HEALTH OFFICER

21 March 2017

W:\Public Health\EHD\Water Unit\WASTEWATER MANAGEMENT\WASTE\Product Approvals\PreApproval Documents\Septic Tanks\Plastic\Coerco aka Rapid Plastics\Application 2017\Coerco Septic Tank - Application Jan 2017 Letter.doc

Environmental Health
All correspondence PO Box 8172 Perth Business Centre Western Australia
Grace Vaughan House 227 Stubbs Terrace SHENTON PARK WA 6008
Telephone (08) 9388 4999 Fax (08) 9388 4955
28 684 750 332

COERCO SEPTIC TANKS

CONDITIONS OF APPROVAL

This is to certify that the Coerco Pty Ltd septic tanks

Model Designation: **URT-3500; URT-4000; URT-7000; SEP-4000; SEP-1450; SEP-2200**

Manufactured by: **Coerco Pty Ltd**
9 Hugget Drive
DALWALLINU WA 6609

Department of Health Registration Number: **#187**

is approved by the Chief Health Officer under the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 for use within Western Australia in accordance with the conditions specified in Schedules 1 and 2.

Date of Issue: 21 March 2017

This approval expires on 2 November 2019 with the Coerco Pty Ltd StandardsMark Licence No: SMK40330 expiry date or until withdrawn by the Chief Health Officer.

Richard Theobald
delegate of
CHIEF HEALTH OFFICER

Environmental Health
All correspondence PO Box 8172 Perth Business Centre Western Australia
Grace Vaughan House 227 Stubbs Terrace SHENTON PARK WA 6008
Telephone (08) 9388 4999 Fax (08) 9388 4955
28 684 750 332

SCHEDULE 1: GENERAL DESCRIPTION

SPECIFICATION SUMMARY

Tank Model	Tank Type	Capacity (L)	Conditions/ Restrictions
URT-3500	Holding Tank	3500	Tank burial depth = 0mm (ground level)
URT-4000	Holding Tank	4000	
URT-7000	Holding Tank	7000	
SEP-4000	Holding Tank or Septic Tank (baffle option available)	4000	Tank burial depth = maximum of 500mm (below ground level)
SEP-1450	Holding Tank or Septic Tank	1450	
SEP-2200	Holding Tank or Septic Tank	2200	

SCHEDULE 2: CONDITIONS OF APPROVAL

1. General

1.1 Approval is granted in accordance with the drawings submitted and stamped by Department of Health.

1.2 No alteration to the design or specification of the Coerco septic tanks shall occur without prior approval of the Chief Health Officer.

1.3 Any changes to the design or the construction of the Coerco septic tanks shall be submitted for assessment and approval to the Department of Health before being made commercially available in Western Australia.

1.4 Conditions of approval may be varied or withdrawn at the discretion of the Chief Health Officer.

1.5 The serviceable life of the Coerco septic tank and associated fittings shall be a minimum of 15 years provided it is installed in accordance with Coerco Pty Ltd recommendations.

1.6 Each Coerco septic tank shall be permanently and legibly marked on a non-corrosive metal plaque or equivalent, attached on the top external face of the tank adjacent to the inlet fitting with the following information:

- The brand name of the system;
- The Department of Health Registration number;
- The month and year of manufacture.
- The capacity in litres
- Top load limitations and maximum depth of cover
- The weight of tank
- Top load limitations and maximum depth of cover

All marking shall be permanent, legible and clearly visible.

1.7 The manufacturer shall provide the following information to each Local Government where it is intended to install a Coerco septic tank in their area once Departmental Approval has been obtained:

- Statement of serviceable life
- Quality Assurance Certification
- Installation Manual
- Owner's Manual
- Engineering Drawings on A3 format
- Detailed Specifications
- Approval documentation from Department of Health WA.

2 Installation and Commissioning

2.1 For each installation, an application for approval to install shall be in the form of an application to install an apparatus 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 to Construct or Install an Apparatus for the Treatment of Sewage* form, and pay all fees as prescribed.

2.2 The installation of each Coerco septic tank shall comply with the installation instructions specified by Coerco Pty Ltd and shall comply with minimum clearances specified in the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974.*

2.3 The Coerco septic tank shall be installed so that the inspection openings of the tank are at (or above) ground level and installation shall be in accordance with the installation instructions specified by Coerco Pty Ltd.

2.4 Extensions (risers) to access and inspection openings shall be fitted on tanks when the tank burial depth is more than 300mm below ground level. (Refer to Schedule 1 for approved burial depths)

2.5 When installed, extensions shall be fitted so that a watertight seal is achieved, and so that the extension and the joint are able to withstand external loads and pressures.

2.6 The Coerco septic tanks shall be supplied, constructed and installed in accordance with the design as approved by the Department of Health WA.

2.7 Coerco shall supply with each Coerco septic tank an owner's manual, which sets out the care, operation, and maintenance and on-going management requirements of the system.

2.8 The Coerco septic tanks are not approved for installation in trafficable areas

3 On-going Management

3.1 The owner's manual prepared by Coerco shall contain a plan for the on-going management of the Coerco septic tank. The plan shall include details of:

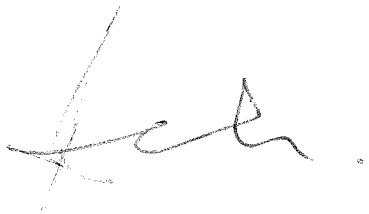
- the treatment process,
- procedures to be followed in the event of a system failure,
- emergency contact numbers,
- maintenance requirements including de-sludging.

4 Permitted uses

4.1 The Coerco septic tanks are approved only for below ground installations.

5 Reduction in nutrient levels

5.1 The Coerco septic tanks are not approved as a phosphorus or nitrogen removal system.



Richard Theobald
delegate of
CHIEF HEALTH OFFICER

21 March 2017

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SCHEDULE TO
STANDARDSMARK LICENCE

SAI Global hereby grants:

COERCO Pty Ltd

Huggett Drive, Dalwallinu, WA 6609, Australia

StandardsMark Licence

Manufactured to:

AS/NZS 1546.1:2008 - On-site domestic wastewater treatment units - Septic tanks

Model identification of the goods on which the STANDARDSMARK may be used:

Tank Type	Description	Size	Additional Product Information	Date Endorsed
Collection Well	URT-3500 - Horizontal axis cylindrical roto-moulded polyethylene tank. Certification applies only to the construction of the tank and access cover. It does not include the internal fittings.	3500L	Tank burial depth = 0mm (ground level). Made from virgin 11UV PE.	28 Oct 2015
Collection Well	URT-4000 - Horizontal axis cylindrical roto-moulded polyethylene tank. Certification applies only to the construction of the tank and access cover. It does not include the internal fittings.	4000L	Tank burial depth = 0mm (ground level). Made from virgin 11UV PE.	28 Oct 2015
Collection Well	URT-7000 - Horizontal axis cylindrical roto-moulded polyethylene tank. Certification applies only to the construction of the tank and access cover. It does not include the internal fittings.	7000L	Tank burial depth = 0mm (ground level). Made from virgin 11UV PE.	28 Oct 2015

Certificate No: SMK40330 Issued Date: 6 December 2016

This schedule supersedes all previously issued schedules

*** For details of manufacture, refer to the licensee**

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SCHEDULE TO
STANDARDSMARK LICENCE

Tank Type	Description	Size	Additional Product Information	Date Endorsed
Septic Tank/Collection Well	NEP-3200 / SEP-3200 - Vertical axis cylindrical roto-moulded polyethylene tank. Certification applies only to the construction of the tank (including centre poles) and access cover. Tank also includes baffles.	3200L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE.	5 Dec 2016
Septic Tank/Collection Well	NEP-4000 / SEP4000 - Vertical axis cylindrical roto-moulded polyethylene tank. Certification applies only to the construction of the tank (including centre poles) and access cover. Tank also includes baffles.	4000L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE.	5 Dec 2016
Septic Tank/Collection Well	SEP-1450.Vertical axis cylindrical with domed top roto-moulded polyethylene tank. Certification applies only to the construction of the tank and access cover.	1450L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE	5 Dec 2016
Septic Tank/Collection Well	SEP-2200.Vertical axis cylindrical with domed top roto-moulded polyethylene tank. Certification applies only to the construction of the tank and access cover.	2200L	Tank burial depth = 500mm (below ground level). Made from recycled 11UV PE.	5 Dec 2016

End of Record

Certificate No: SMK40330 Issued Date: 6 December 2016

This schedule supersedes all previously issued schedules

*** For details of manufacture, refer to the licensee**

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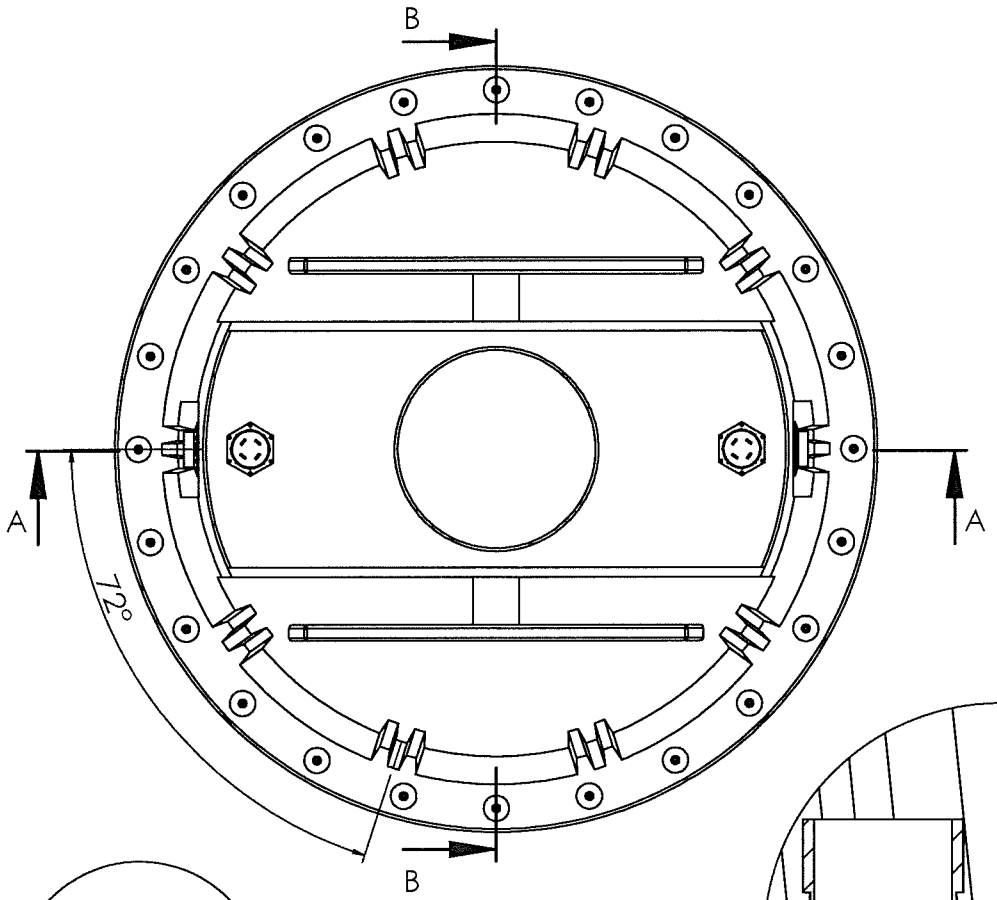


PLAN VIEW

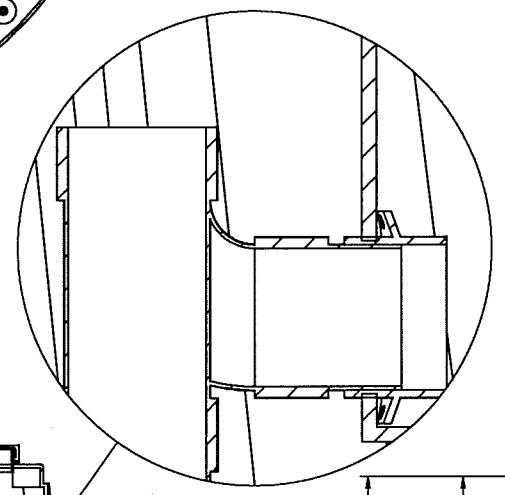
Installation Instructions

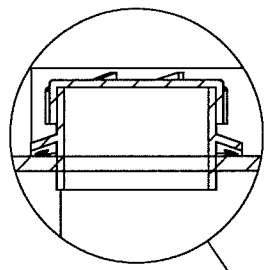
- Excavate hole and line with 100mm of clean sand.
- Lower the tank into the hole and **FILL WITH WATER.**
- Fix manhole cover to upstand with four stainless steel screws
- Backfill using sand or similar with special attention to underside of anti-flotation flange.

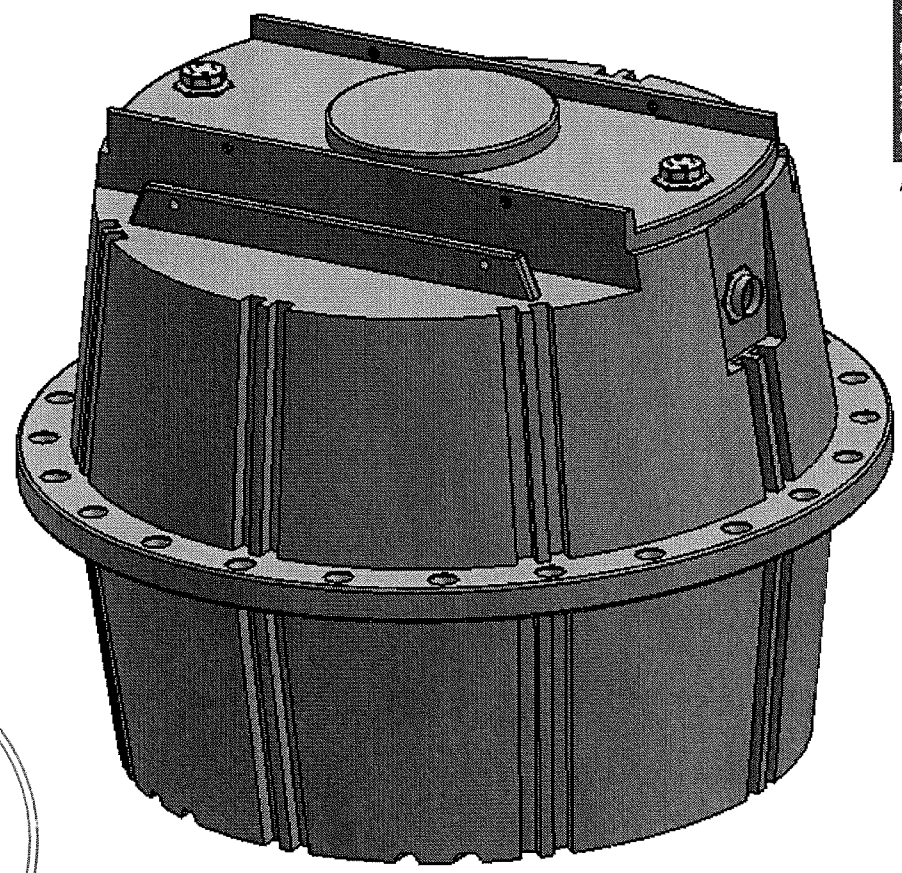
NEVER BACKFILL BEFORE FILLING TANK WITH WATER

IMPORTANT

- Backfill must not completely cover the tank in most installations.
- **NEVER** completely pump the tank out. Always leave at least 800mm liquid depth.
- This septic tank has been manufactured to Australian Standard AS/NZS1546.1
- This septic tank is **NOT** designed for installation in trafficable areas.



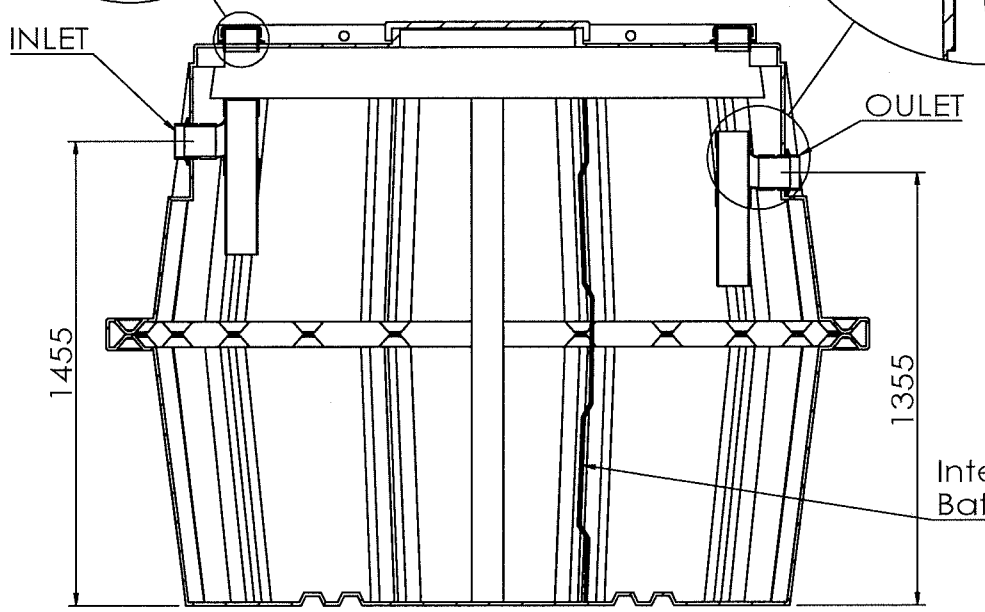




ISOMETRIC VIEW

Certified Product™
Australian Standard
AS1546.1
Lic SMK40330
SAI Global

DEPARTMENT OF HEALTH
APPROVED
21 MAR 2017
EDPH
OF WA



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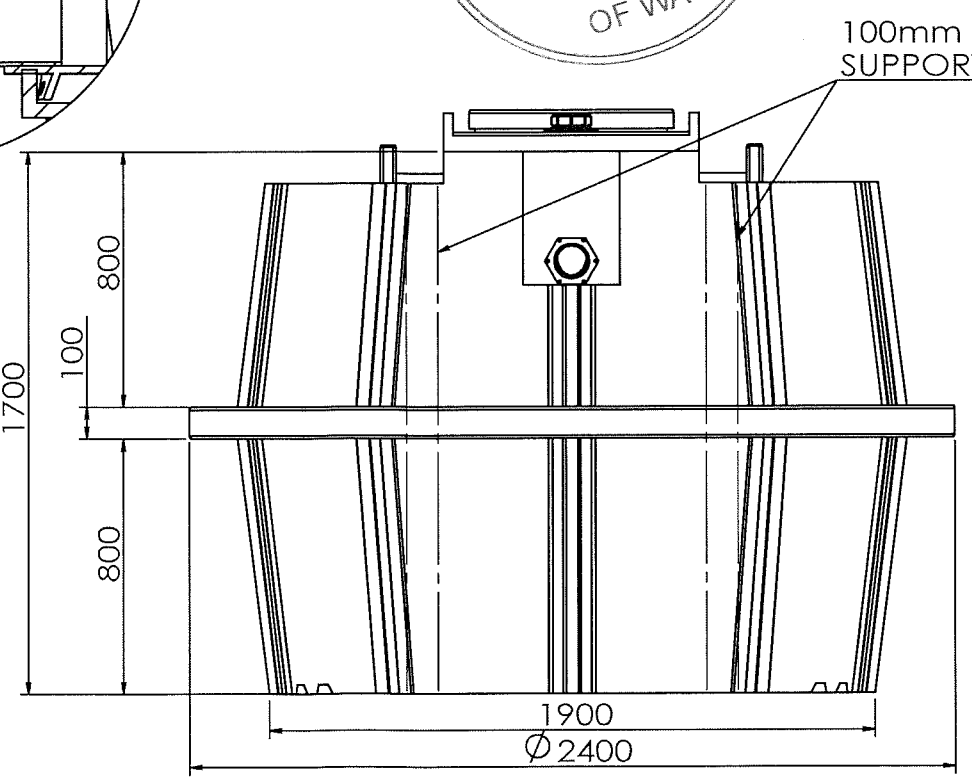
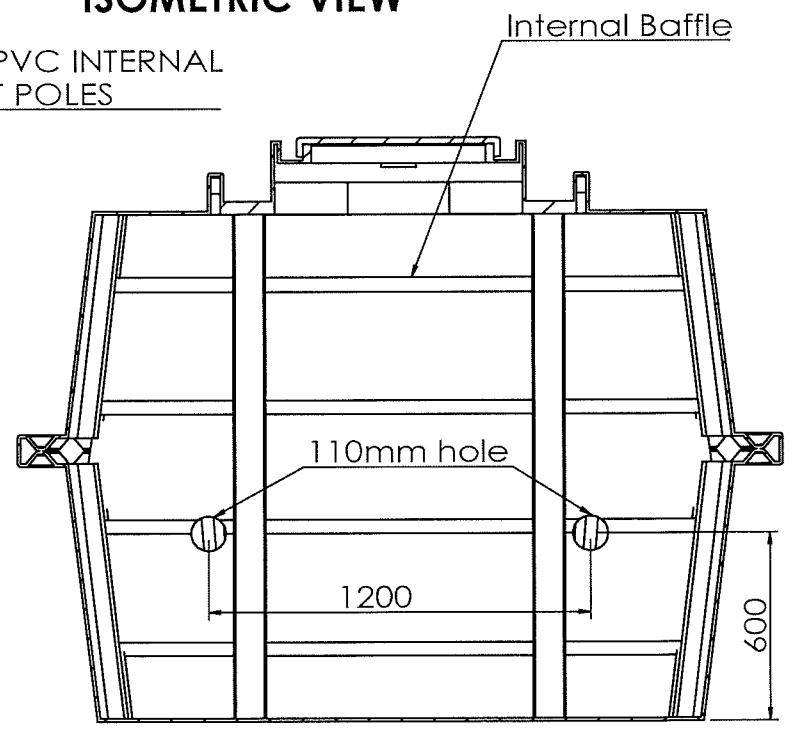


SIDEVIEW



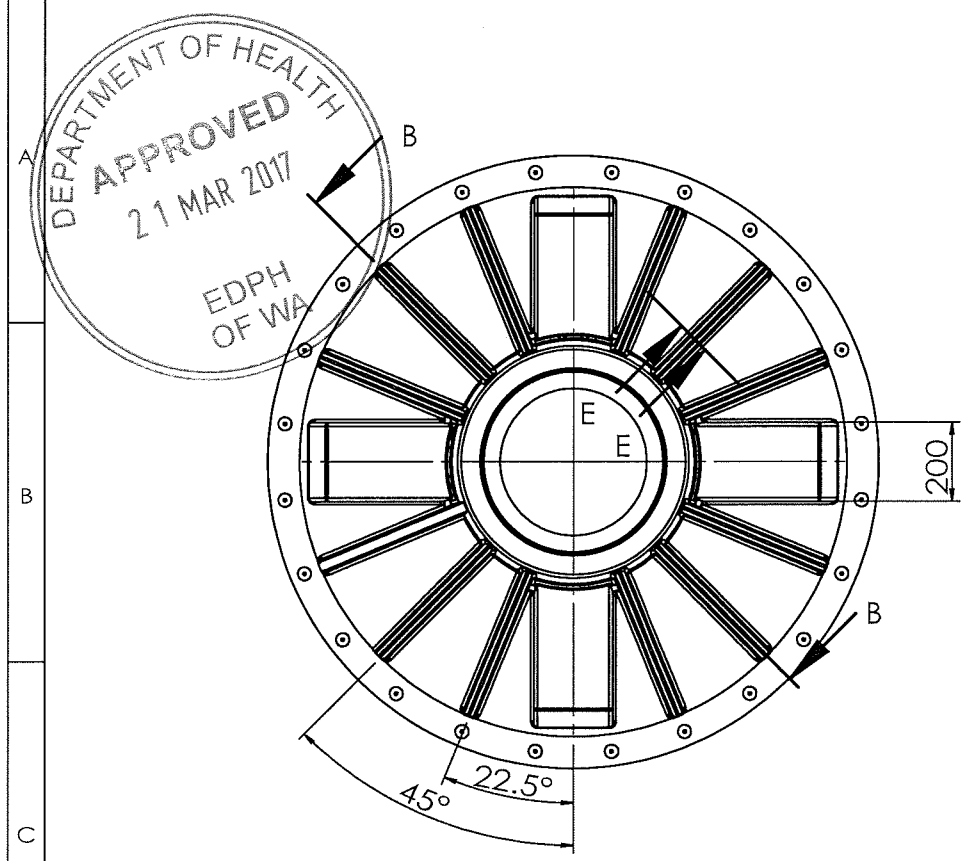
Section B-B

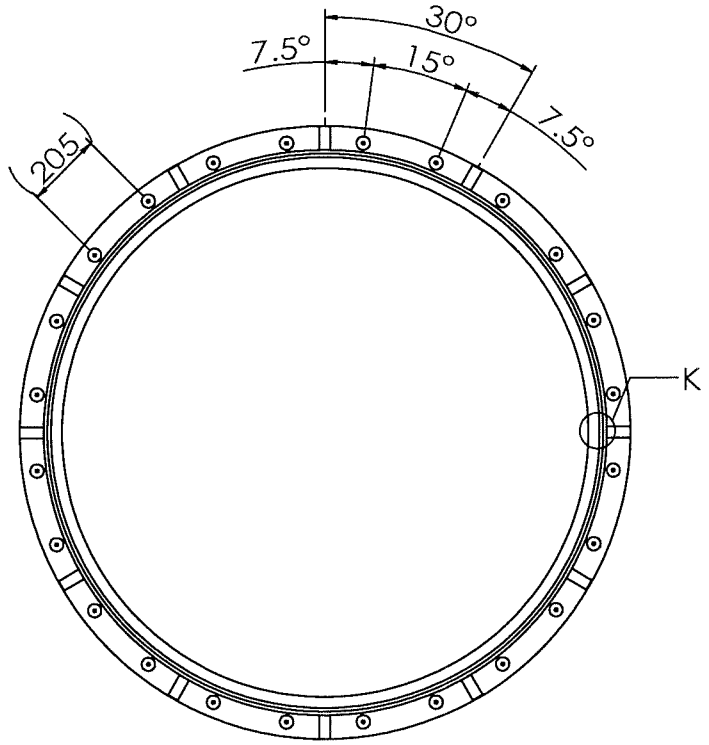
coerco

DATE	02.12.2016	MATERIAL	LLDPE
PRODUCT	4000LTR SEPTIC TANK	SURFACE FINISH	
PRODUCT CODE	-	WALL THICKNESS	
DRAWING No	-	SCALE	Not To Scale

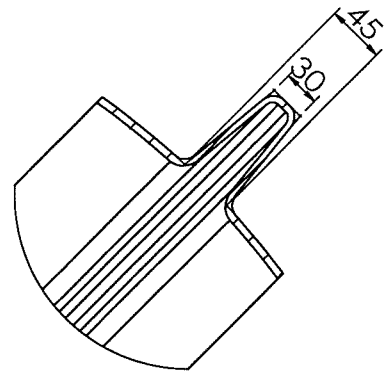
REVISIONS				
REV	BY	DATE	DESCRIPTION	
07	TK	22.02.2017	Installation instructions added	

SHEET 1 OF 1
CHKD
APVD
SHEET SIZE A3

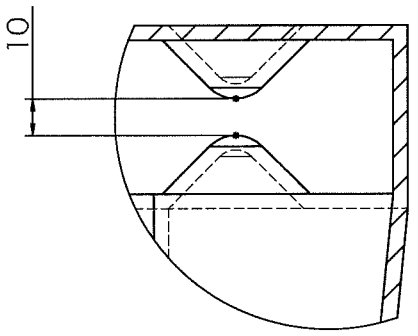




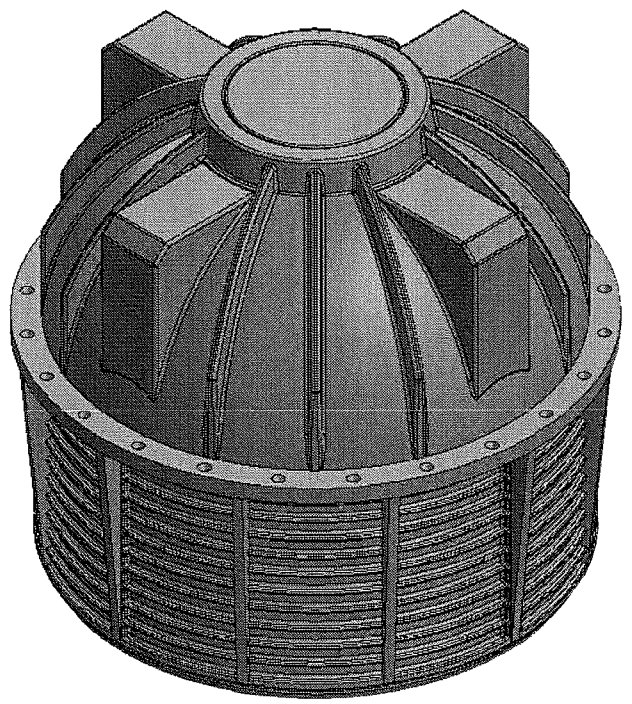
Section J-J



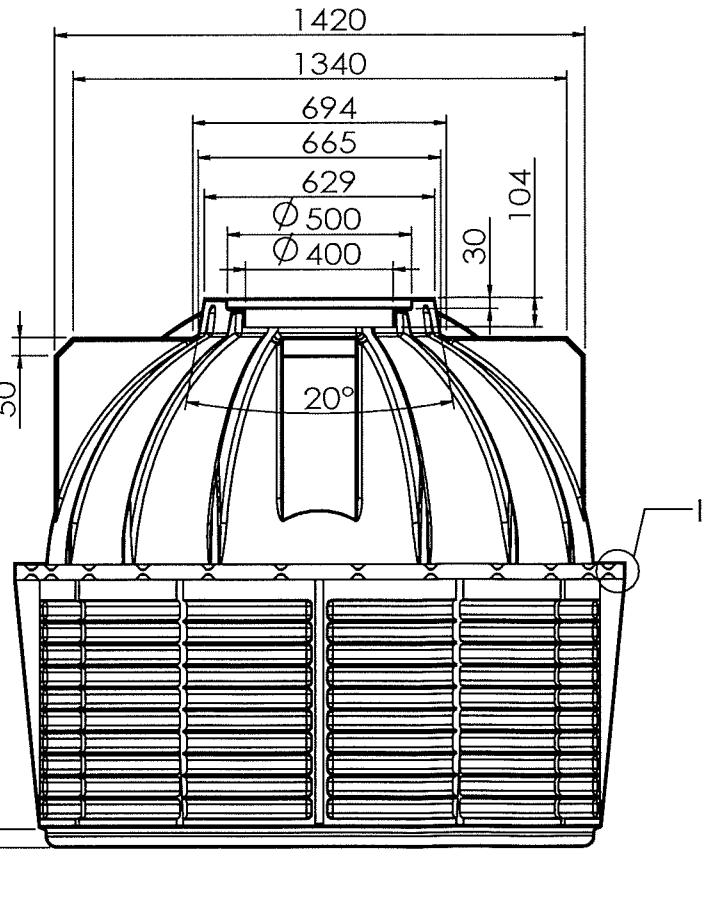
Section E-E



Detail I



2200Ltr Septic Tank



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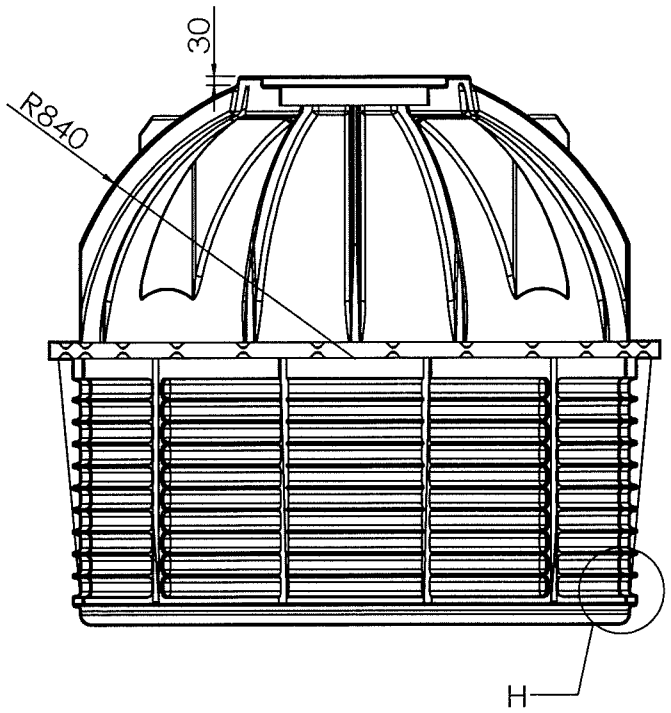
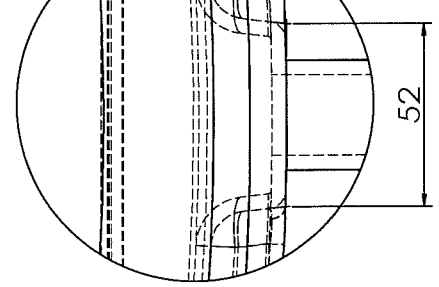
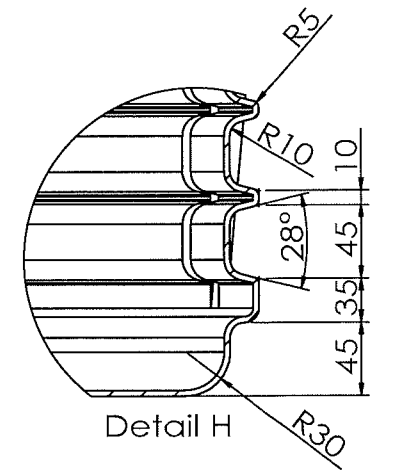


Section B-B



Detail K



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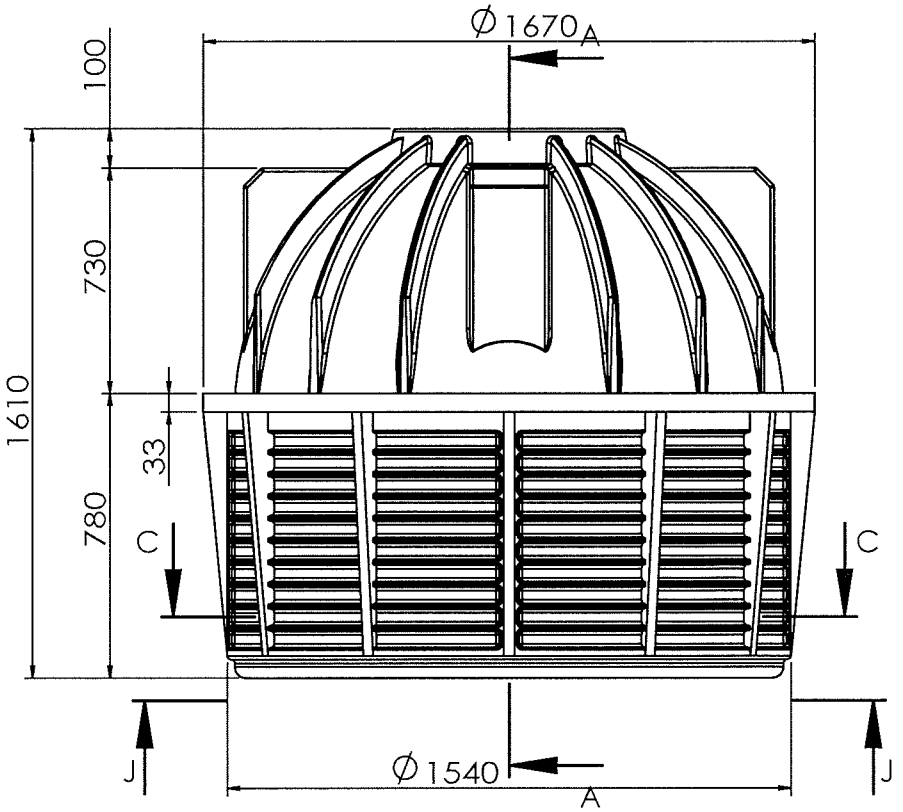


Section A-A

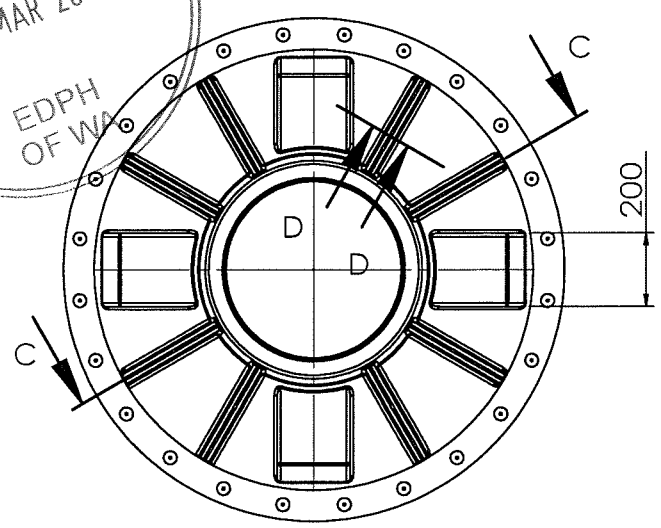
Section B-B

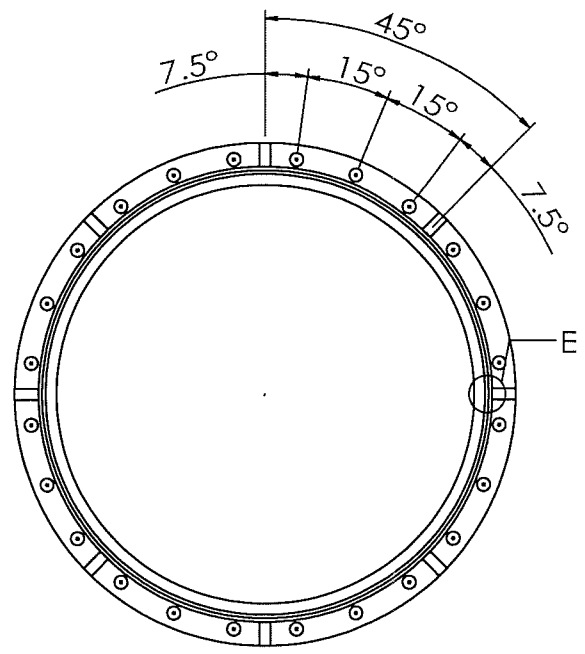
coerco
Engineered Poly Products

DATE	20.09.2016	MATERIAL	LLDPE02
PRODUCT	2200Ltr Septic Tank	SURFACE FINISH	-
PRODUCT CODE	SEP-2200	WALL THICKNESS	14mm Average
DRAWING No	SEP-2200-001	SCALE	Not To Scale

REVISIONS				
REV	BY	DATE	DESCRIPTION	
01	JW	30.09.2016	Changed the dimensions	
00	RW	20.09.2016	Initial Drawing Issued	

SHEET 1 OF 1
CHKD
APVD
SHEET SIZE A3





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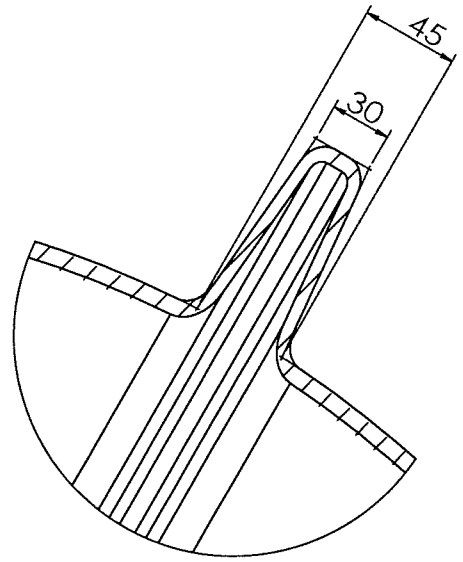

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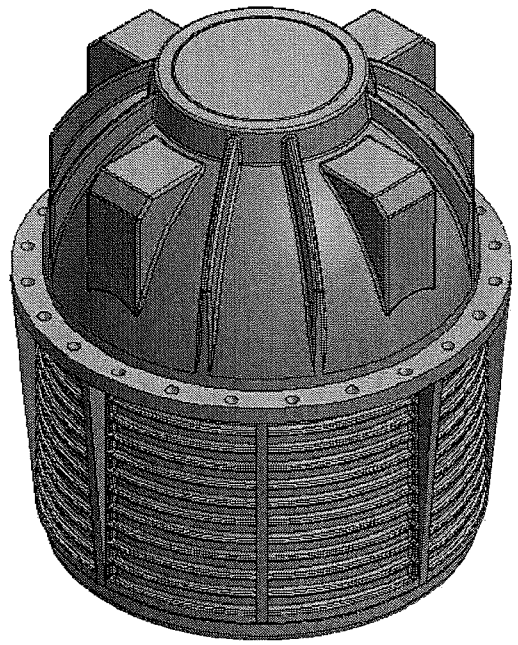
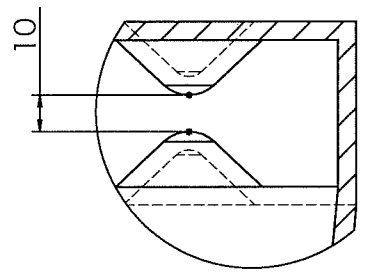
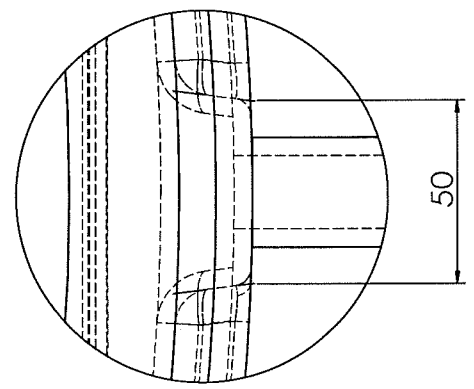


1450Ltr Septic Tank



Detail L



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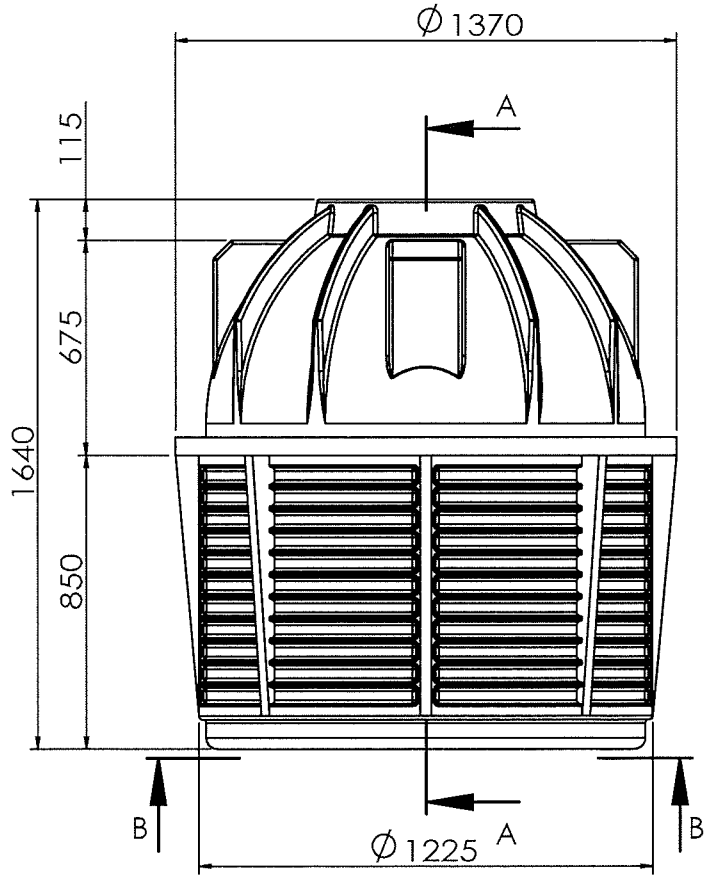
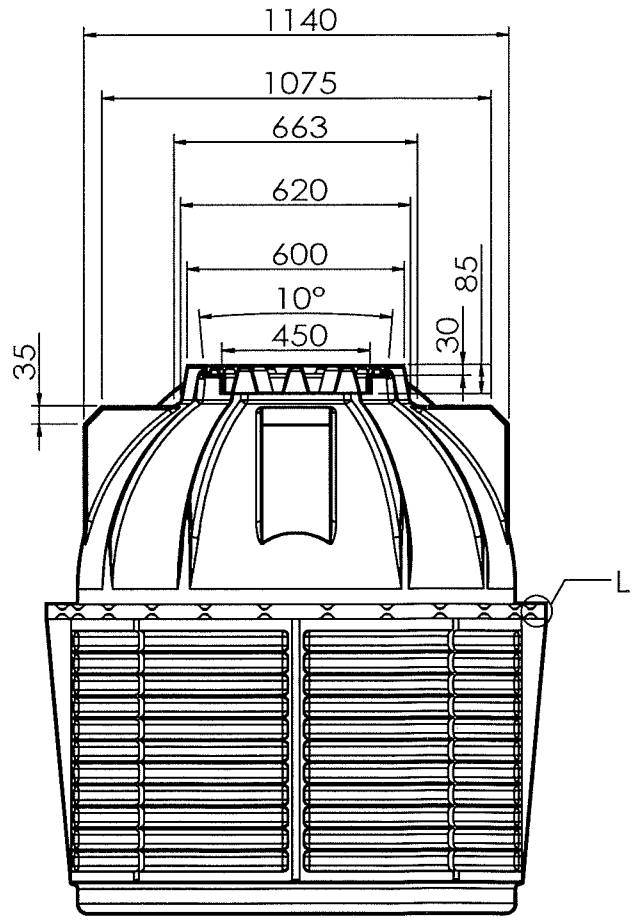
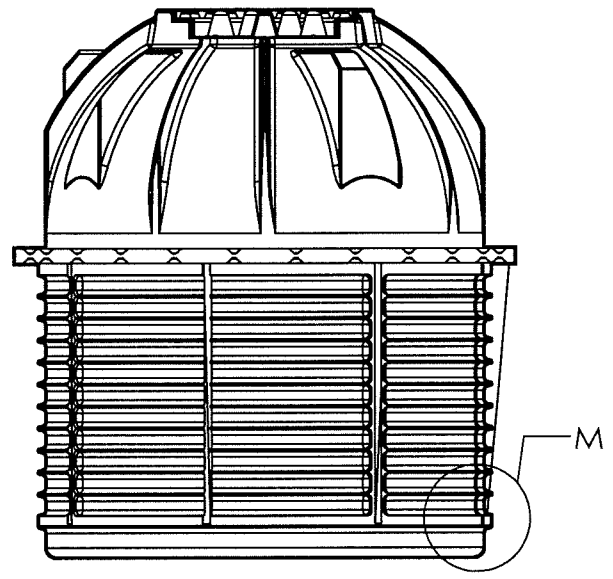




Section A-A



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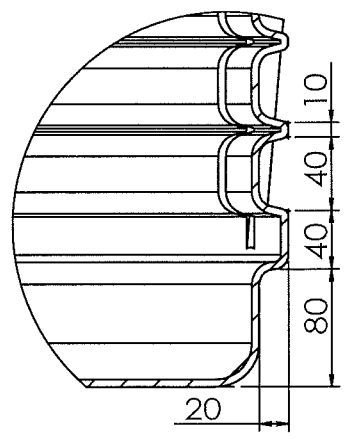


Detail M

coerco
Engineered Poly Products

DATE	02.08.2016	MATERIAL	LLDPE02
PRODUCT	1450Ltr Septic Tank	SURFACE FINISH	-
PRODUCT CODE	SEP-1450	WALL THICKNESS	-
DRAWING No	SEP-1450-001	SCALE	Not To Scale

REVISIONS				
REV	BY	DATE	DESCRIPTION	
04	JW	02.11.2016	Added 'kiss off' point(x24), vertical ribs(x8), Lid	

SHEET 1 OF 1
CHKD
APVD
SHEET SIZE A3

Department of Health
Government of Western Australia

Our ref EHB: 1412
Enquiries J Fortune (9388 4999)

Mr Minon Desai
Rainsmart Solutions Pty Ltd
34 Ashcott St
Kings Langley NSW 2147

Dear Mr Desai

APPROVAL FOR THE RAINSMART LEACH DRAIN SYSTEM IN WESTERN AUSTRALIA

I write in regard to your application to the Department of Health seeking approval for the **"Rainsmart Ellipse"** leach drain system.

I am pleased to advise that this product is approved for use in Western Australia under the brand:

- **"Rainsmart"**

Your Company Registration Number is: **177**

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

- Drawings: "Rainsmart Ellipse Module Single: RS-EL-MOD-SINGLE"
  "Rainsmart Ellipse Septic Tank Layout: RS-EL-BM-0.15"

- Documents: "Single Ellipse Tank Assembly"
  "General Guidelines/Sequence of works for installing Rainsmart Ellipse Tank, Septic System"

This approval is subject to the following conditions:

1) All **"Rainsmart Ellipse"** leach drain systems shall be assembled and installed in accordance with the installation instructions specified by Rainsmart Pty Ltd.

2) Each drain must be provided with two inspection openings 150mm in diameter (one at the start and one at the end of the length of drain).

3) It should be noted that due to the infiltrative area of the Rainsmart Ellipse leach drain being approximately 19% less than the standard specified in Regulation 49 of the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974*, it will be required that Rainsmart Ellipse leach drains be sized as indicated in the following table:

Environmental Health
All Correspondence: PO Box 8172 Perth Business Centre Western Australia 6849
Grace Vaughan House 227 Stubbs Terrace Shenton Park WA 6008
Telephone (08) 9388 4999 Fax (08) 9388 4955
ABN 28 684 750 332

FOR COMBINED SYSTEMS, OTHER THAN BLOCKS OF FLATS OR UNITS WITH MORE THAN 4 BEDROOMS

Number of Bedrooms	Soil Classification			
	Sand		Loams or gravels	
	Minimum infiltrative area (m^2)	Rainsmart Ellipse leach drain (No. x length) (No. x modules)	Minimum infiltrative area (m^2)	Rainsmart Ellipse leach drain (No. x length) (No. x modules)
2 or less	18.8	2 x 7.4m 2 x 10 modules	28.2	2 x 11m 2 x 16 modules
3	25.4	2 x 10m 2 x 14 modules	38.1	2 x 15m 2 x 21 modules
4 or more	27.6	2 x 11m 2 x 15 modules	41.5	2 x 16.3m 2 x 23 modules

NOTE: The Rainsmart Ellipse leach drain has an infiltrative area of approximately 1.27 m^2 per metre of length, provided that effluent enters through the top of the drain. Each length of drain has an additional infiltrative area of 0.35 m^2 provided by the two end plates.

4) This approval and the conditions of approval may be varied or withdrawn at the discretion of the Executive Director, Public Health.

All local governments will be advised of this approval and shall be provided with full copies of the approval documentation, including drawings and specifications.

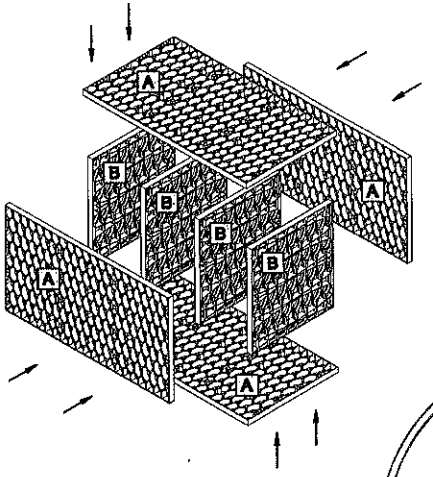
Should you have any questions regarding this approval, please contact Ms Jennifer Fortune on 9388 4999.

Yours sincerely

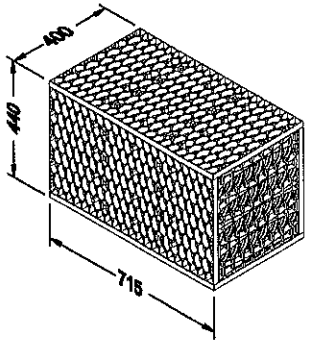
Mr Jim Dodds
delegate of
EXECUTIVE DIRECTOR
PUBLIC HEALTH

12 May 2009
(9430fj2a)

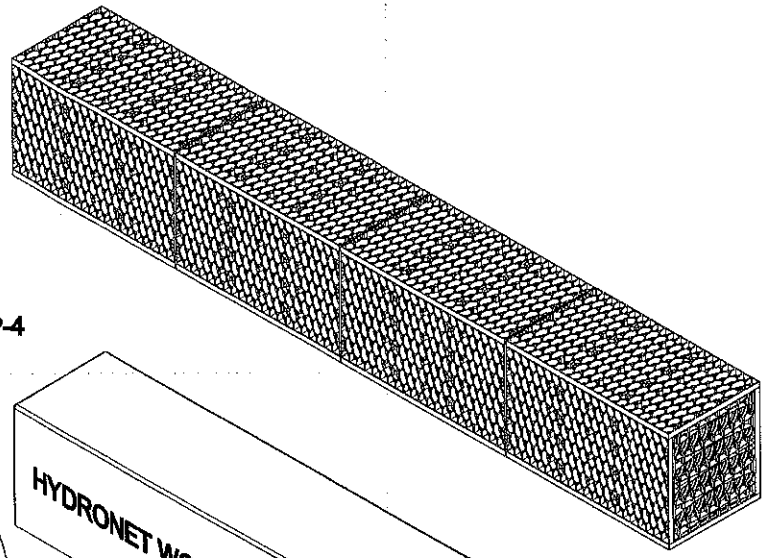
STEP-1
EXPLODED VIEW OF RAIN SMART ELLIPSE MODULE



STEP-2
ASSEMBLY OF TYPICAL RAIN SMART SINGLE ELLIPSE MODULE

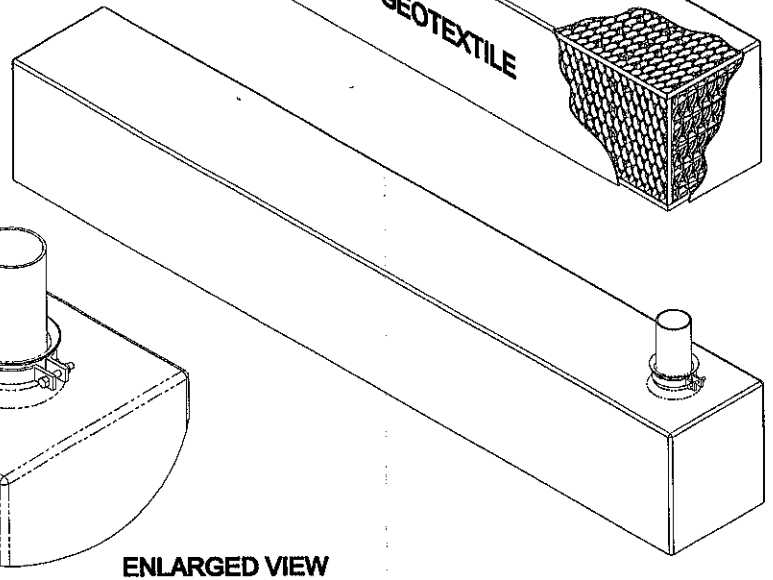


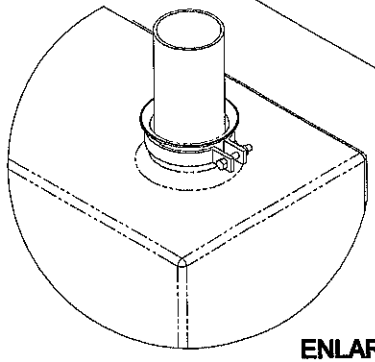
STEP-3



STEP-4

STEP-5





ENLARGED VIEW

NOTES :-

CONCEPT DRAWING ONLY

1. ALL STORAGE TANK DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATIONS, METHOD STATEMENTS AND RECOMMENDATIONS OF RAINSMART SOLUTIONS PTY LTD.
2. ALL LEVELS AND DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. NUMBER OF VENT UNITS DEPENDS ON THE SIZE OF THE TANK.
4. REFER SEQUENCE OF WORK DOCUMENT FOR DETAILED INSTALLATION METHODOLOGY.

Rain Smart

RAINSMART SOLUTIONS PTY. LTD.

PROJECT

CLIENT

NO.	DATE	REVISION	BY

TITLE

RAIN SMART ELLIPSE SEPTIC TANK LAYOUT

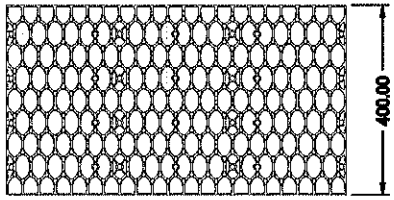
DRAWN BY: BIRENDM

CHECKED BY: -

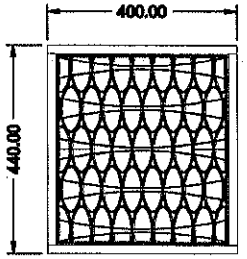
DRAWING NO: RS-EL-BM-015

SHEET: 1 OF 1

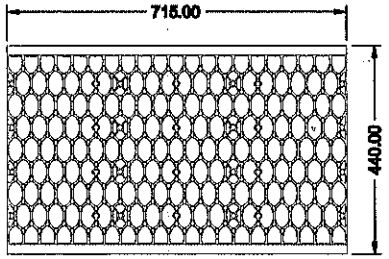
ALL DIMENSIONS ARE IN mm.



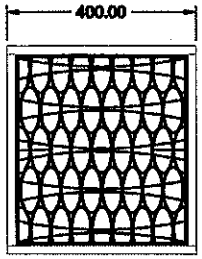
TOP VIEW



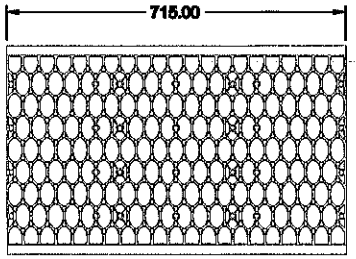
FRONT VIEW



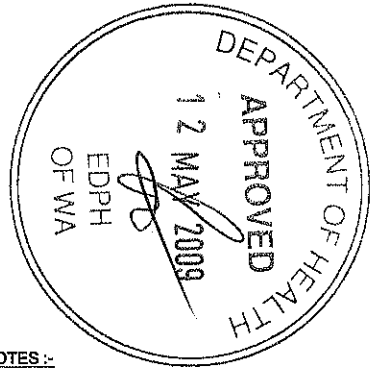
RIGHT VIEW

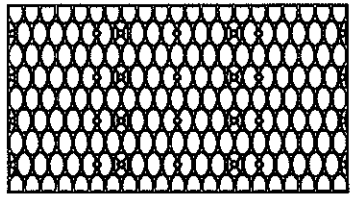


REAR VIEW

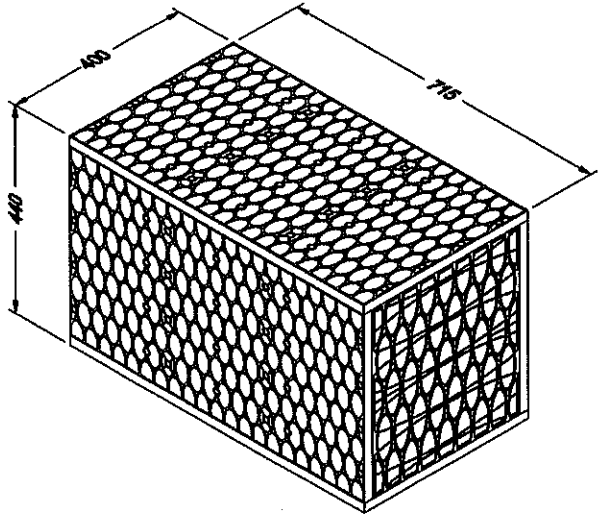


LEFT VIEW





BOTTOM VIEW



NOTES :-

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3. NUMBER OF VENT UNITS DEPENDS ON THE SIZE OF THE TANK.
4. REFER SEQUENCE OF WORK DOCUMENT FOR DETAILED INSTALLATION METHODOLOGY.

RAINSMART SOLUTIONS PTY. LTD.

PROJECT

CLIENT

NO.	DATE	REVISION	BY

TITLE

RAIN SMART ELLIPSE MODULE (SINGLE)

DRAWN BY BIRENDM

CHECKED BY -

DRAWING NO : RS-EL-MOD-SINGLE

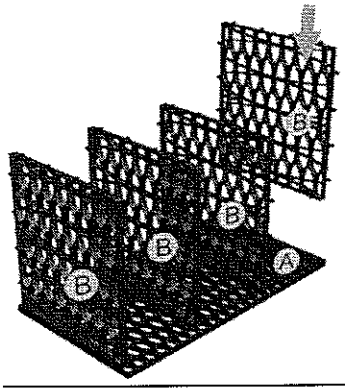
SHEET 1 OF 1

ALL DIMENSIONS ARE IN mm.

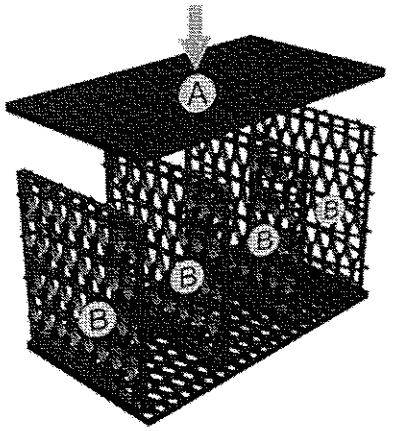
SINGLE **ELLIPSE** ™ TANK Assembly.

4 Large plate A
4 Small Plates B

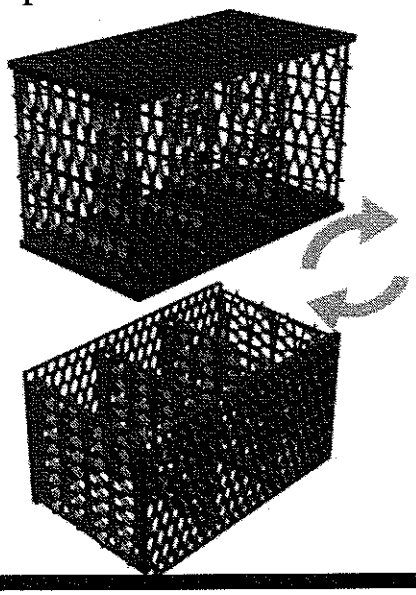
Step1:



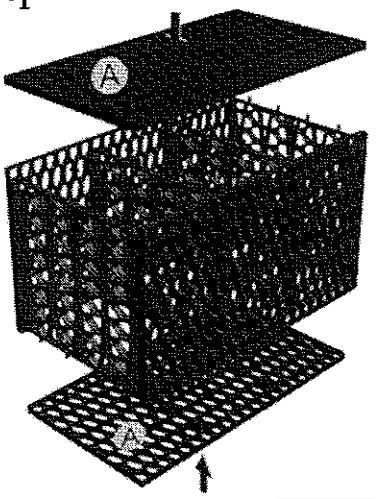
Step2:

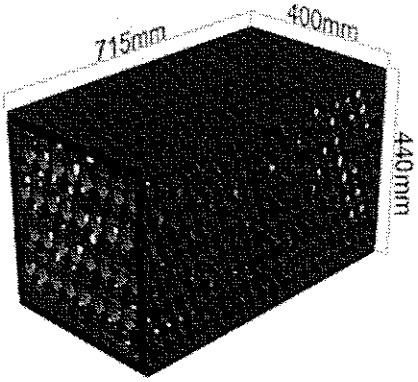


Step3:



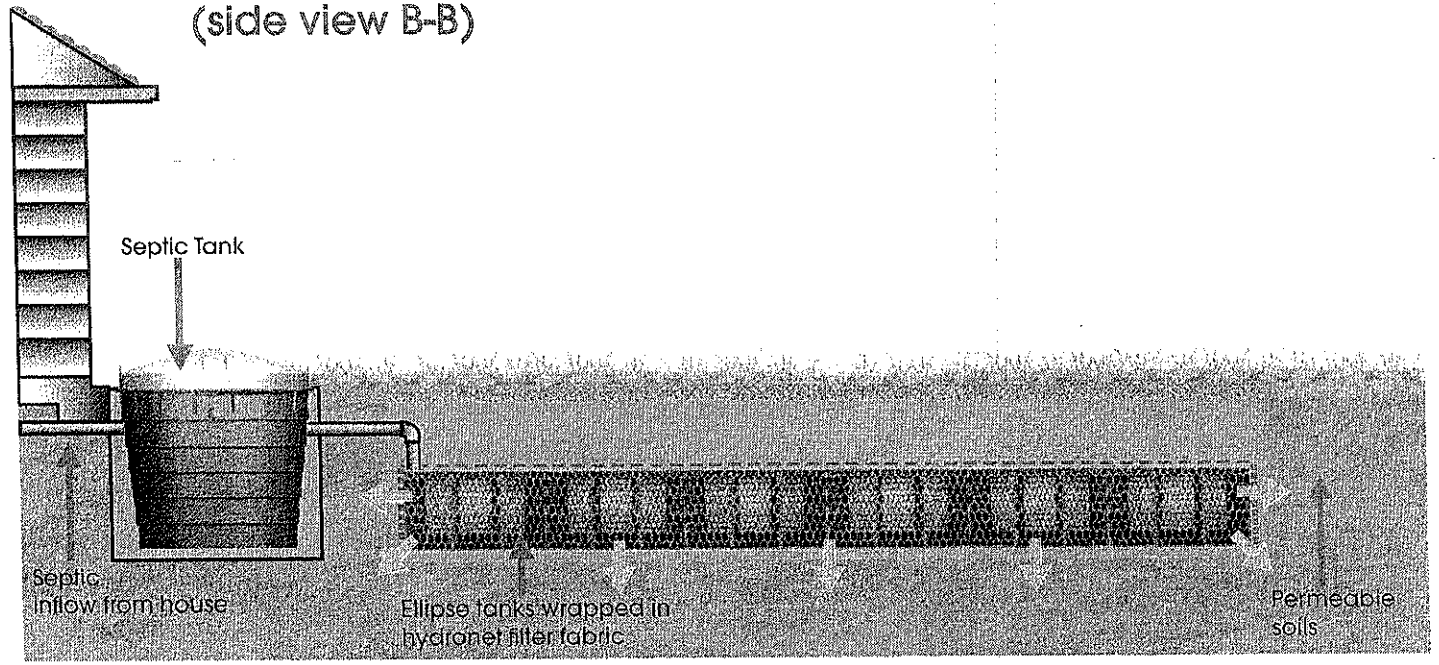
Step4:





RAINSMART Septic tank system layout drawings:

Side View B - B:



GENERAL GUIDELINES / SEQUENCE OF WORKS FOR INSTALLING RAINSMART® ELLIPSE TANK, SEPTIC SYSTEM.

With Woven Geo-textile Fabric For Septic Leach drain.

PART 1 - GENERAL

1.01 General Provisions

A. The Conditions of the Contract and all Sections of Division 1 are hereby made a part of this Section.

1.02 Description of Work

A. Work Included:

1. Provide excavation and base preparation as per Geotechnical Engineer's recommendations and/or as shown on drawings, to provide adequate support for project designs loads and safety from excavation sidewall collapse. *See 2.02 Materials.*
2. Provide Rainsmart® system products including Ellipse tank units, geotextiles, inlet and outlet pipe with connections and installation per the manufacturer's instructions furnished under this section.

B. Related Work:

1. Subgrade excavation and preparation under Section- Earthwork.
2. Subsurface drainage materials and structures, as needed.

1.03 Quality Assurance

A. Installation: Performed only by skilled work people with satisfactory record of performance on pipe, chamber, septic systems or pond construction projects of comparable size and quality.

1.04 Submittals

A. Submit manufacturer's product data and installation instructions.

B. Submit a Rainsmart® Ellipse tank module for review. Reviewed and accepted samples will be returned to the Contractor.

C. Submit material certificates for geo-textile, geo-grid, base course and backfill materials.

1.05 Delivery, Storage, and Handling

A. Protect Rainsmart® Tank plates from damage during delivery and store under tarp to protect from sunlight when time from delivery to installation exceeds one week. Storage should occur on smooth surfaces, free from dirt, mud and debris.

B. Handling is to be performed with equipment appropriate to the size (height) of the tank modules and site conditions, and may include, hand, handcart, forklifts, extension lifts, etc.

1.06 Project Conditions

A. Review installation procedures and coordinate Rainsmart® leach drain Install work with other work affected, such as grading, excavation, utilities, construction access, erosion control to prevent all non-installation related construction traffic over the completed installation, especially with loads greater than design loads (refer safe design loads calculations attached).

RainSmart Solutions Pty. Ltd. ACN : 127 571 886 ABN : 66 127 571 886
34, Ashcott Street, Kings Langley, NSW - 2147, Australia
Phone : +61 2 9674 2276 Fax : +61 2 9674 2276
Web : www.rainsmartsolutions.com Email : info@rainsmartsolutions.com

B. Cold weather:
   1. Do not use frozen materials or materials mixed or coated with ice or frost.
   2. Do not build on frozen or wet, saturated or muddy subgrade.
   3. Care must be taken when handling Rainsmart® tank when air temperature is at 40 degrees F or below as plastic becomes brittle.

C. Protect partially completed Rainsmart® septic tank installation against damage from other construction traffic when work is in progress, and following completion of backfill, with highly visible construction tape, fencing, or other means until construction is complete.

D. Protect adjacent work from damage during Rainsmart® leach drain installation.

PART 2 - PRODUCTS

2.01 Availability

A. Rainsmart Solutions Pty Ltd. 34, Ashcott Street, Kings Langley, NSW-2147, Australia. (T) +61 2 9674 2276 (F) +61 2 96742276 (M) +61 414 786 778

B. Global Synthetics Pty Ltd. Unit 8/28 Oramazi Road, Girraween NSW -2145 (T) +61 2 9631 0744 (F)+61 2 9631 0755.

C. Global Synthetics Pty Ltd. Suite 1/50 Railway Parade, Welshpool, WA 6106 (T) +61 8 9258 4311 (F) +61 2 9258 4322

2.02 Materials

A. Base of Excavation: Installer has to set out, dug and prepare the sub-base area to the required plan dimensions and level, ensuring that the excavation orientation will allow easy installation of geotextile filter fabric and Rainsmart® tank modules. Prepare the excavation with safe battered sides and sufficient working space. Base of the excavation shall be smooth level, firm and flat and free of lumps or debris and soft spots. Compact to at least 90% or as required by Engineer. The tank base should have a 3-5% CBR. Should the CBR be tested and found less than 3% then the engineers should be notified. Structural fill material may be used to amend the structural capacity of the soil. Materials that cannot be stabilized by compaction should be avoided.

B. Geotextile: Shall be Woven PP or PET with a weight of at least 140 gsm, appropriate for the soil type and depth conditions, placed on the sides of the tank, and top of the tank.

C. Rainsmart® Tank: Injection molded plastic tank plates assembled to form a modular structure of predesigned height (custom for each project) .Unit weight = 7.04 kg (14.2 lb.), volume = 5% solid.

D. Side Backfill: Structural permeable fill or sand materials, free from lumps and debris or any other materials to backfill along the sides of the modular structure, taking care to compact with powered mechanical compactor, in lifts that do not exceed 300mm (12"), to provide a settlement-free surface over the top and sides of the structure.

F. Top Backfill: Use 300 mm(12") minimum to 2.0m (79") maximum depth of sandy/gravel material (with fines less than 3%). If backfill mixture must be custom mixed, use a ratio of 2 parts clean 10 mm gravel to 1 part clean sharp sand.

G. Utility Marker: Use metallic tape at corners of install to mark the area for future utility detection.

PART 3 - EXECUTION

3.01 Inspection

A. Examine prepared excavation and conditions for smoothness, compaction and level. Do not start Rainsmart® septic tank installation until unsatisfactory conditions are corrected. Check for presence of high water table, which must be kept at levels below the bottom of the Rainsmart® tank structure at all times as per local regulations.

B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance. If existing conditions are found unsatisfactory, contact Project Manager for resolution.

3.02 Installation of Geotextile:

A. Permeable Woven geo-textile is installed by rolling out on top of the tank modules for septic system construction only covering the four ends of the tanks, with adjoining sheets overlapping by 300mm. The woven geo-textile filter fabric is to be laid lengthways or width ways to form a complete layer, allowing sufficient excess material to be able to wrap around the four sides of the tank structure. This will enable the whole unit to be able to be wrapped to the dimensions required. All overlaps are then to be suitably secured, weighted down tapped or stapled in order to minimize the ingress of deleterious materials.

3.03 Installation of Rainsmart® Tanks

A. Install Rainsmart® Tanks by placing side by side, in accordance with the construction drawings and connection details, it is advisable to use a line to be able to form a straight edge along one or two of the structure axis.

B. The modules are to be orientated as per the design drawing (400mm x 715mm) with required depth in units of 440mm, 860mm, 1280mm (contact Rainsmart for higher depths)

C. After placement of Rainsmart® tanks, wrap with geotextile which is around the sides and lapped over the top of the full structure. Should any gaps be evident additional fabric can be cut and placed over any of these areas. Fold excess fabric at corners to lay flat against sides of structure, securing folds and seams with staples or similar methods.

D. Identify locations of inlet, outlet, inspection ports, and any other penetrations. All pipes should be positioned at 90 degree to the tank structure. Any inlets, outlets etc should be installed flush (butted up) to the tank and the geotextile fabric shall be cut to enable hydraulic continuity at the inlet and outlet and secured around the pipe using a suitable tape, coupling or a stainless steel clamp prior to backfilling.

E. The side backfill should be done in layers of 300mm using a powered mechanical compactor to conduct backfill and compaction operations all around the structure in layers and shall continue up to the top level for the modular structure. During backfill it is imperative that the material is placed carefully around the sides and above the modules, in order to minimize any damage to the structure. The compaction process should not allow the machinery to come into contact with the modules and ideally should maintain a nominal 100mm clearance.

F. Backfill above the leach drain should be placed and compacted in layers no greater than 300mm (12"), the backfill should be done using a "forward dump machine", and compacted using a vibrating plates or walk-behind rollers (do not use drivable rolling compactors). No heavy machinery should drive on top of the tank until 500 -600 mm of backfill and compaction is achieved, then ensuring turning or maneuvering should be avoided.

G. Ensure that all non-tank construction traffic be kept away from the limits of excavation until the project is complete and final surface materials are in place.

H. Place surfacing materials, such as groundcovers (no shrubs or trees), or paving materials over the structure with care to avoid displacement of cover fill and damage to surrounding areas.

3.04 Cleaning

A. Perform cleaning during the installation of work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair any damage to adjacent materials and surfaces resulting from installation of this work.

END OF SECTION

If you have any questions regarding this specification, please call

Rainsmart Solution Pty.Ltd. on +61 414 786 778
www.rainsmartsolutions.com
info@rainsmartsolutions.com

MAINTENANCE INSTRUCTIONS

As the tank is plastic, no additional external loads should be placed on top of the tank, after installation, without a structural assessment.

Periodical testing of the sludge level on the bottom of the tank should be carried out annually. This can be done by carefully dipping through the inspection openings or the manhole cover.

As a guide the sludge can be 350mm deep before pumping out of the system is recommended.

TROUBLESHOOTING

Septic tank exhibits strong smell

- Check sludge level (see above)
- Check condition of leach drain (drain is saturated, not allowing the effluent to disperse)
- Add Bio Magic or similar product to assist the with the bacteriolytic process

Inside fixtures not draining properly

- System may require pump out
- Leach drain could be full