

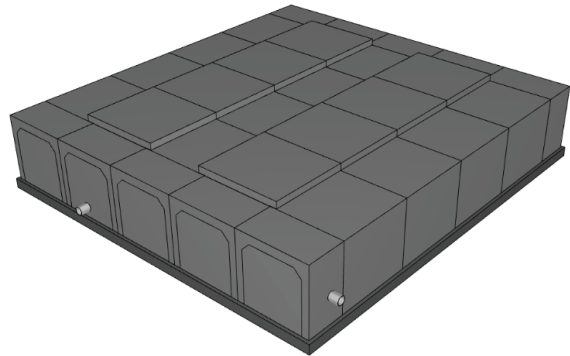


RainGrid® PRODUCT GUIDE

| April 2024 Version |

RainGrid® Overview

The RainGrid® system is a custom designed, reduced weight, modular stormwater detention system.



Product Profile

The RainGrid® concept is a below ground water storage space defined by the volume, and footprint requirements of each project. The system consists of standard components connected together over a base slab to produce a specific, but customisable stormwater detention facility.

Multiple sizing options are available based on a modular concept which “wraps” the concrete container around the water volume. This ensures no wasted air space but optimised footprint and depth requirements. The RainGrid® modular design allows for unlimited shape and volume options, while keeping installation simple and economical.

Features

- Variable and scalable surface footprint
- Multiple cell configurations utilise economic link slab components
- Class D and trafficable SM1600 traffic loadings (AS5100.2)
- Fully accessible with open leg voids and standard access chamber components
- Compatible for use on in-situ slab or footing, precast base slab or permeable designs.
- Project specific layouts drawings can be provided by the Civilmart Engineering Department.
- Durability is based on AS 3600 for 50 year design life, but can be based on AS 5100 for 100 year design life if required
- Simple and economical installation.



Design Specifications:

The RainGrid® system considers the following Australian Standards:

- ASS3600
- AS5100.2
- AS5100.5
- AS4671
- AS3850



Modules Description



TYPE A MODULE



TYPE B MODULE



TYPE D MODULE



TYPE C MODULE



TYPE F MODULE



TYPE E MODULE

The RainGrid® system consists of a combination of the above modular components. Project specific drawings produced by Civilmart's Engineering team will outline the required modules and placement locations for your installation.

These sizes are provided as five of the available standard types, with some project specific specials as defined below:

- Type A – Standard Module A
- Type B – Standard Module B
- Type C – Standard Module C
- Type D – Standard Module D
- Type E – Standard Module E
- Type F – Standard Module F
- Project specific specials

Type A modules with the single side water transfer opening, are used as edge and centre modules wherever possible, with the opening rotated through 180 alternately, to allow water to pass both ways between adjacent cells.

Orientation of the leg cells should typically minimise the number of Type B end modules.

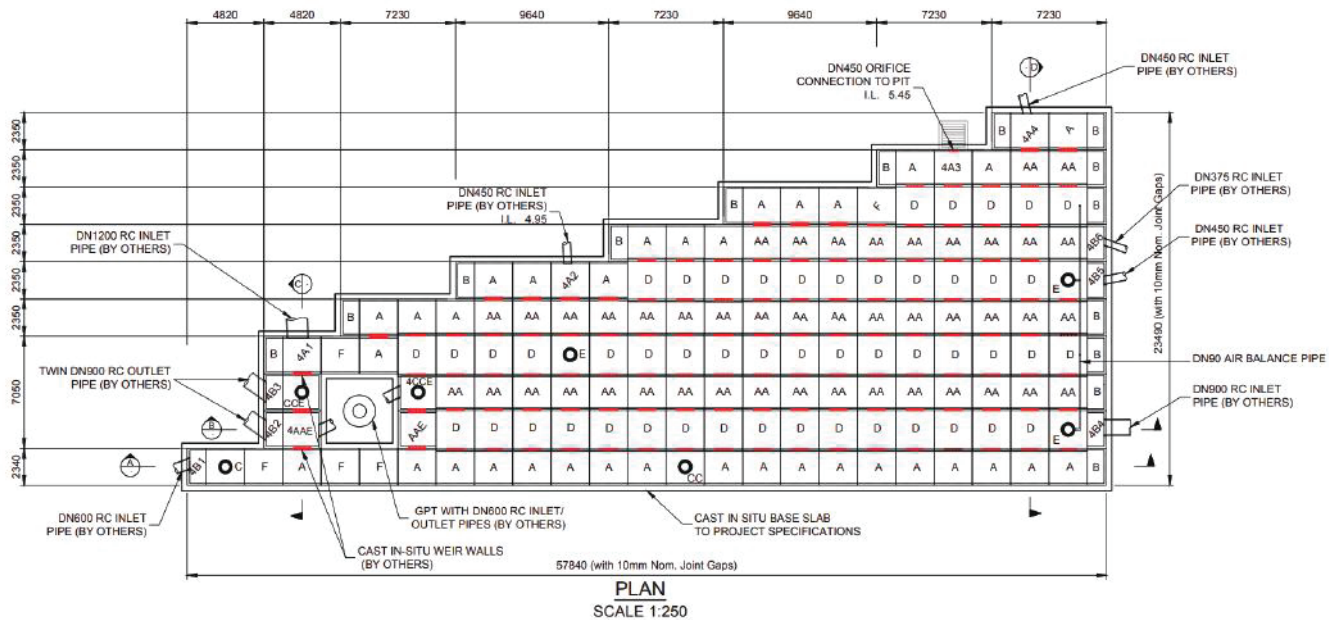
Structural design considerations dictate that link modules are the same nominal span as the adjacent crown modules.

Centre modules have small diameter vent pipes, typically at the haunch, to alleviate air lock.

Base slabs are typically cast in-situ with lateral support details consisting of either a protruding nib, or leg recesses. In some cases a precast base slab or a permeable base slab solution can be considered.

RainGrid® Configurations

The RainGrid® system can be configured in any orthogonal shape, utilising the many spans and link slabs, combined with end modules, to provide an adaptable volume to suit any available space footprint.



The design provides customers with its unique service to assist designers estimate and scope the OSD requirements of projects. This may include reviewing upstream hydraulic parameters and outlet control options, such as RainGrid® 's, to provide customised High Early Discharge ow control to minimise the required storage.

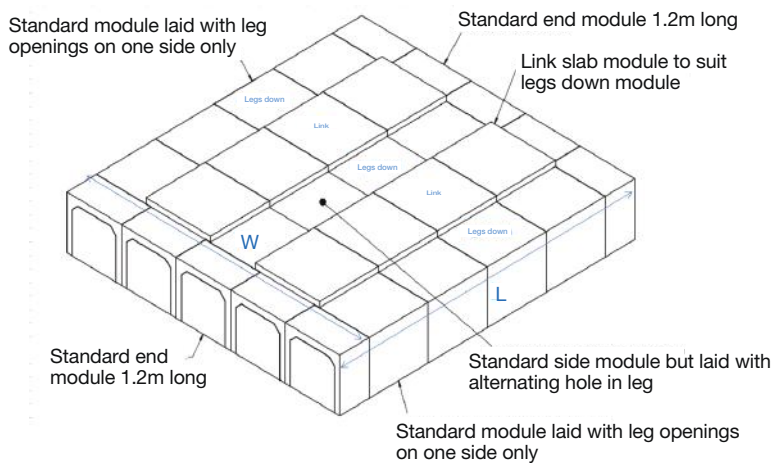
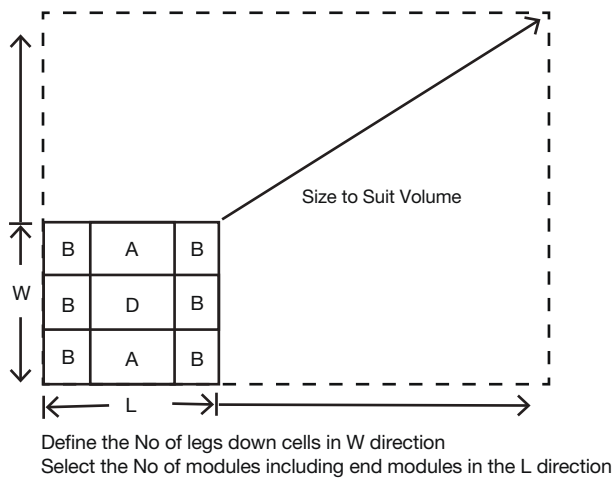
Available depth options for OSD systems is important in ensuring all ow discharge conditions are met during the operation of the OSD system. RainGrid® provides different depth options to ensure footprint and control head is optimised for minimum storage.



Once a suitable depth has been determined, the optimum footprint to realise the required volume is calculated using RainGrid® 's in house design tools. Civilmart drawings showing a proposed layout can then be presented to the designer for assessment against other site conditions. Options for in-situ or pre-cast base slabs can also be considered.

System Footprint Options

Typical Layout

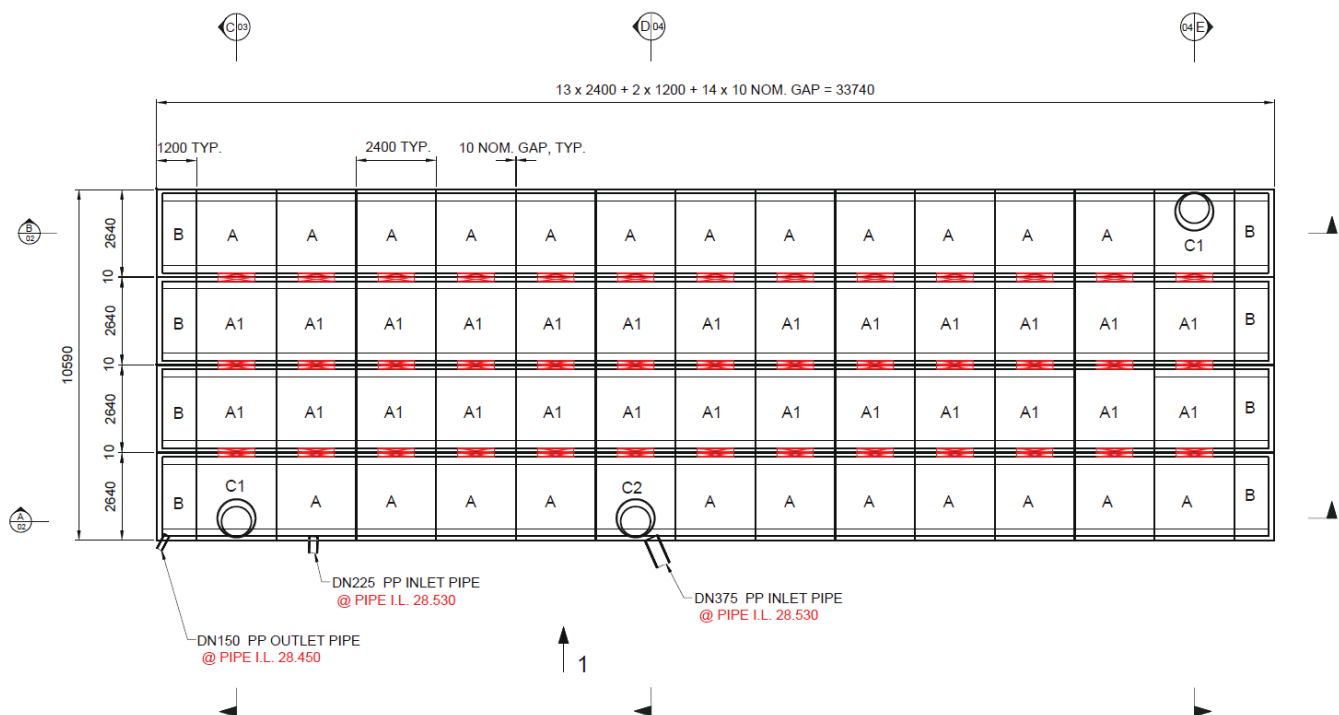


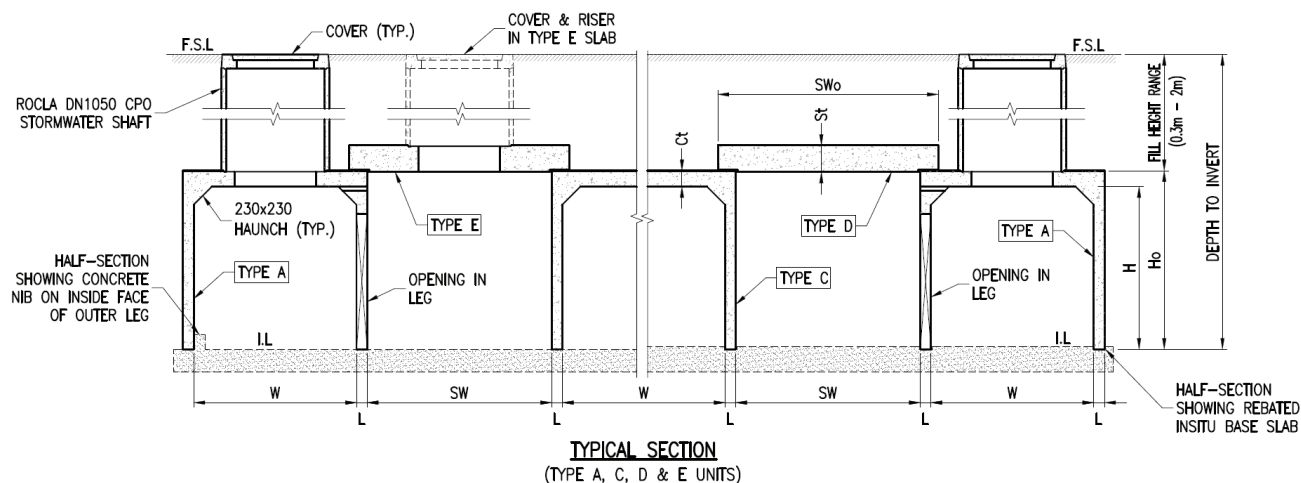
Sizing Conventions

When optimising layout options it is preferable to establish a layout grid that utilises the footprint and keeps module dimensions constant throughout. Any number of cells consisting of legs down modules connected by a link slab can be used, with few geometric rules regarding orientation.

The most efficient use of the structure utilises as many link slabs as possible, which minimises the support legs that occupy the storage volume, thereby maximising volume while minimising structure where surface cover allows.

An example of a project specific plan view of a Raingrid project is shown below. A fully detailed layout drawing can be provided by Civilmart based on project specific requirements





Sizing & Quoting from RainGrid®

To obtain an obligation free quotation or sizing for your project, simply complete the form on the website and send to the listed email address. A RainGrid® Sales Representative will then be in touch to provide you with more information.

Based on the information provided the RainGrid® Representative will present to the customer a concept PAD drawing showing a project specific proposed layout, and a quotation based on this PAD drawing.

In order to provide the best price estimate, please include:

- Required Storage Volume
- Peak allowable outlet flow
- Available Footprint
 - Width (m)
 - Length (m)
 - Depth to invert (m)
- Required Exposure Classification
 - B1
 - B2
 - C (Special design required)
 - Design life (50 yr / 100 yr)

The background of the top half of the image is a dark blue gradient. Overlaid on this is a faint, light blue image of a large semi-truck. In the center of the image, there is a white outline of the map of Australia. The word "CIVILMART" is written in large, bold, white capital letters across the middle of the map of Australia. Above the map, the word "CIVILMART" is written in a smaller, light blue font, and below it, the website "civilmart.com.au" is written in a smaller, light blue font.

CIVILMART



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