Hynds Megapond®
Effluent Storage

Technical Guide R3.4

The Megapond® is a site assembled, precast effluent tank with a robust polygon structure available in 4 standard sizes.

11.25 | RURAL | R3.4 HYNDS MEGAPOND

Applications

Dairy effluent storage

Product Attributes

Storage of up to 4 million litres

Standard panel height used for all sizes

Easily transported, lifted & assembled

Leach free result

Environmentally compliant

Long Design life

Sustainability

Available in Hynds LC® low carbon concrete

Verifiable carbon footprint data available

Quality/Environment/Health & Safety

Hynds management systems are certified to ISO 9001:2015, 45001:2015, and 14001:2018 standards

HYNDS RURAL

The Megapond® is a site assembled, precast effluent tank with a robust polygon structure available in 4 standard sizes.

Design Specifications

- 50 years design life.
- Precast construction ensures consistency and quality, and minimises in-situ work.
- Mass of approximately 1600 kg per panel.
- Flanged base resists uplift of structure.
- The panels are easily lifted into place with a suitable excavator.

Megapond® Installation

- Customer should engage a Site Engineer when considering installing a Megapond to undertake to site and ground inspections to determine suitable location for MEGAPOND and advise on other requirements.
- Check with your Council regarding compliance requirements for installation of your Megapond.
- Please advise if any compliance information is required from Hynds prior to placing your order so allowance can be made for this.

The Megapond® installation must be carried out by an experienced contractor executing the following key steps:

- Excavate the tank area to a minimum depth of 150 mm below the underside of the floor slab (deeper if in poor material).
- Shape the floor to slope to the centre.
- Place and compact a minimum of 150 mm GAP 40 material to form the floor base and tank flange.
- On Hard fill place 25mm Blinding Sand (Float Finish) then place 2 layers of 0.25mm Polythene.
- Install precast concrete leveling blocks. Place panels and bolt together around the perimeter to form a large polygon.
- Place steel reinforcement and mesh in the floor and flange.
- Cast Concrete floor and flanged base.
- Place backfill and compact in layers evenly around the perimeter of the tank to ground level.
- Cast In-situ reinforced concrete mid beam cast just below ground level.
- Cut and seal floor joints and grout joints between panels to form a watertight structure.
- Cure concrete floor by continuous wetting or ponding for 14 days.

Fencing

- The Megapond® is designed to be fitted with pool fencing panels that meet the NZ Pool Fencing Safety Act.

TABLE 1 Standard Megaponds®

Megapond® Type	Nominal Volume (Litres)	Diameter (Metres)	No. of panels
MEGAPOND500	500,000	17. 3	28
MEGAPOND1M	1,000,000	23.6	38
MEGAPOND2M	2,000,000	33.8	54
MEGAPOND3M	3,000,000	41.3	66

Hynds can offer non standard sizes if specifically needed, discussed with Hynds Engineered Products Managers

TABLE 2 Item Codes

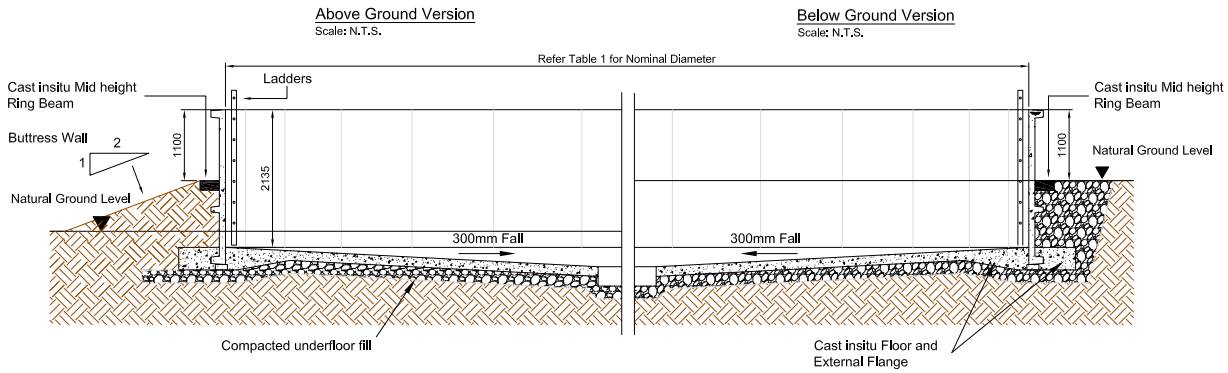
Megapond® Type	Concrete Items Kit code	Fittings Kit codes
MEGAPOND500	1 x MPOND500CONKIT	1 x MPOND500FITKIT
MEGAPOND1M	1 x MPOND1000CONKIT	1 x MPOND1000FITKIT
MEGAPOND2M	1 x MPOND2000CONKIT	1 x MPOND2000FITKIT
MEGAPOND3M	1 x MPOND3000CONKIT	1 x MPOND3000FITKIT

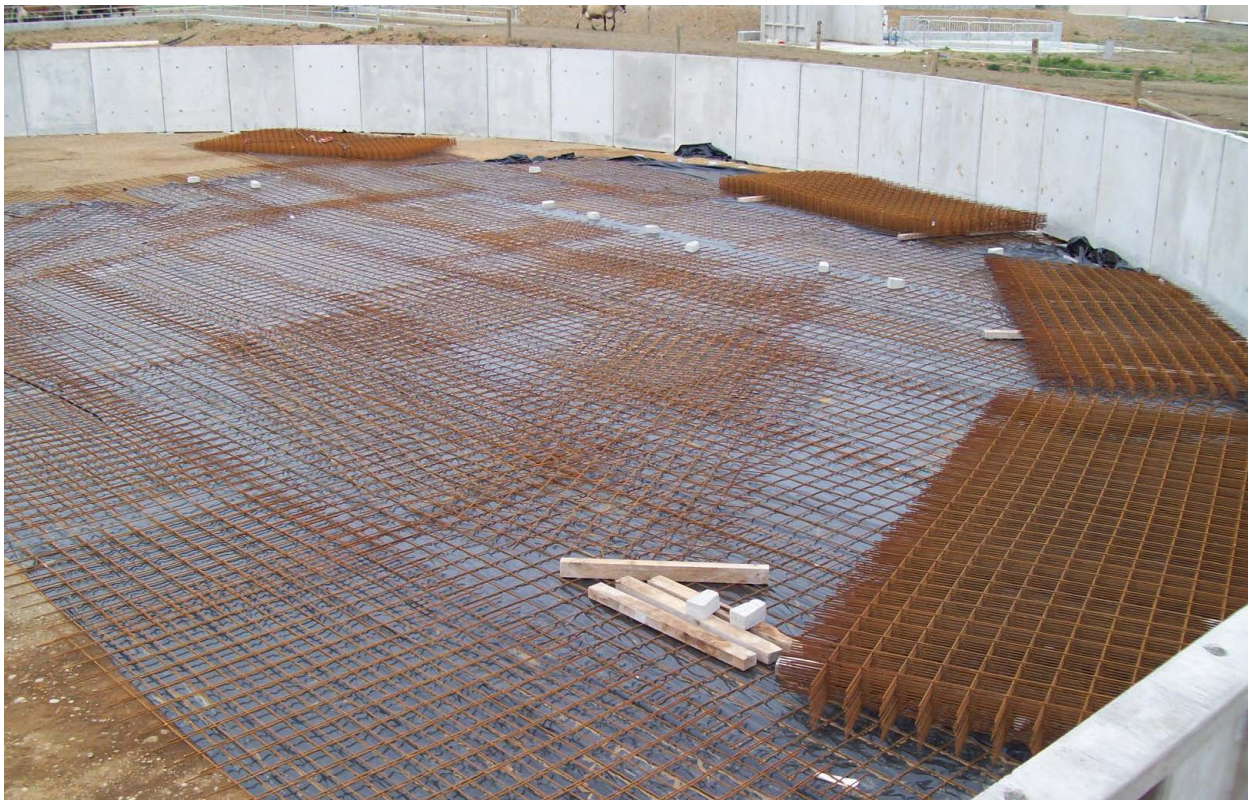
Concrete Kit allows for: Megapond® Panels, Leveling Blocks & one Datum Block Fitting Kit allows for: Spacers, Connection Rod Set, primer Adhesives, Sealants & Grout, Reo Starter Bars for Panels and D12.7 Strand for External Flanges.

TABLE 3 Megapond® Ladder option

Code:	Description
HYPONDLADDER	Hypond Ladder Galv 2.4m

It is recommended that a minimum of two ladders are installed inside Megaponds® as an emergency exit option


Above Ground Version
Scale: N.T.S.
Below Ground Version
Scale: N.T.S.
Refer Table 1 for Nominal Diameter
Ladders
Cast insitu Mid height Ring Beam
Buttress Wall
2
1
Natural Ground Level
1100
2135
300mm Fall
Compacted underfloor fill
Cast insitu Mid height Ring Beam
Natural Ground Level
1100
300mm Fall
Cast insitu Floor and External Flange



Lifting and Handling

All Hynds Megapond® Effluent Storage feature certified concrete lifting anchor systems, designed and tested to guarantee safe and secure handling.

Hynds Pipe Systems has designed and manufactured Megapond® Effluent Storage with a minimum dynamic factor of 1.2. This dynamic factor requires that all the following conditions are observed when lifting, moving or placing the megaponds:

1. Lifting with mobile plant *(such as an excavator or similar)* where equipment is specifically exempt from the requirements of the PECPR Regulations 1999, subject to the conditions outlined in the New Zealand Gazette, No. 104, September 2015 and
2. Lifting, travelling and placing over rough or uneven ground where anchor failure is not anticipated to cause harm or injury, by adopting procedures such as:
   a. Transporting the element as close as practical to ground level (300mm recommended)
   b. Establishing and maintaining exclusion zones
   c. Transporting only precast concrete elements that are unlikely to topple if they were to hit the ground
   d. Inspecting lifting anchors both after transportation and before final lifting into place
3. All Hynds concrete lifting anchor systems are engineered in accordance with Haeussler specifications, ensuring full compatibility with Reid, Deha, CLS, and Ancon lifting clutches, as well as recess formers, across corresponding load ranges.

Refer to "Safe work with precast concrete - Handling, transportation and erection of precast concrete elements" published by Worksafe New Zealand (October 2018).

Shock loads resulting from travelling with suspended Megapond® Effluent Storage over rough terrain and uneven ground may exceed design, dynamic and safety factors of the lifting systems. It is essential that care is taken during lifting and transporting as additional stresses could result in anchor failure.

Branches Nationwide *Support Office & Technical Services 09 274 0316*

Disclaimer: While every effort has been made to ensure that the information in this document is correct and accurate, users of Hynds product or information within this document must make their own assessment of suitability for their particular application. Product dimensions are nominal only, and should be verified if critical to a particular installation. No warranty is either expressed, implied, or statutory made by Hynds unless expressly stated in any sale and purchase agreement entered into between Hynds and the user.

0800 496 377
***hyndsrural**.co.nz | **rural@hynds**.co.nz*

HYNDS RURAL