

# Installation Instructions - 3000 Lt Underground Tank

## 1. Handling

- Move the tank by lifting, using the lifting lugs in the top
- Do not drop the tank.
- Do not roll it into the hole
- Do not drag tank across rough surfaces

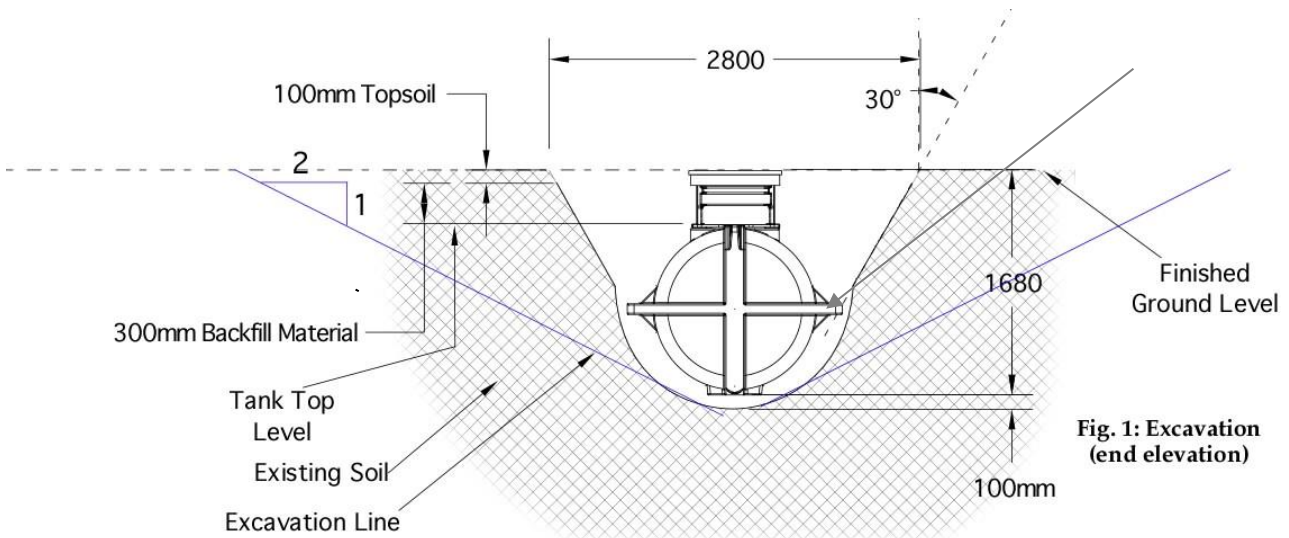
## 2. Site Selection

- Must conform to local & statutory regulations
- Where no regulations exist, the distance of the excavation from any structure must be equal to or greater than twice the depth of the excavation.
- Must be located so that tree roots will not interfere with the tank or its associated fittings & plumbing.
- Must not be installed where there is a possibility of the water table would exceed up to half height of the tank.
- Must not be installed where actual or potential garden beds exist.
- Must not be installed where it will be subject to surcharge loading within 2m of the perimeter of the tank. This includes driveways, storage areas, anywhere stacked materials are placed, above ground pools & spas, high level residential footings, and anywhere that it is likely that people may congregate
- Placement of the tank is permitted adjacent to footings of residential dwellings so long as the designer of such footings maintains vertical support to these footings below the zone of influence of the tank as per local council requirements
- Note that the tank in this form does not have the ability to withstand significant surcharge loads placed above the tank (and within the zone of influence) such as stacked soil/materials and multiple human access.

## 3. Excavation

- Observe any local and statutory requirements for excavations (e.g. benching/battering/shoring)
- Hole must be 1780mm deep (measured from the finished ground level, not necessarily the existing ground level).
- The installer shall take all reasonable precautions to ensure that the tank is not within the zone of influence of nearby existing structures, such as retaining walls, residential dwellings, commercial buildings, and the like. In such circumstances, advice from a suitably qualified structural engineer should be obtained.
- At the top, the hole must be a minimum of 4.2 meters long by 2.8 meters wide.

See Figure 1 below.



Level of  
External Water  
Table

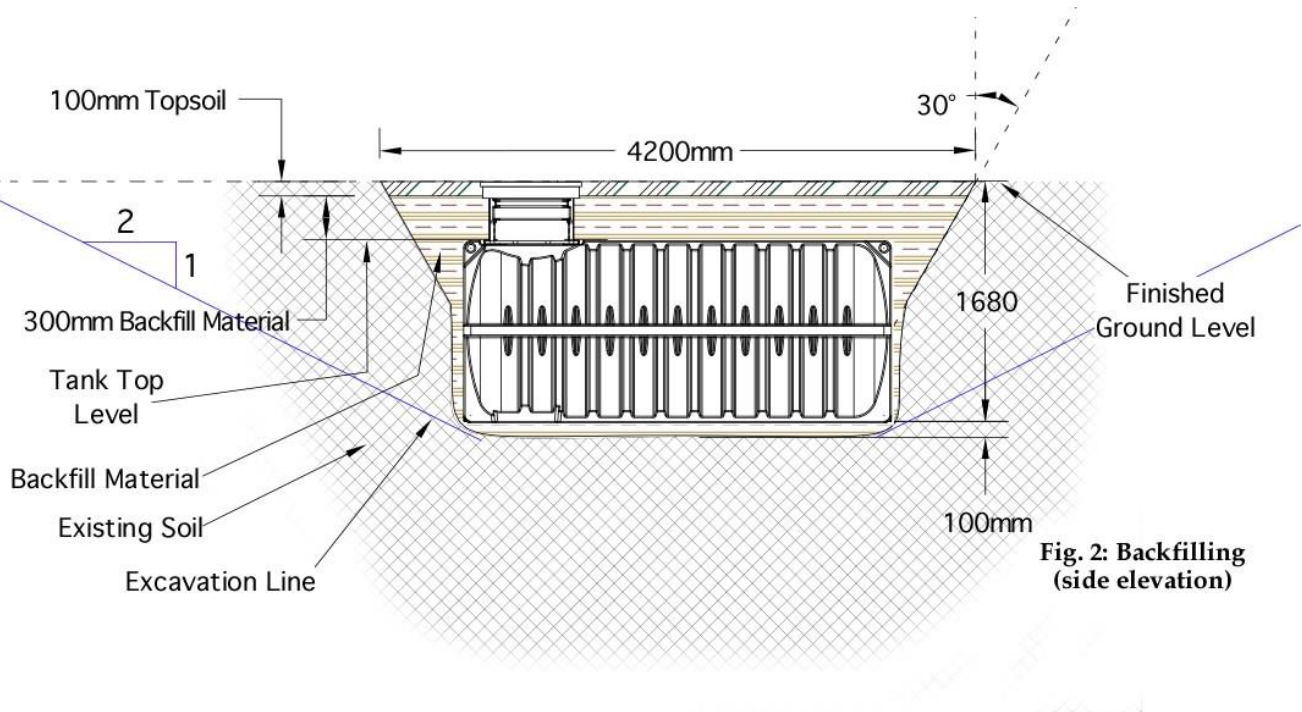
#### 4. Placement of Tank

- Place the tank on a level bed of backfill material. This is to ensure that rocks & other debris in the excavation do not damage the tank.
- Ensure that the top of the tank is 400mm below the finished ground level.
- Fit the Riser to the tank:
- Ensure that the rim around the opening is clean and dry.
- Apply a 20mm bead of silicone to the groove in the rim around the opening.
- Place the riser in position with the bolt holes aligned with the threaded brass inserts.
- Ensure that the 2 flat faces are perpendicular to the inlet and outlet pipes.
- Bolt the riser into position using the supplied stainless steel bolts and washers.
- Fill tank with water to 30% capacity minimum prior to backfilling.

#### 5. Backfilling

- Soil pressures based on a backfill / subgrade material must have a density of 18kN/m<sup>3</sup>
- Backfill material must have a minimum soil friction angle of 30°.
- In addition the backfill around the tank shall be placed in compacted layers no greater than 200 mm evenly around the tank.
- Backfill material is to be compacted evenly around the perimeter of the tank to a 98% modified dry density  $\pm 2\%$  from optimum moisture content.
- Place fill slowly and evenly from both sides, and ensure that there are no voids, particularly underneath the hold down wings.
- Only hand held vibrating plate compactors may be used in the compaction process.
- Backfill cover over tank must be 400mm (300mm of backfill material and 100mm of topsoil is acceptable)
- Recommended backfill or foundation material is 10mm Blue metal or 10mm recycled concrete
- Ensure all caps and overflows are sealed prior to backfilling the excavation.
- Excessive dirt in the tank will cause line blockages and possible early pump failure.
- Connection pipes and couplings should be supported over the whole length of the trench.

See Figure 2 below.



## 6. Riser Assembly

- When the finished height of the riser cover has been determined, the riser must be trimmed to the correct height:
- Cut the riser to 50mm below the finished height of the top of the cover, ensuring that the cut is square.
- **If the riser is to be fitted without a leaf strainer basket (Fig. 3B):**
  - a) Proceed with (e) below.
- **If the riser is to be fitted with a leaf strainer basket (Fig. 3A):**
  - b) Place the insert (bottom blue coloured ring in Fig 3A) into the riser, aligning the tabs with the slots in the riser. The insert will sit on a shoulder above the bottom of the riser.
  - c) Attach the insert to the riser using 4 of the supplied stainless steel tech screws.
  - d) Fit the strainer basket through the insert, and fix it to the insert using the 4 stainless steel self tapping screws (8g x 25mm) supplied.
  - e) Lay a 10mm bead of silicone sealant around the top of the riser, then place the riser end in place. This is secured using the 4 remaining stainless steel tech screws into the flat sections of the riser.
  - f) Using a hole saw, cut a Ø121mm hole at the appropriate height in the flat face one side of the riser for the inlet pipe. Note: In order to comply with AS/NZS 3500.2.2, it may be necessary to route the inlet pipe as shown in Fig. 3B.
  - g) Insert one of the supplied Wallace Seals into the hole.
  - h) Chamfer and lubricate the end of the pipe with a water based pipe jointing lubricant, then carefully push the pipe through the Wallace Seal without dislodging the seal.
  - i) Repeat steps c to e above for the overflow pipe.
  - j) Fit the lid and secure with 2 stainless steel socket cap screws (supplied).

An exploded view of the riser assembly is found in Figure 3 below.

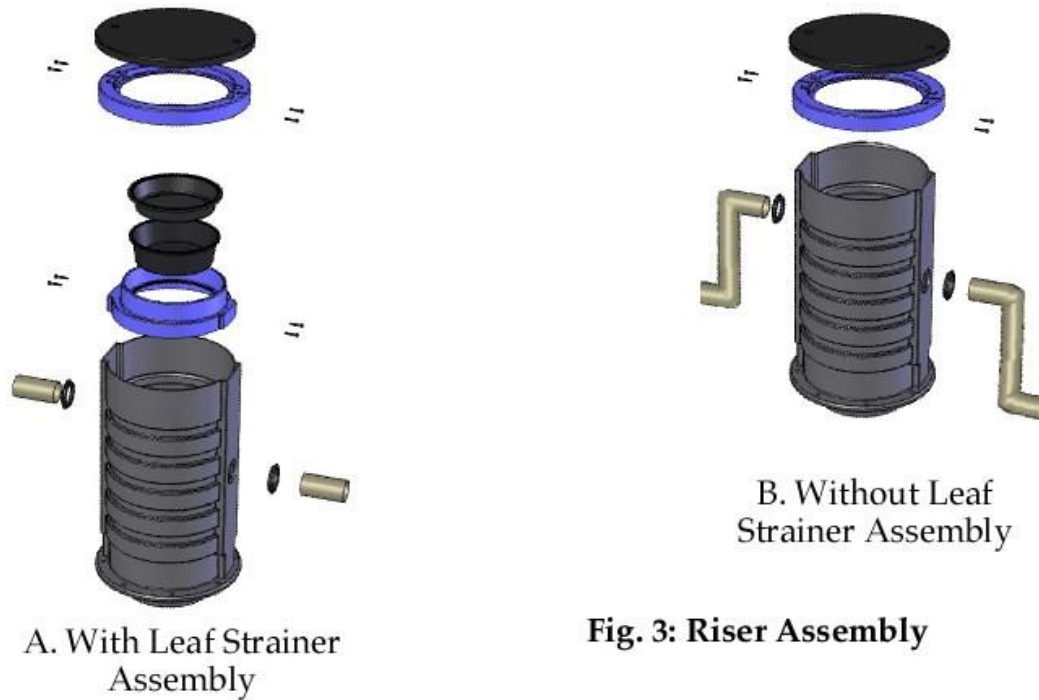


Fig. 3: Riser Assembly

## 7. General

- The stored liquid is to have a specific gravity of 1.0 only.
  - The surcharge loading from a 110 kg person traversing across the lid of the tank
- We strongly recommend that the tank be kept at least 20% full of water in wet weather, or at any other time when the area around the tank may become waterlogged.

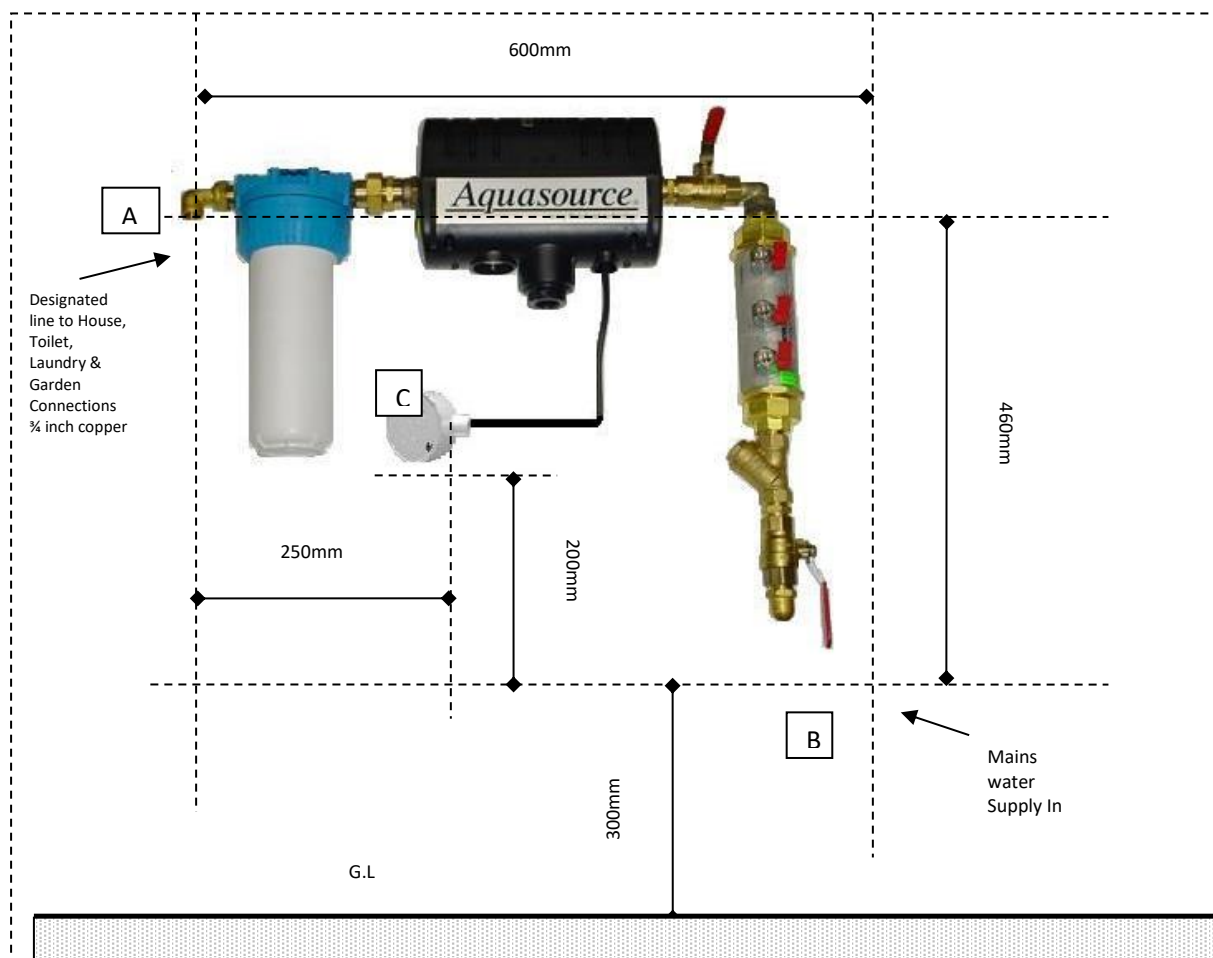
## 8. Mains water Diversion System

Operating system either Mains diverter Valve (Aquasource) will require the following builder's works:

On wall adjacent to or within 3 meters of the Tank position:

- Mains water supply outlet  $\frac{3}{4}$  inch terminated at the wall approx sticking out by 100mm
- Designated and separate  $\frac{3}{4}$  line to internal connections i.e. Toilet, Laundry and Garden tap/s terminated and sticking out by 100mm (see figure a)
- Electrical junction box 240v
- Connections no less than 450mm from finished ground level
- Connections not within 500mm of other services i.e. Gas / Hot water Heater

See Figure below



### Backflow prevention (Underground Tank Systems)

The new guidelines are derived from recommendations by Sydney Water, CUPDR and NSW Health. This instruction is for area's supplied by Sydney Water, Gosford & Wyong Councils. Other Water Authorities may have differing guidelines.

## 9. Pump Assembly

- Position pump on up-stand inside tank
- Connect & glue 25mm pressure pipe (PP) from pump outlet. (connector included)
- Cut 25mm PP to suit outlet height
- Connect 25mm Union to top of 25mm PP (Union and bend included)
- Connect 90 elbow to suit outlet through riser (25mm Uni-seal included)
- Run 25mm PP underground to beneath Mains water diversion unit (on wall) bend and fit to bottom inlet of In-line filter unit (included) and fit filter unit to bottom inlet of Mains water diversion unit.

## 10. Storm water Connections

- Connect Storm water as per Figure 3 Riser assembly.
- Overflow to be fitted with non-return valve (included) on overflow only.
- Storm water pipes and connections should be 100mm
- Only roof water is to be connected to Rainwater Tank System. Surface drains, AG lines and other storm water connection are prohibited.
- Use in general plumbing in accordance with AS/NZS 3500 Part 1, Water Supply, Sections 2 & 8 "National Plumbing Code" together with the requirements of local authorities, where applicable. Tank designs allow for 25mm to 150mm fittings and Pipe sizes. Inter tank connections please use a plumb-quick to allow for any movement.

## 11. Heights, Inlets and Overflows

Overall Storm water inlet /outlet positioning should be done in accordance with the drainage designer and in conjunction with Local or State statutory requirements. Underground Tanks provide multiple "Blank spots" to accommodate inter tank connections & direct connection to overflows and inlets.

## 12. Drainage & Marking

Drainage lines for rainwater collection and overflow must be labeled with pipe tape for identification Visible PVC & Copper pipes must be tagged with RAINWATER stickers. External hose cocks must have RAINWATER tags positioned above. (Always check with Local requirements)



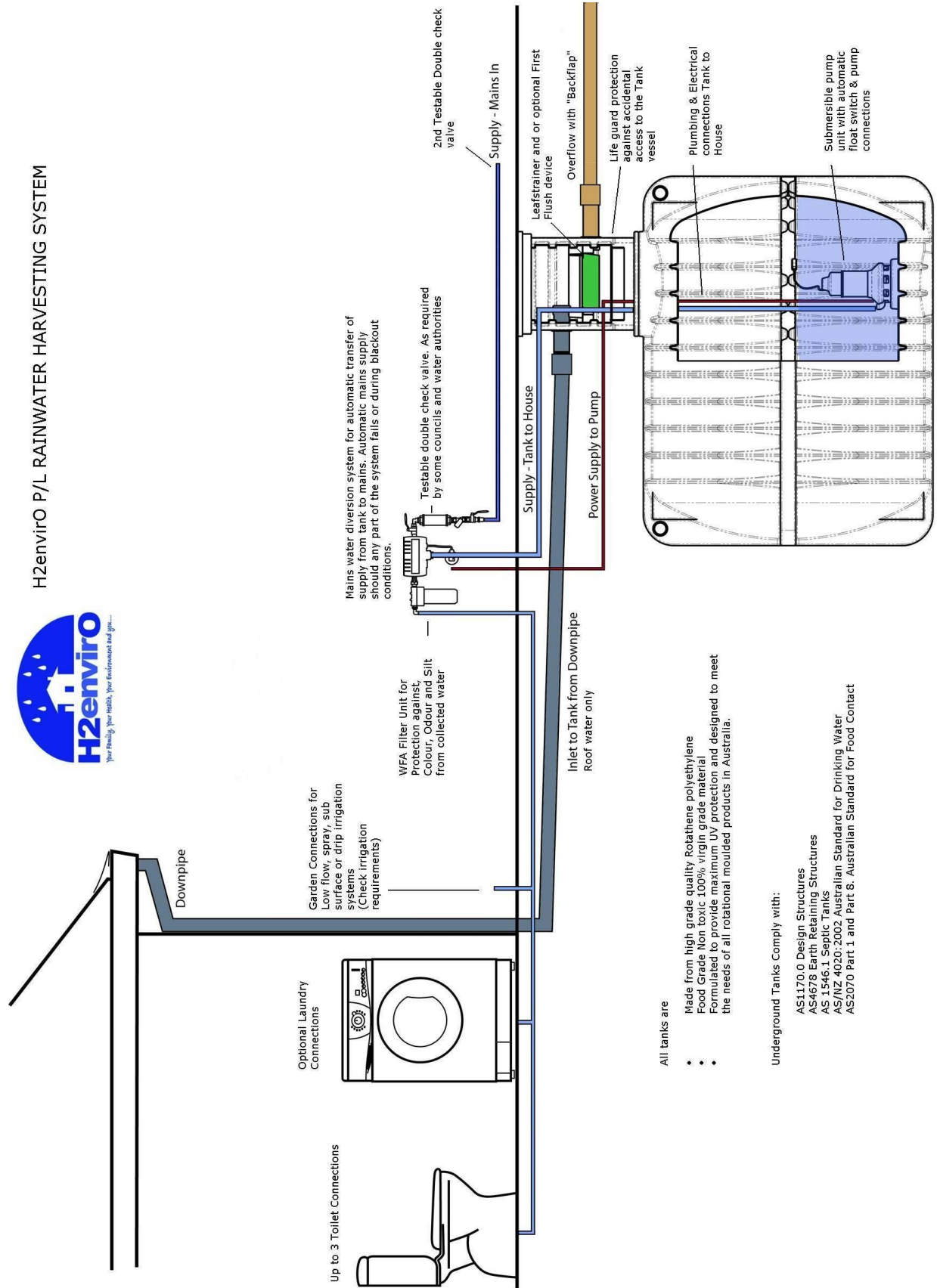
**CAUTION RAINWATER LINE BURIED BELOW**



All works must be in accordance with:

AS35000 Plumbing  
AS1170.0-2002: Structural Design Actions  
AS/NZS 3000 Domestic Electrical  
AS/NZS 3018:2001: Electrical installations  
Work Cover & OH&S requirements  
Sydney Water CUPDIR Amendment 18  
Gosford & Wyong DCP

## H2enviro P/L RAINWATER HARVESTING SYSTEM



All tanks are

- Made from high grade quality Rotathene polyethylene
- Food Grade Non toxic 100% virgin grade material
- Formulated to provide maximum UV protection and designed to meet the needs of all rotational moulded products in Australia.

Underground Tanks Comply with:

- AS1170.0 Design Structures
- AS4678 Earth Retaining Structures
- AS 1546.1 Septic Tanks
- AS/NZ 4020:2002 Australian Standard for Drinking Water
- AS2070 Part 1 and Part 8. Australian Standard for Food Contact

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