
Overview of the

E/One Grinder Pump System

**Semi-Positive Displacement
Wastewater Pump for installation at:**

Lake's Edge Subdivision Queenstown

Supplied by – Ecoflow Ltd

2/15 Anchorage Road

Hornby, Christchurch 8042

03 349 2506

www.ecoflow.co.nz

ecoflow

e one
SEWER SYSTEMS





ECOFLOW LTD
15 Anchorage Road
Hornby, Christchurch
Ph: +64 3 349 2506
Email: info@ecoflow.co.nz
Web: www.ecoflow.co.nz

11 May 2016

E/One Wastewater Grinder Pump System

Lake's Edge - Queenstown - Attn: Section Owners

Ecoflow Limited is the New Zealand distributor of Environment One (E/One) Pressure Wastewater Collection System. Ecoflow is pleased to offer the E/One Simplex grinder pump system for your new section.

The wastewater network for your new section has been designed to work specifically with the E/One pump systems. The pump is a semi positive displacement pump that will handle the variation of network pressure which occurs when a number of pumps in the development are operating simultaneously. These pumps have a pumping capacity of over 56m of head and have a set flow rate. Alternative centrifugal pumps are not allowed as they have different head capacity and flow rate.

Ecoflow is New Zealand's premier pressure sewer solutions provider. With more than 8000 systems installed nationwide, Ecoflow is the first choice for councils, consultants, homebuilders and home owners. Ecoflow have a network of accredited installers that will ensure your system is installed and functioning to its best potential for many years to come.

E/One Corporation developed the Pressurised Sewer concept in the late 1960's and have since led the industry that has evolved for more than four decades. E/One have more than **500,000** grinder pumps in service in over **42 countries**, many having been in operation for over 40 years.

Contact Ecoflow for detailed information on the supply and pricing of the E/One pump system.

Product Availability & Shipping

Lead time is normally 2 weeks - subject to stock levels at time of purchase.

Installation

Ecoflow can arrange for one of our certified E/One installation contractors to supply you with a price to install the complete system. Ecoflow or the approved installer will commission the system once installed.

Service

Ecoflow has a team of technicians and service agents who are trained and certified to provide support for over 3000 privately owned systems around New Zealand. In many regions the local council will own and maintain the pump systems.

Warranty

Equipment manufactured by E/One (Pumps, Panels and Tanks) come complete with a 24 month warranty.

Please don't hesitate to contact us should you require any further information.

Best regards,

A handwritten signature in blue ink, reading "Loren Madden".

Loren Madden
Business Development Manager
Ecoflow – Christchurch 03 349 2506
027 284 1119

loren@ecoflow.co.nz

ecoflow

Pressure Sewer Specialists





ABOUT ECOFLOW

Ecoflow is New Zealand's largest pressurised sewer supplier. Founded in 2007 by two wastewater engineers, with their goal to become New Zealand's leading pressurised sewer system specialist.

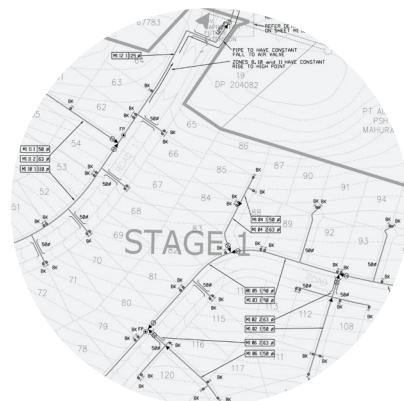
We are proud distributors of the Environment One (E/One) system, E/One are world leaders in low pressure sewer systems having over 600,000 grinder pumps operating globally in 42 countries.

Ecoflow have installed over 10,000 E/One pressure sewer systems throughout New Zealand in both council projects as well as green-field subdivisions.

Our success is simple, we are the most knowledgeable in our field using market leading equipment. We are focused on building strong relationships with our clients offering exceptional service and support.

WHY COUNCILS AND DEVELOPERS ARE CHOOSING E/ONE PRESSURE SEWER SYSTEMS

- Better for New Zealand's environment
- Minimal impact on councils existing sewer networks
- Ideal alternative to deep gravity sewer mains
- More resilient to seismic activity – earth quakes.
- Eliminates large public sewer pump stations



E/ONE QUALITY

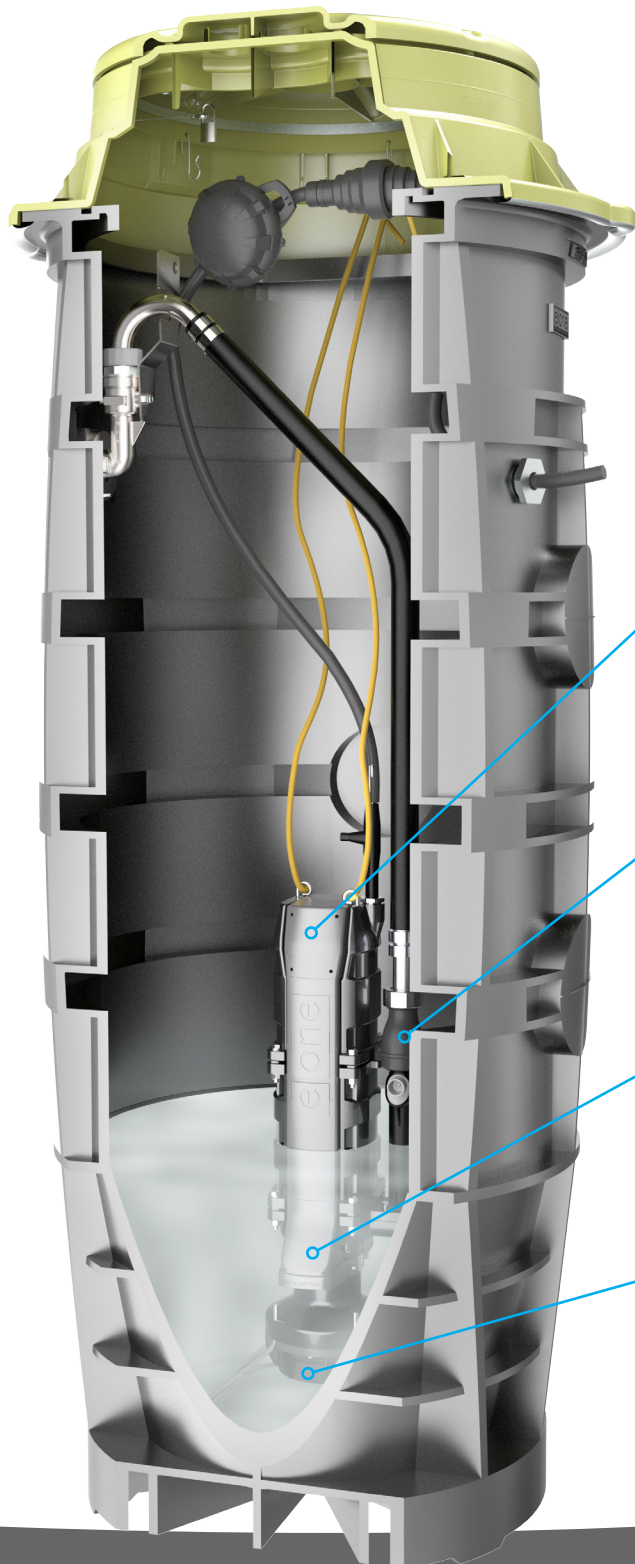
For over 50 years the E/One name is synonymous with reliable, maintenance free grinder pump systems, designed with longevity in mind. Before a product is released it is subjected to meticulous performance tests. The heavy duty cast iron grinder pump is ANSI/NFS 46 Certified. It's an industrial grade pump for residential use. E/One's tank is manufactured in New Zealand and is designed and certified to AS/NZS1546 specifications. It features an integrated stainless steel ball valve with pressure relief.

SERVICE CAPABILITIES

Ecoflow is known for offering end-to-end service. We have close relationships with architects, housing companies, builders, plumbers, drain layers and electricians to achieve a superior level of customer service.

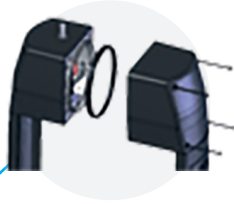
SERVICES INCLUDE:

- Network Design
- Project Management
- Supply of Quality E/One Equipment
- On-Site Delivery
- On-site Installation Training – Approved Drain layers
- Pump Installation and Commissioning
- Supply of Warranty/Consent Documentation
- On-going 24/7 Service



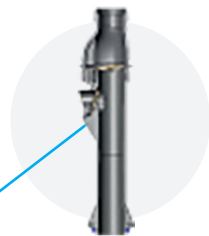
E/ONE ALARM PANEL

To maximise reliability and convenience, the E/One installation includes an IP65 weather proof alarm panel which also protects the pump from low voltage, running dry, and over pressure situations.



PRESSURE SWITCH HOUSING

Pressure switches in the head of the pump for starting and stopping are similar to washing machine controls, eliminating the need for float switches which commonly fail due to fats, hair and rags.



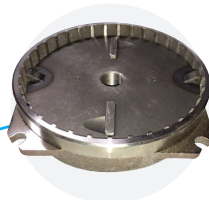
INTEGRATED VALVES

The integral non-return valve protects against system back pressure and the anti-siphon valve facilitates downhill pumping applications.



PROGRESSING CAVITY PUMP

This deceptively simple design produces a nearly constant flow under a wide range of continuously varying conditions.



GRINDER WHEEL AND SHREDDER RING

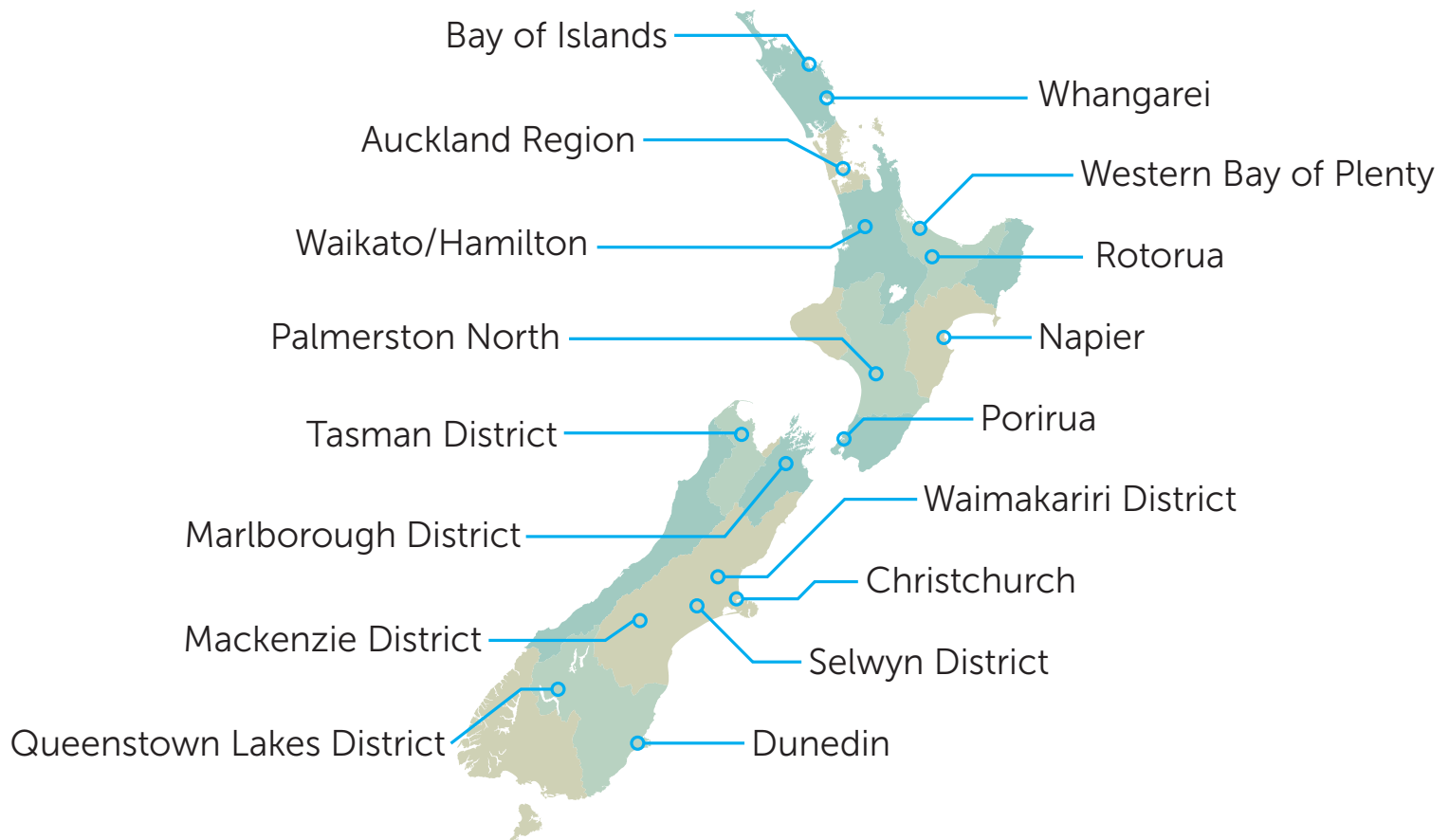
Hardened forged alloy steel cutter bars and teeth create a shearing action coupled with the high torque pump to help eliminate blockages.

- Environmentally friendly
- No preventative maintenance

- Unobtrusive, low profile installation
- Extremely low noise and odour levels

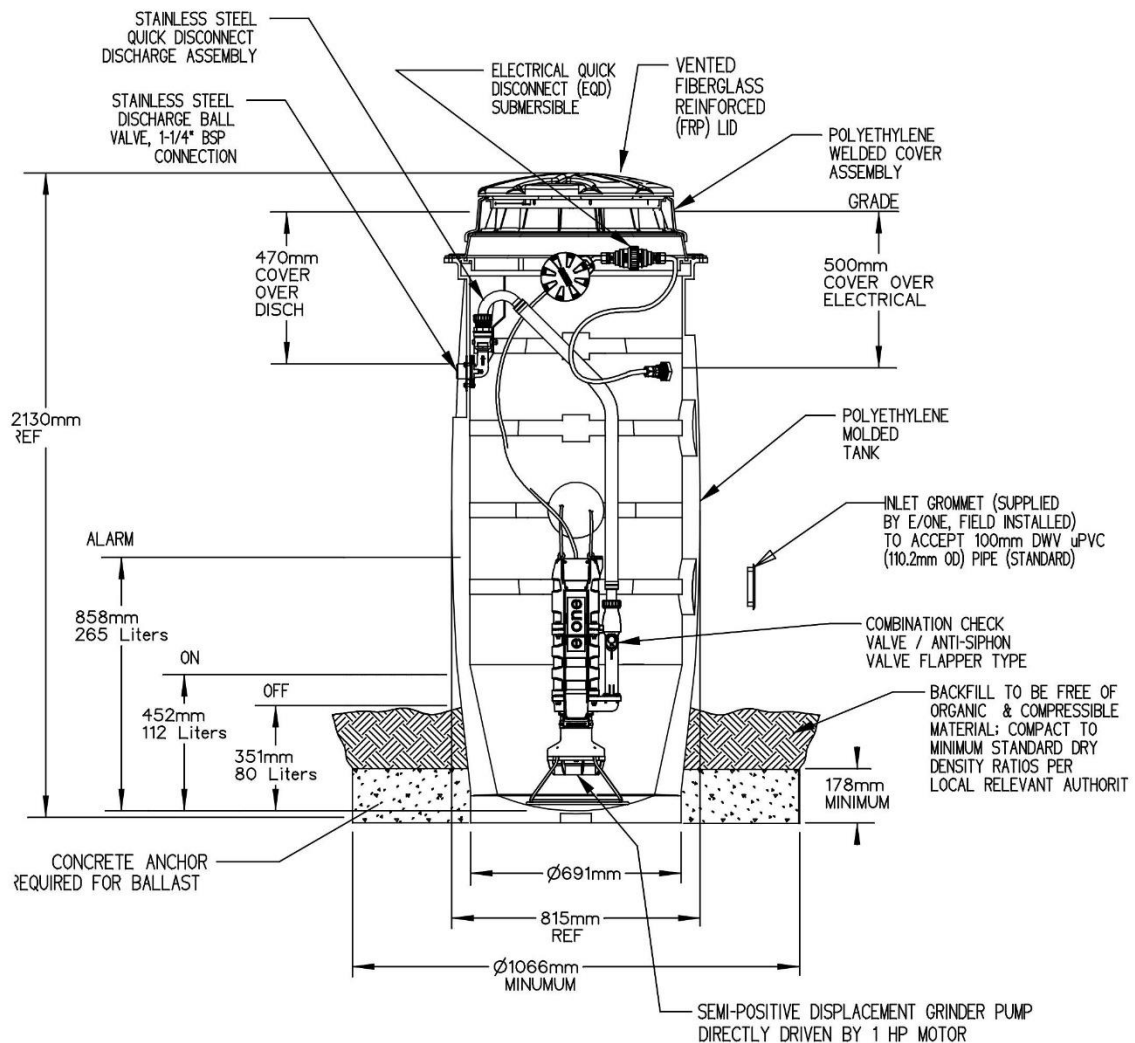
- 24 Hour emergency storage capacity
- Low power consumption \$20 to \$30 per annum

NEW ZEALAND'S LEADER IN PRESSURE SEWER



MODEL 2010iP

800 x 2100mm



SPECIFICATIONS 2010iP - 800 x 2100

BASIN	Diameter (mm)	Height (mm)	Weight (kg)	Total Capacity (l)	Capacity Above Alarm (l)	Ballast (m3)	Inlet Pipe Size (mm)						
	800	2100	74	718	453	SEE DWG	100						
PUMP	Pump (s)	Dimensions (mm)	Weight (kg)	Nominal Pump Rate @ 0m TDH (lps)	Nominal Pump Rate @ 20m TDH (lps)	Nominal Pump Rate @ 42m TDH (lps)	Discharge Size (mm)	ELECTRICAL	Voltage (VAC)	Phase	Cycle (Hz)	Supply Cable (m)	Alarm Panel
	Simplex (l)	330 X 800	47	.75	.63	.47	32		240	Single	50	As Specified	Simplex (l)

ecoflow

Ecoflow Ltd.

16b Piermark Drive, North Harbour (NZ)
P.O Box 300-249, Albany, Auckland
Ph (09)447-1793 Fax (09) 447-3901

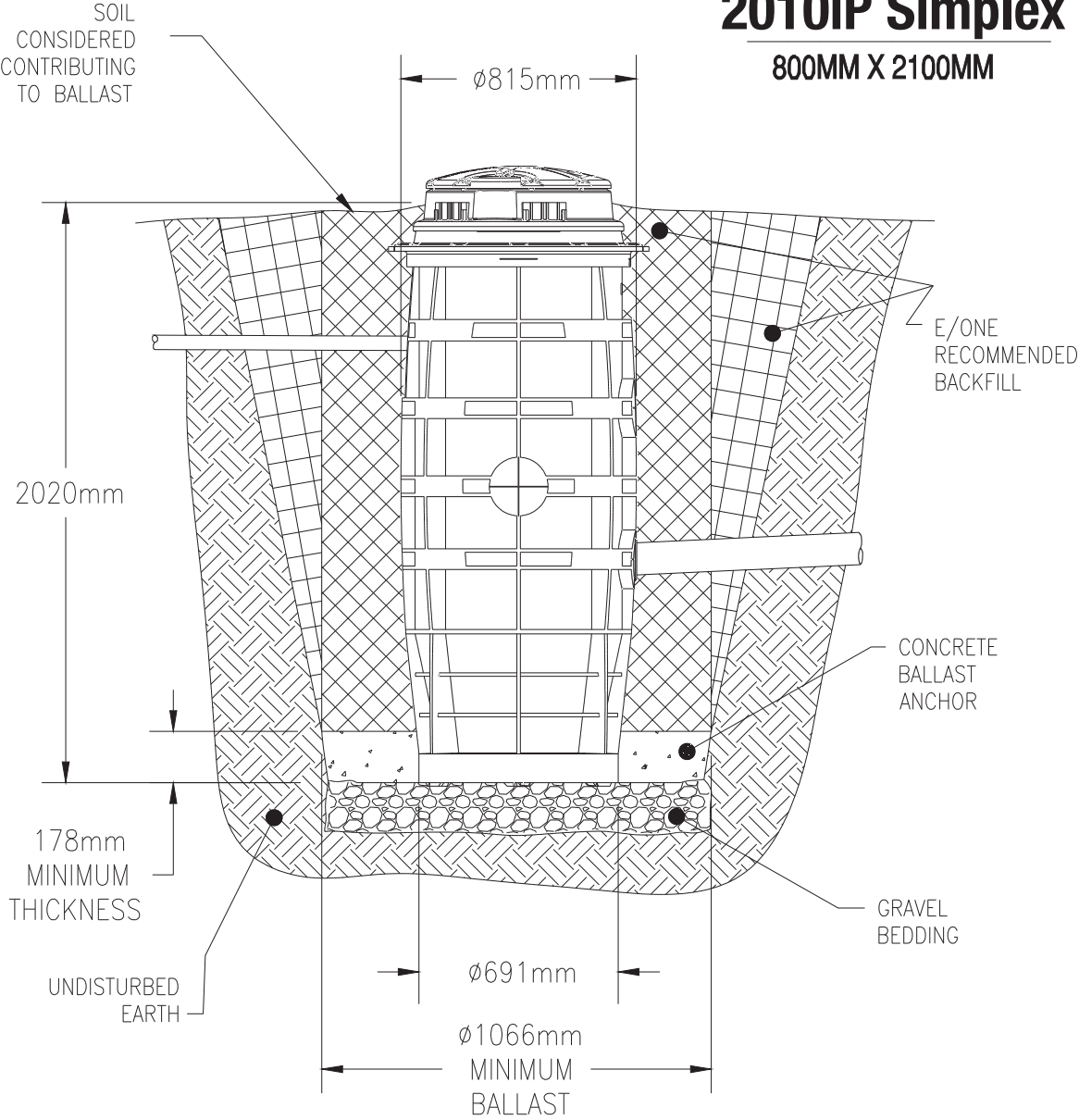
Environment One
Simplex 800x2100iP

e one
SEWER SYSTEMS

e one
SEWER SYSTEMS

2010iP Simplex

800MM X 2100MM



PD	SZ	7/11/07	-	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE
<div>e one</div> <div>SEWER SYSTEMS</div> <div>2010iP Simplex BALLAST INFORMATION (800 x 2100mm)</div>				

Drainage Connection Instructions

Please avoid construction debris from entering the tank when carrying out this work.

Step 1: Choose an inlet location

Remove the lid from the tank. Choose an appropriate entry point for the 100mm PVC pipe. This must be above the tapered section of the tank (above the red line shown in the picture below). The inlet hole can be drilled in either the circular areas or in the recessed sections.



Step 2: Cut the inlet penetration

Check that the tank isn't filled with water and then using a 127mm (5") hole saw, cut a hole in the chosen location.



Step 3: Fit supplied rubber inlet grommet

Remove any burrs or shavings from the hole with a file or similar tool. Place the supplied rubber inlet grommet into the hole with the large flange to the outside of the tank. Rubber inlet grommet is cabled tied to the valve inside every tank.



Additional specially designed E/One rubber inlet grommets can be supplied by Ecoflow if more than one inlet is required. ***Please do not use other inlet grommets as they are thinner than the E/One grommet.***

Step 4: Prepare the PVC inlet pipe

Chamfer the 100mm PVC inlet pipe with a file or similar tool. This will make it easier to push through the rubber inlet grommet into the tank.

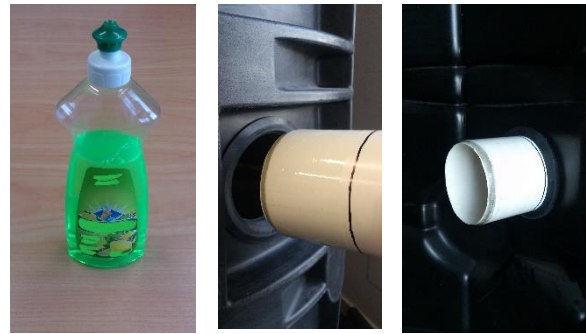


Draw a witness line on the pipe 80-100mm from the chamfered end. This line is where you will stop once it is visible inside the tank. Do not have more than 100mm and no less than 80mm inside the tank.

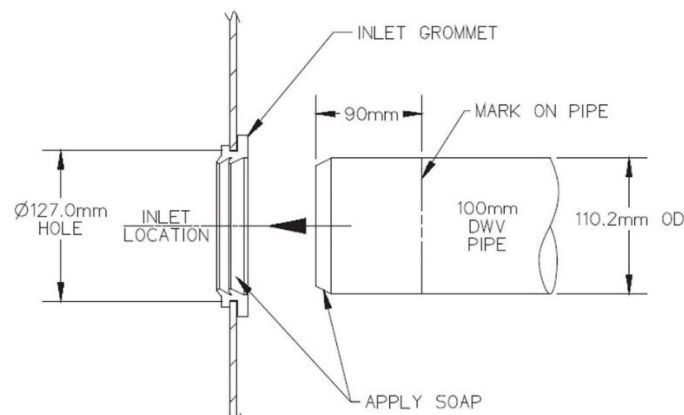
Step 5: Fit the PVC inlet pipe

Apply a film of liquid soap or pipe lubricant up to the witness line on the pipe from the chafered end.

Push the pipe into the tank through the rubber inlet grommet. The flexible watertight seal is made once the PVC pipe has been pushed through. Pushing the pipe through will require some strength as it can be difficult.



Ensure the pipe has the required fall and check to make sure the rubber inlet grommet is seated correctly with the large flange hard up against the outside of the tank and is not pinched or rolled.



Silicone's & Epoxy

Silicone's and epoxy mortar's are not required at any stage so please do not use them. The supplied rubber inlet grommet has been specially designed by E/One for the tank wall thickness, please do not use any other types as they won't seal correctly. The supplied rubber grommet creates a flexible watertight seal and allows for ground movement.



Step 6: Discharge Pipe Connection

Connect a 40mm OD PE100 PN16 discharge pipe to the 32mm (1 ¼ ") fitting on the chamber. Electrofusing fittings are to be used when connected to the discharge pipe onto a pressure sewer network or compressing fitting if connecting into a gravity sewer line.



Tank Ballast Requirement and Backfill

A concrete ballast anchor is required to prevent floatation of the tank. See the diagram below indicating the concrete ballast required. The tank can be pre-ballast if ground water is an issue. If pre-ballasting you need to install lifting hooks to be used when lifting the tank in the hole. **Backfill** – Use clean compactable backfill which meets relevant local codes.

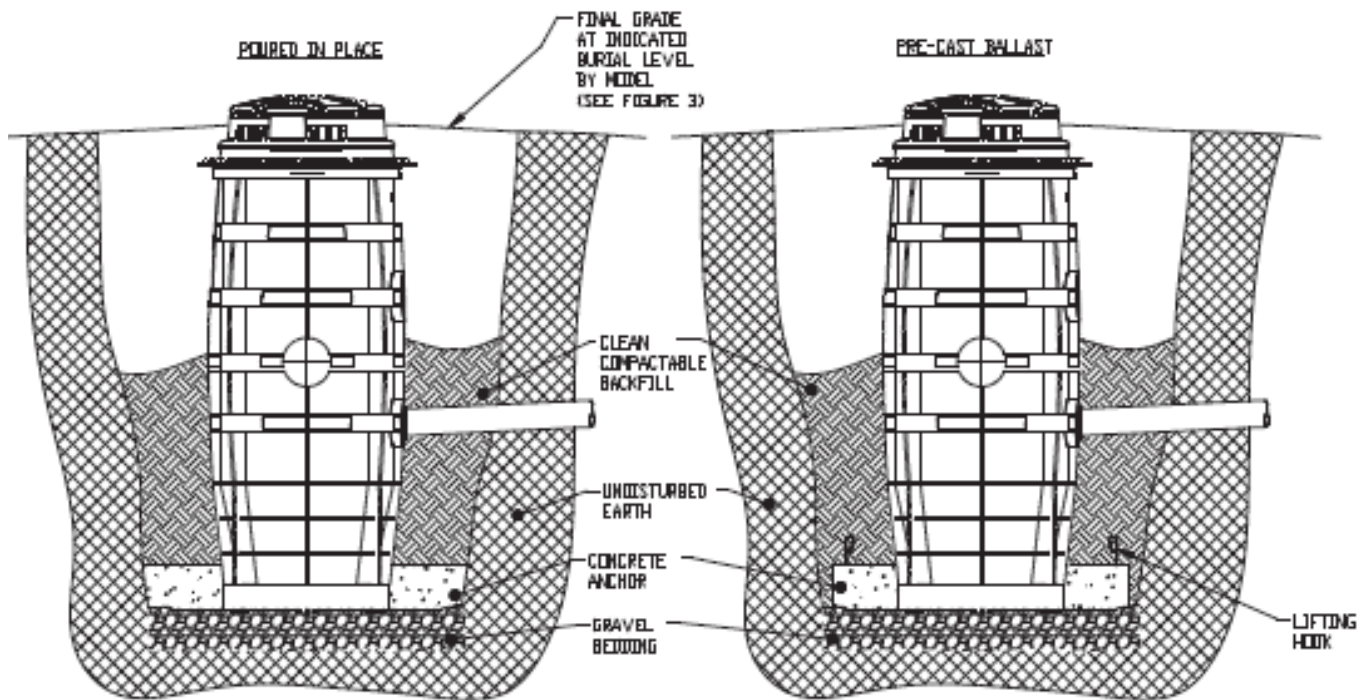
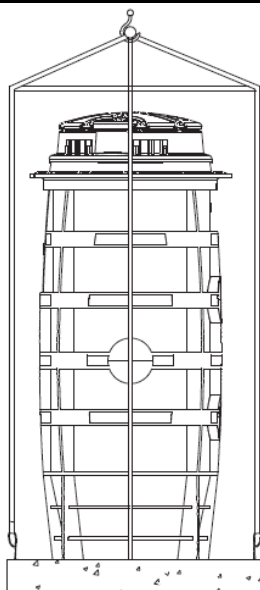


Fig. 2 - Excavation and Ballast

Lifting Pre-Ballasted Tank Using Hook

Picture of Pre-Ballast Tank



Electrical Pump Supply Cable Instructions

Step 1: Install electrical spigot

An electrical conduit starter spigot is supplied inside every tank. This will be cable tied to the valve. Screw this grey plastic spigot into the electrical bulkhead on the outside of the tank (remove the black hex plug if fitted).

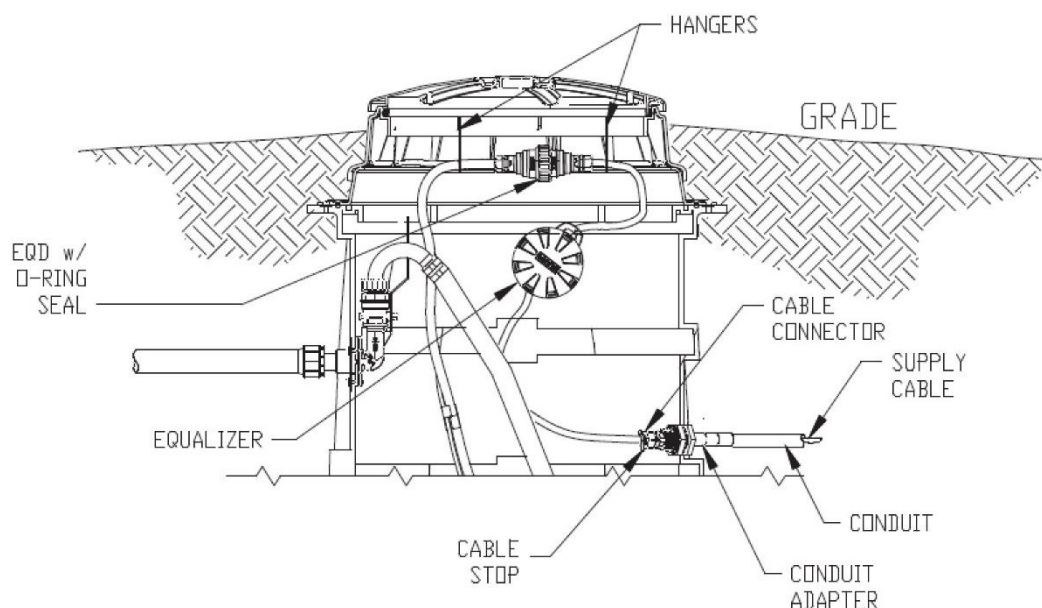


Step 2: Install the E-One pump supply cable

Open the lid of the tank and locate the supply cable connector on the inside of the tank. Loosen the nut on the cable connector and feed the free end (end without the E/One 6-pin connector) through from the inside of the tank. Pull the supply cable out through the connector until it hits the metal crimped "stop" feature on the cable. Do not leave excess cable in the tank. The free end of the supply cable is to be cut to length (if needed) and connected to the Alarm Panel. Run the cable underground in a conduit to the location of the Alarm Panel. Retighten the supply cable connector nut inside the tank.

Note:

- **Longer pump supply cables in lengths of 22m or 30m – can be supplied by Ecoflow for an additional cost.**



Alarm Panel Installation Instructions

Alarm Panel Power Requirements

- The E/One Alarm panel needs to be supplied by an **independent circuit** from the house switch board.
- A **20amp 'D' Curve** circuit breaker is to be used for a Simplex (one pump) system
- A **30amp 'C' Curve** circuit breaker is to be used for a Duplex (two pump) system
- **No RCD device** to be installed.
- **240V +/- 10% to Alarm Panel (216V to 264V)**

Step 1: Choose an appropriate mounting location

The Alarm Panel must be mounted in an outside location and not inside the house.

This will typically be on the outside of the house near other utilities, but can also be mounted on a post near the tank.

The Alarm Panel must be mounted at an appropriate height to enable the home owner easy access in the event of an alarm.

- **Minimum of 1200mm** to the base of the Alarm Panel from ground level.
- **Maximum of 2000mm** to the top of the Alarm Panel from ground level.

Please do not drill any extra penetrations into the alarm panel.

- The Alarm Panel has a flange top and bottom to enable fixing to a wall or fence post.
- The Alarm Panel has two holes provided at the base of the panel for the power fed from the house and the pump power supply cable.
- Any extra holes made into the Alarm Panel may cause moisture to enter enclosure and may void warranty.
- Please use sealing conduit connecting glands for the cable penetrations at the base of the Alarm Panel.

Step 2: Connect wires to Alarm Panel

Cut power supply cables to required length. Connect the power fed from the house circuit board and the E/One pump supply cable from the tank to the alarm panel as per the wiring diagram on the following page. This diagram is also located on one of the plastic pages on the inside of each Alarm Panel door.

(Typical Alarm Panel Instalation)



Final Inspection of the E/One Station

Ecoflow or an approved installer will carry out a final inspection and commission.

Prior to inspection:

Please ensure that the following have been completed:

- The PVC drainage lateral pipe has been installed correctly
- Alarm Panel has been installed correctly
- Power is supplied to the Alarm Panel
- The tank is half full of clean water
- The tank is not full of construction debris

This allows the commissioning technician to run the pump and carry out a system test.

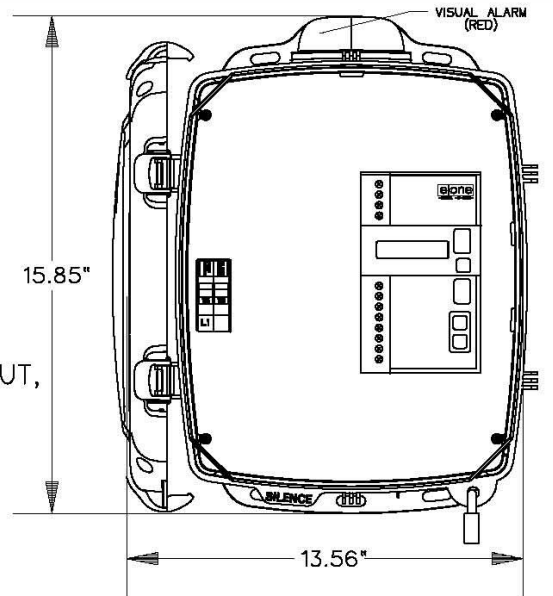


Once the technician is satisfied that the E/One system has been installed as per specification, a sticker will be placed on the Alarm Panel door showing the phone number which is to be called in the event of an alarm.

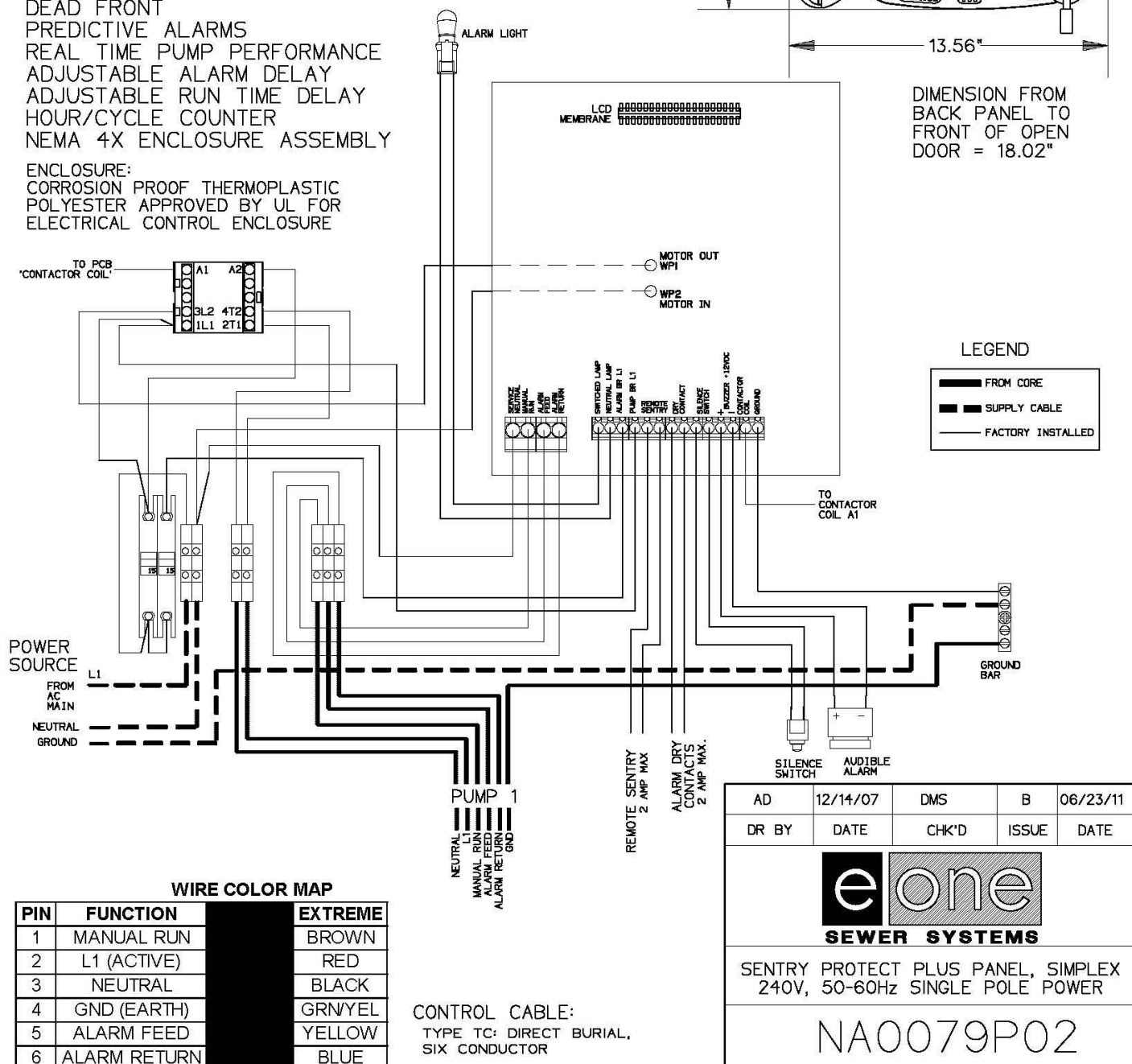
**For any further technical advice please call
Ecoflow Christchurch Office 03 349 2506**


SENTRY PROTECT PLUS SIMPLEX

REDUNDANT RUN (HIGH LEVEL)
EXTERNAL VISUAL & AUDIBLE ALARM
REMOTE SENTRY DRY CONTACTS FOR
OPTIONAL POWER LOSS HIGH LEVEL
ALARM (POWER LOSS ALARM FOR WIRELESS)
MANUAL ALARM SILENCE
MANUAL RUN
STATUS LED'S: NORMAL, PUMP RUNNING, HIGH LEVEL
TROUBLE INDICATIONS: RUN DRY, OVERPRESSURE, BROWNOUT,
VOLTAGE, EXTENDED RUN TIME
DRY CONTACTS
CONFORMAL COATED CIRCUIT BOARD (BOTH SIDES)
PADLOCK
DEAD FRONT
PREDICTIVE ALARMS
REAL TIME PUMP PERFORMANCE
ADJUSTABLE ALARM DELAY
ADJUSTABLE RUN TIME DELAY
HOUR/CYCLE COUNTER
NEMA 4X ENCLOSURE ASSEMBLY
ENCLOSURE:
CORROSION PROOF THERMOPLASTIC
POLYESTER APPROVED BY UL FOR
ELECTRICAL CONTROL ENCLOSURE

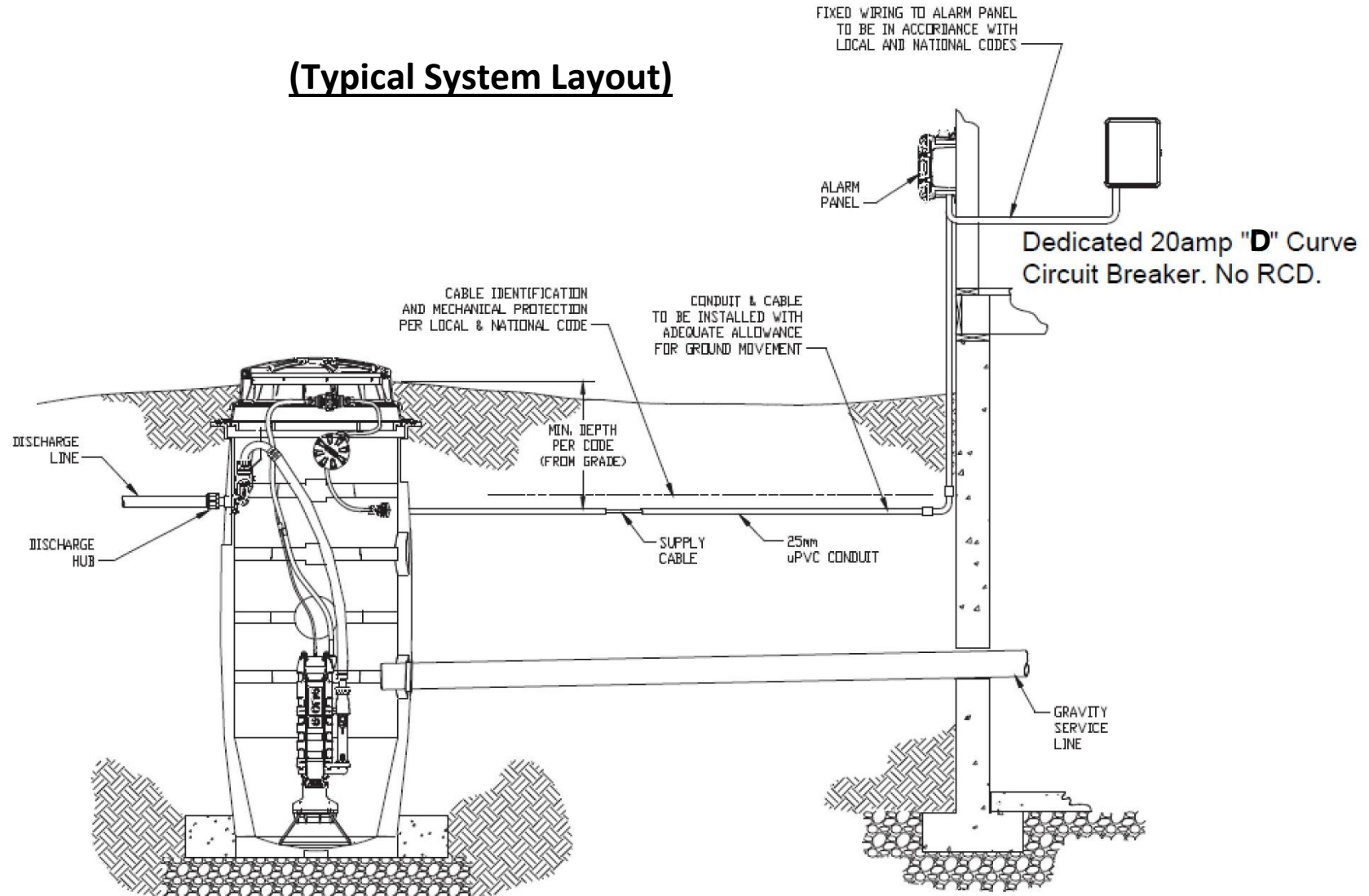


DIMENSION FROM
BACK PANEL TO
FRONT OF OPEN
DOOR = 18.02"



AD	12/14/07	DMS	B	06/23/11
DR BY	DATE	CHK'D	ISSUE	DATE
 SEWER SYSTEMS				
SENTRY PROTECT PLUS PANEL, SIMPLEX 240V, 50-60Hz SINGLE POLE POWER				
NA0079P02				

(Typical System Layout)



SUPPLY CABLE VOLTAGE DROP

240 VAC PUMP = .308 VOLTS PER METER OF CABLE
(MAXIMUM RECOMMENDED LENGTH = 30.5 METERS)