NEW BUILD SPECIFICATION – DRAINAGE WORKS FOR A STANDARD 9-BAY HAND CAR WASH WITH CABIN, CANOPY & WATER RECYCLING SYSTEM

1. Ground works

INTERCEPTOR

1) The contractor shall allow for the supply of the 2000 litre two (chamber) interceptor and silt separator and installed to installation details contained in Data Sheet, which is supplied with the unit.

2) The invert of the separator inlet shall be such so as to ensure a fall of not less than 1.6% (1/60) from the discharge invert of the silt trap discharge point.

3) The separator shall be seated and surrounded in suitable concrete as detailed in accordance with the supplied data sheet.

4) The contractor shall allow for the supply and installation of 2no 600 x 600 38T Heavy duty Manhole Covers and heavy-duty frames.

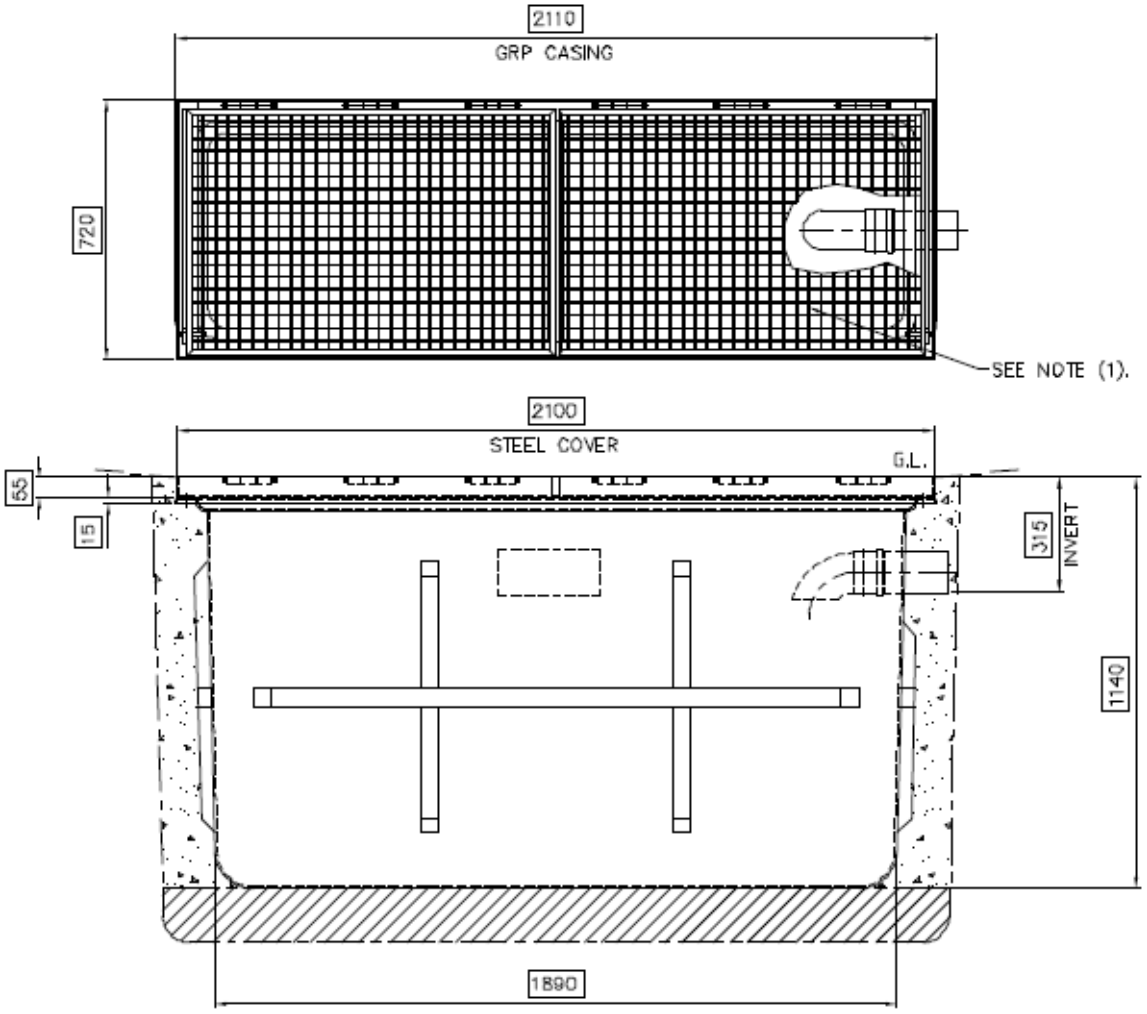
5) The separator access chambers should be linked by a 150mm duct between each chamber and each chamber should have a 150mm duct running back to the main service chamber that is located under the rear of the cabin.

6) The frames shall be seated on formed foundations and necessary engineering brickwork and shall be pointed in all exposed areas. Care shall be taken so as not to allow any load from traffic onto the interceptor.

SILT TRAP

1) The contractors shall supply and install a hinged lid silt trap. This should be installed in the centre of the wet area. The top of the silt trap should be 50mm lower than the lowest point of the wash area and installed to manufacturers specifications. The silt trap shall be installed as per the detail shown on the general arrangement drawing.

2) The silt trap shall be connected to the separator by a 100mm drainage pipe laid to falls of not less than 1:60. If a gully is needed it shall be connected to the separator by a 100mm drainage pipe laid to falls of not less than 1:50.



CONCRETE PAD

1) The size of the concrete wash bay pad should be four bays wide and between 6.5 metres deep from front of kerb-line and a thickness of 200mm.

2) This should be divided into four areas to give the bow tie effect, with the silt trap located centrally (subject to site survey).

3) The slabs should have two layers of reinforcement mesh (a142 mesh). The minimum concrete quality C35 WRA. This should have a brush finish with 100mm trowelling around the outside of each section. (See fig 1)



Fig 1

PATHWAY

1) A concrete walkway is to be installed along the back of the car wash area; this shall be 9 car park bays long by 1000mm deep by 160mm thick. This should have a brush finish and 100mm trowelling around the outside edge.

2) A 300 x 300 access chamber and lid is to be placed at the far side of the wet area concrete walkway. This should be fed by 100mm duct running back to the service manhole that is underneath the cabin.

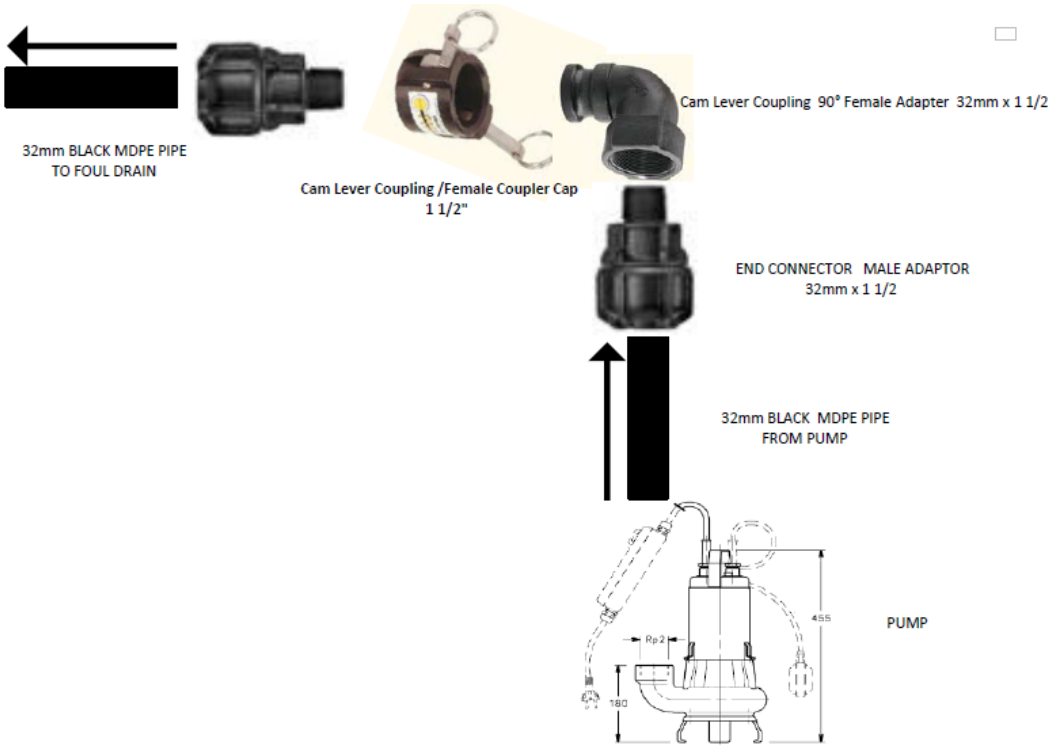
FOUL DISCHARGE SERVICE SUPPLY

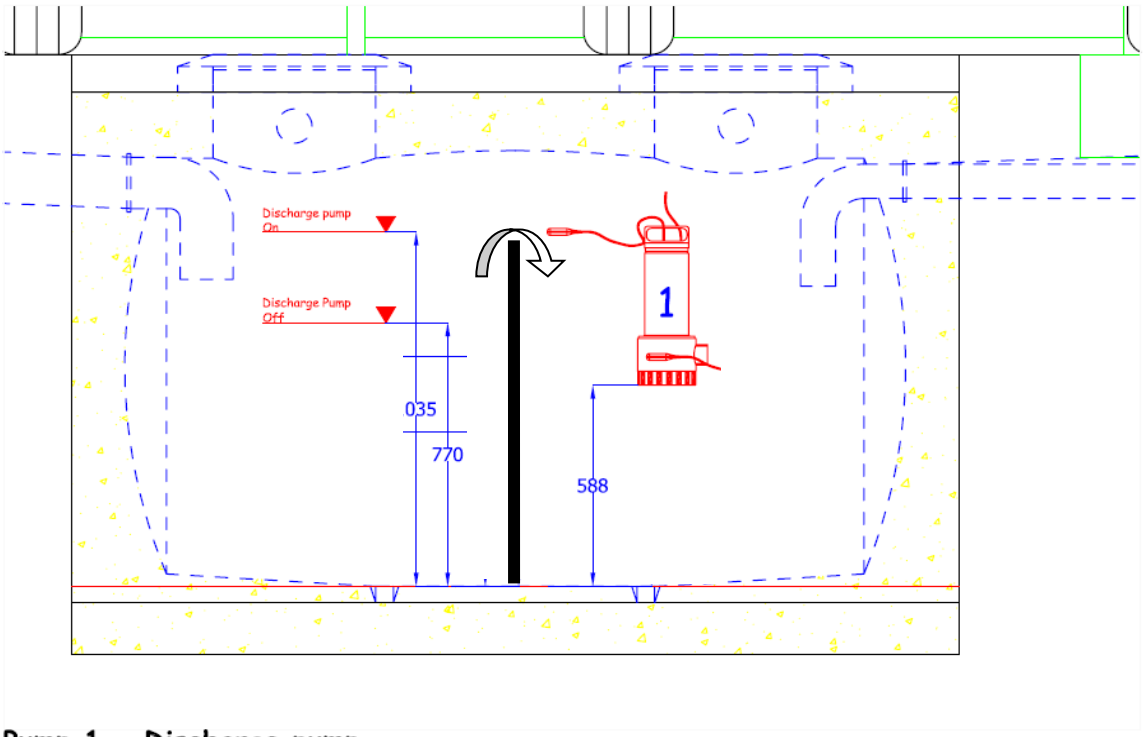
1) The contractor shall supply and install in 100mm ducts as shown on the drawing in 32mm MDPE BLACK pipe as a discharge main from the interceptor discharge pump There should be NO joints to the pipe apart from in the manholes or service rooms the connections should only be compression and NOT push fit with pipe inserts used.

2) The discharge pipe shall terminate within the identified foul manhole. The pipe shall where possible be benched onto the existing benching so as to ensure the directional flow is with the fall of existing sewer. In the event that this is not possible (e.g. deep manholes) the pipe shall be secured to the side of the manhole so as to direct the flow vertically down on the opposite side of any entry point.

3) The discharge pipe shall be connected to the supplied pump by a galvanised chain and fixed to the wall of chamber by an eye type anchor bolt within the interceptor so as to allow easy removal of the pump should it be required. This should be by the use of cam lever couplings – see diagrams below

4) All pumps that are required will be supplied by Gilmore Consultancy.





Pump 1 - Discharge pump

Lowara Domo 7VX 220/240V single phase 0.55 KW complete with "Vertex" Impeller to pump entrained solids.

Connection - 1½ " BSP female thread connected to a 50mm Black MDPE pipe. Note - ensure suitable coupling is installed witin the discharge line to allow complete removal of pump if required.

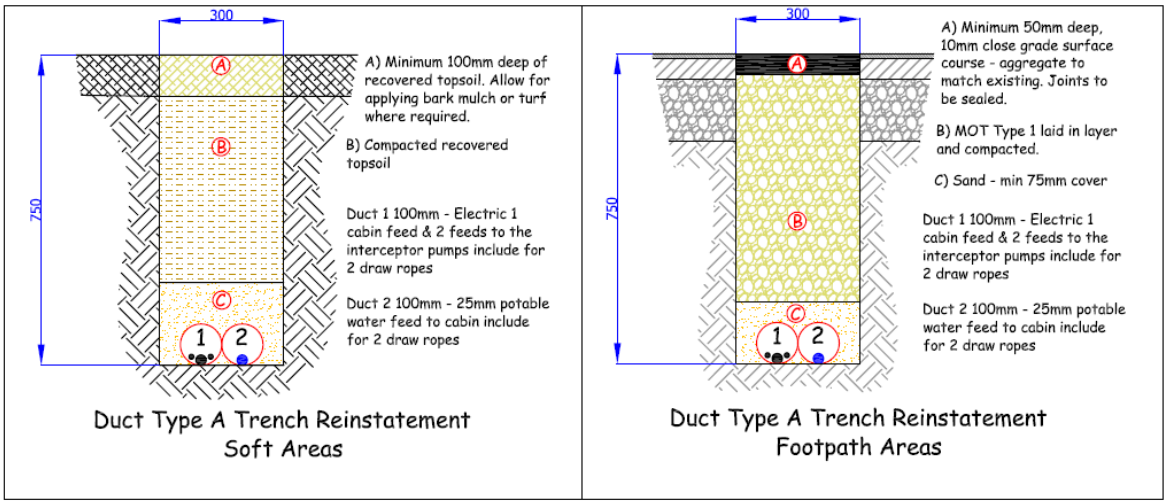
Service Ducting

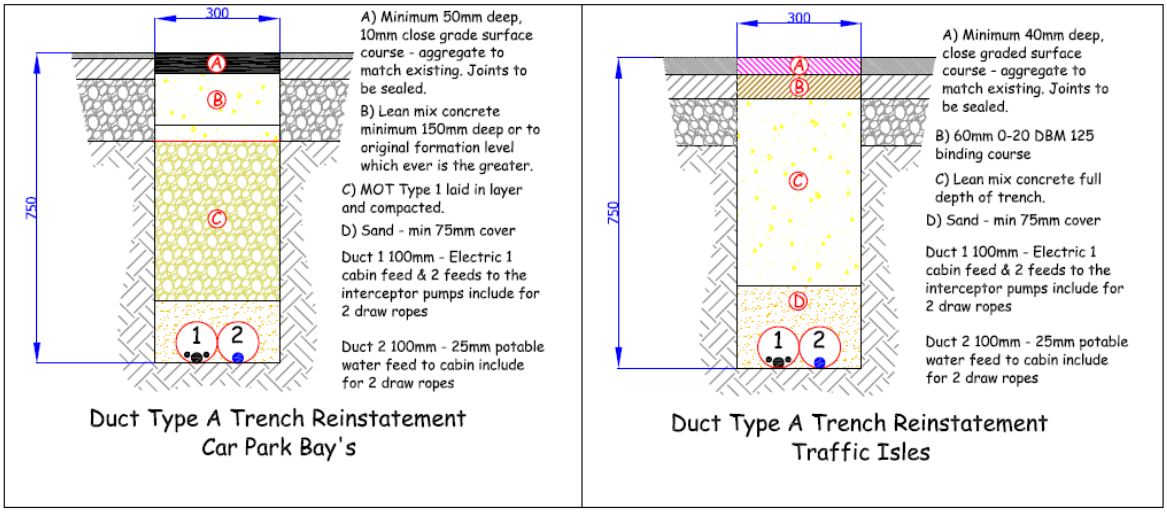
The service ducting manholes should be no more than 50m apart.

Recycling

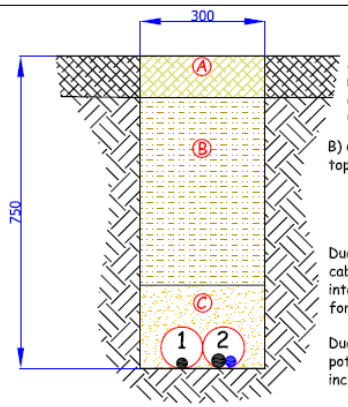
Any relevant recycling system will be fitted by specialist contractor.

Trench Type A
From Duct Chamber to Cabin





Trench Type B
From Store to Duct Chamber



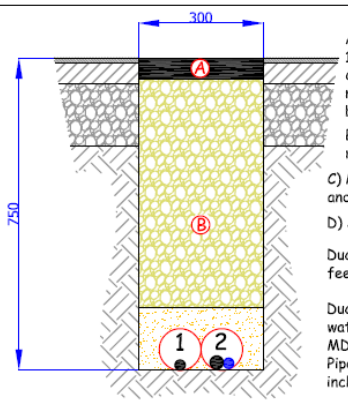
A) Minimum 100mm deep of recovered topsoil. Allow for applying bark mulch or turf where required.

B) Compacted recovered topsoil

Duct 1 100mm - Electric 1 cabin feed & 2 feeds to the interceptor pumps include for 2 draw ropes

Duct 2 100mm - 25mm potable water feed to cabin include for 2 draw ropes

Duct Type B Trench Reinstatement
Soft Areas



A) Minimum 50mm deep, 10mm close grade surface course - aggregate to match existing. Joints to be sealed.

B) Lean mix concrete minimum 150mm deep

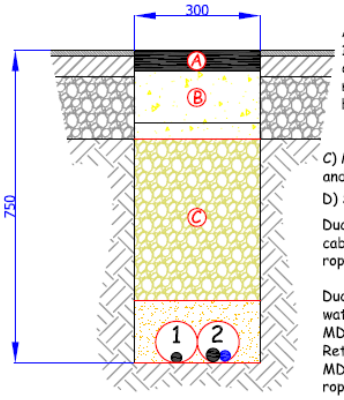
C) MOT Type 1 laid in layer and compacted.

D) Sand - min 75mm cover

Duct 1 100mm - Electric 1 cabin feed include for 2 draw ropes

Duct 2 100mm - 25mm potable water feed to cabin (Blue MDPE) and Interceptor Return Pipe 32mm (Black MDPE) include for 2 draw ropes

Duct Type B Trench Reinstatement
Footpath Areas



A) Minimum 50mm deep, 10mm close grade surface course - aggregate to match existing. Joints to be sealed.

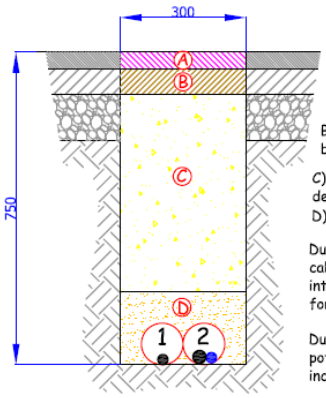
C) MOT Type 1 laid in layer and compacted.

D) Sand - min 75mm cover

Duct 1 100mm - Electric 1 cabin feed include for 2 draw ropes

Duct 2 100mm - 25mm potable water feed to cabin (Blue MDPE) and Interceptor Return Pipe 32mm (Black MDPE) include for 2 draw ropes

Duct Type B Trench Reinstatement
Car Park Bay's



A) Minimum 40mm deep, close grade surface course - aggregate to match existing. Joints to be sealed.

B) 60mm 0-20 DBM 125 binding course

C) Lean mix concrete full depth of trench.

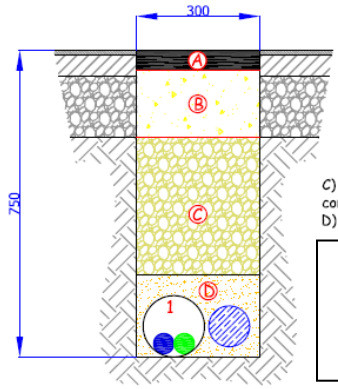
D) Sand - min 75mm cover

Duct 1 100mm - Electric 1 cabin feed & 2 feeds to the interceptor pumps include for 2 draw ropes

Duct 2 100mm - 25mm potable water feed to cabin include for 2 draw ropes

Duct Type B Trench Reinstatement
Traffic Isles

Trench Type C
From Cabin to Interceptor



A) Minimum 50mm deep, 10mm close grade surface course - aggregate to match existing. Joints to be sealed.

B) Lean mix concrete minimum 150mm deep or to original formation level which ever is the greater.

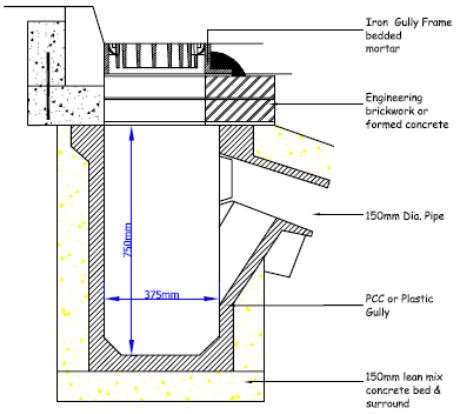
C) MOT Type 1 laid in layer and compacted.

D) Sand - min 75mm cover

1) 150mm ducting

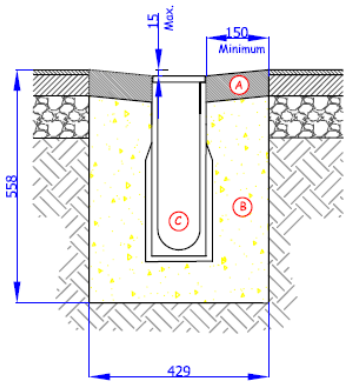
Duct Type C Trench Reinstatement
Car Park Bay's

Gully typical details



Gully Details

Typical Details of ACO installations

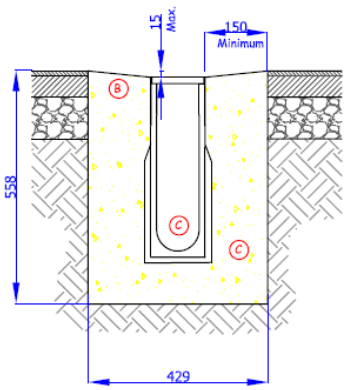


A) Minimum 50mm deep, 10mm close grade surface course - aggregate to match existing. Joints to be sealed.

B) Lean mix concrete minimum 150mm surround to ACO drain as manufacturers instructions.

C) ACO Drain K100 complete with black sloted ductile iron grating

ACO drains with Tarmac Reinstatement



A) Lean mix concrete minimum 150mm surround to ACO drain as manufacturers instructions.

B)Top 150mm to be cloured black using a colour fast dye and the top shall be brush finished in one direction

C) ACO Drain K100 complete with black sloted ductile iron grating

ACO drains with Concrete Reinstatement