



FLOW CONSULTING

HYDRAULIC DESIGN



FLOW CONSULTING

P.O.Box 10390, Te Rapa, Hamilton 3241

Phone : 0800 3569 266

Email : design@flowconsulting.co.nz

Web : www.flowconsulting.co.nz

PROJECT

TRADEWASTE TREATMENT SYSTEM
HYDRAULIC DESIGN SERVICES

1799A GREAT SOUTH ROAD, BOMBAY

JOB NUMBER :	1580
FILE REFERENCE No.	FC-1580.B-06.2025
FULL SET ISSUE DATE :	24.06.2025
CURRENT REVISION	B

DRAWING SET ISSUED
FOR CONSENT

CLIENT



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AMENDMENT DETAILS ISSUED FOR CONSENT	FULL SET ISSUE																REVISION
	A	B															DAY
	17	24															MONTH
	06	06															YEAR
	25	25															STATUS
	P	BC															CURRENT

DRG	DRAWING TITLE	ISSUED DRAWINGS																CURRENT	
		REV	DATE																
	COVER																	B	24.06.2025
H0001	DRAWING REGISTER																	B	24.06.2025
H0010	LEGEND																	B	24.06.2025
H0110	SCOPE OF WORKS																	B	24.06.2025
H1000	EXISTING SITE LAYOUT			N	R													B	24.06.2025
H1011	EXISTING TRADEWASTE LAYOUT			N	R													B	24.06.2025
H1012	EXISTING TRADEWASTE DETAIL					N												B	24.06.2025
H1070	EXISTING TRADEWASTE TREATMENT SCHEMATIC					N												B	24.06.2025
H1071	EXISTING TRADEWASTE WASHDOWN BAY DETAIL					N												B	24.06.2025
H2011	PROPOSED TRADEWASTE AND STORMWATER MANAGEMENT PLAN			N	R													B	24.06.2025
H2012	PROPOSED TRADEWASTE DETAIL					N												B	24.06.2025
H2070	PROPOSED TRADEWASTE TREATMENT SCHEMATIC					N												B	24.06.2025
H2071	PROPOSED TRADEWASTE WASHDOWN BAY DETAIL					N												B	24.06.2025

TRANSMITTAL INFORMATION																	
BY		DRAWINGS				TO				STATUS				FORMAT		EXPORTED	
DRAWN/REVISED	WHH	NEW DRAWING(S)	N	<input checked="" type="checkbox"/>	CLIENT	<input checked="" type="checkbox"/>	CONTRACTOR	<input checked="" type="checkbox"/>	INFORMATION	I	PRELIMINARY	P	HARD COPY	MODEL	RVT		
CHECKED	MLM	REVISED DRAWING(S)	R	<input checked="" type="checkbox"/>	ARCHITECT		PROJECT ADMIN		DEVELOPED DESIGN	D	CONSENT	BC	<input checked="" type="checkbox"/>	MODEL	IFC		
APPROVED	ATR	UPDATED/NO CHANGE	U		ENGINEER		OTHER		TENDER	T	CONSTRUCTION	C		CAD	DWG		

REV	DATE	DESCRIPTION	BY
A	06.25	PRELIMINARY DESIGN	WHH
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DRAWN
Walter Hitchins

DESIGNED
David Walker

CHECKED
Aaron Rink

FILE
FC-1580.B-06.2025



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 HYDRAULIC DESIGN SERVICES
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DRAWING REGISTER

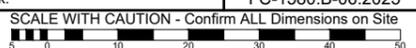
JOB
1580

DATE OF ISSUE
24.06.2025

SCALE
No Scale @ A3

DRG No.
H0001

REV
B A3 ORIGINAL



ABBREVIATIONS

- AAV : Air Admittance Valve
- AFFL : Above Finished Floor Level
- A/G : Above Ground
- B : Bath
- BDT : Bidet
- BFFL : Below Finished Floor Level
- BFP : Back Flow Preventer
- BIFO : Blucher Industrial Floor Outlet
- BO : Balcony Outlet
- BSK : Bar Sink
- BWU : Boiling Water Unit
- CD : Condensate Drain
- CE : Cleaning Eye
- COS : Clear Out to Surface
- CP : Catch Pit
- CSK : Cleaners Sink
- CSP : Cess Pit
- Cu : Copper
- CW : Cold Water
- CWD : Cold Water Dropper
- CWEX : Cold Water Expansion Valve
- CWR : Cold Water Riser
- DCV : Double Check Valve
- DCW : Domestic Cold Water
- DD : Dish Drawer
- DF : Drinking Fountain
- DHW : Domestic Hot Water
- DHWF : Domestic Hot Water Flow
- DHWR : Domestic Hot Water Return
- DN : Diameter of Pipe - Nominal
- DP : Down Pipe
- DW : Dish Washer
- EX : Existing
- F/A : From Above
- F/B : From Below
- FFL : Finished Floor Level
- FGL : Finished Ground Level
- FH : Fire Hydrant
- FHR : Fire Hose Reel
- FWG : Floor Waste Gully
- GIT : Grease Interceptor Trap
- GM : Gas Meter
- GT : Gully Trap
- GV : Group Vent
- GVB : Group Vented Branch
- GW : Glass Washer
- HB : Hand Basin
- HCVB : Hose Connection Vacuum Breaker
- HDPE : High Density Polyethylene
- HR : Hose Reel
- HT : Hose Tap (Cold Water)
- HW : Hot Water
- HWC : Hot Water Cylinder (Electric)
- HWD : Hot Water Dropper
- HWEX : Hot Water Expansion Valve
- HWF : Hot Water Flow
- HWHT : Hot Water Hose Tap
- HWR : Hot Water Return
- HWS : Hot Water Storage Cylinder
- HWU : Hot Water Unit (Gas)
- IB : Inspection Bend
- IJ : Inspection Joint
- IL : Invert Level
- IO : Inspection Opening
- IV : Isolating Valve
- LS : Line Strainer
- LT : Laundry Tub
- MDPE : Medium Density Polyethylene
- MH : Manhole
- MS : Mains Supply
- NPCW : Non Potable Cold Water
- NPHW : Non Potable Hot Water
- NRV : Non Return Valve
- O/F : Over Flow
- ORG : Overflow Relief Gully
- OS&Y : Outside Screw and Yoke
- PBO : Planter Box Outlet
- PE : Polyethylene
- PEX : Cross Linked Polyethylene
- PLV : Pressure Limiting Valve
- PPR : Random Polypropylene
- RCP : Reinforced Concrete Pipe
- RL : Reduced Level
- RP : Rodding Point
- RPZ : Reduced Pressure Zone (BFP)
- RRJ : Rubber Ring Jointed
- RWH : Rain Water Head
- RWO : Rain Water Outlet
- RWS : Rain Water Sump
- SDO : Spoon Drain Outlet
- SH : Soak Hole
- SHR : Shower
- SK : Sink
- SLS : Sluice Sink
- SLV : Sluice Valve
- S/S : Stainless Steel
- SS : Sanitary Sewer
- SSMH : Sanitary Sewer Manhole
- SU : Stub Up
- SV : Stop Valve
- SW : Storm Water
- SWMH : Storm Water Manhole
- T/A : To Above
- T/B : To Below
- TD : Tundish (Copper or Marley D-Blue)
- TV : Terminal Vent
- TW : Tradewaste
- U/G : Under Ground
- UGT : Under Bench Grease Trap
- UHCW : Under Bench Hot Water Cylinder
- UR : Urinal
- UWB : Under Bench Water Boiling Unit
- V/A : Valve Assembly - See Drawing
- VCP : Vitrified Clay Pipe
- VHB : Vanity Hand Basin
- VP : Vent Pipe
- W&T : Waste and Trap
- WC : Water Closet
- WHB : Wash Hand Basin
- WM : Washing Machine
- WP : Water Pipe

B Revision Update Marker

VENTS AND RISERS

- AAV  Air Admittance Valve (AAV)
- TV1  Terminal Vent
-  Riser
- ST1  Stack
-  Dropper
- VP1  Vent Pipe

VALVES & ACTUATORS

-  CLOSED
-  OPEN
-  Valve Position
-  Gate Valve
-  Check Valve
-  Non Return Valve
-  Pressure Limiting Valve (Higher Pressure Large Side)
-  Angle Valve
-  Expansion Valve
-  Relief Valve
-  Gas Regulating Valve
-  Tempering Valve
-  Three Way Valve (Closed Port Darkened)
-  Aquasave Valve (N/C Port Darkened)
-  Toby Valve
-  Flow Regulating Valve
-  Solenoid Operated Valve
-  Motor Driven Valve
-  Flow Alarm Valve
-  Flow Actuated Valve
-  Thermostatic Mixing Valve
-  Float Actuated Valve
-  Hand Wheel Operated
-  Spring Return Valve
-  Valve in Riser
-  Valve in Dropper

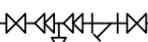
FIRE SERVICE

-  **FH** 5 Fire Hydrant & No. at this Location
-  **FHR** 2 Fire Hose Reel & No. at this Location

JOINTS

- (If not identified use Best Practice)
-  Screwed
-  Flanged
-  Welded
-  Soldered
-  Bell & Spigot

ASSEMBLIES

-  Double Check Valve (DCV) Assembly
-  Reduced Pressure Zone (RPZ) Assembly
-  Example Valve Assembly Pressure Relief Valve with Spring Return

CONNECTIONS

-  Point of Connection (New to Existing)
-  Loop Over (No Connection)
-  Connection Point (Cross Over)
-  Connection Point (Tee Junction)
-  Inspection Joint (at Connection Point)
-  Inspection Bend (at Connection Point)
-  Inspection Opening

OUTLETS

-  Cold Water Outlet
-  Hot Water Outlet
-  IsoValve™ Outlet
-  Cold Water Hose Tap
-  Hot Water Hose Tap
-  Mixing Valve Outlet
-  Gas Outlet

PENETRATIONS

-  Roof Penetration
-  Wall Penetration

METERS AND GAUGES

-  Gas Meter with Regulating Valve Assembly
-  Gas Meter Apartment Gas Meter
-  Water Meter with Toby Valve
-  Water Meter Apartment Water Meter
-  Pressure Gauge
-  Temperature Gauge
-  Temperature / Pressure Gauge

OPERATION

-  Direction of Flow
-  Pipe Fall FALL = 1:100
-  Concentric Reducer
-  Eccentric Reducer

DRAINS AND TRAPS

-  Condensate Drain
-  Tundish (Copper or Marley D-Blue)
-  Gully Trap
-  Overflow Relief Gully
-  Grease Interceptor Trap
-  Channel Drain c/w FWG
-  Traps - (Schematics)
-  Drain in Unit or Wall
-  Floor Waste Gully
-  Floor Waste Outlet
-  Rain Water Outlet (RWO) / Planter Box Outlet (PBO) / Balcony Outlet (BO) As Noted
-  450 x 450 Cess Pit
-  Ø100 Half Siphon Outlet
-  675 x 450 Cess Pit
-  Ø150 Half Siphon Outlet

CAPS / CLEANOUTS

-  Clean Out to Surface (COS)
-  Cleaning Eye Rodding Point
-  Capped Pipe

ELECTRICAL

-  Motor
-  Pump
-  Pump - Bi Directional
-  Pump - Variable Pressure
-  Control Panel
-  Electrical Sub Board
-  Main Distribution Board
-  Switched Socket Outlet (SSO)

MANHOLES AND CHAMBERS

-  Ø1050 Manhole (SSMH and SWMH)
-  Ø900 and Ø600 Chamber (SSMH and SWMH)
-  Ø1050 Pump Station (PS)
-  Ø900 Pump Chamber (PC)
-  Ø900 Circular Sump
-  Ø600 Circular Sump

HOT WATER UNITS

-  Hot Water Unit (Gas)
-  Hot Water Cylinder (Electric)
-  Hot Water Storage Cylinder

MISCELLANEOUS

-  Battery Timer - (GARDENA) (Batory Powered Flex Control)
-  Back Flow Prevention Device
-  Double Check Valve
-  Reduced Pressure Zone
-  Pipe Size Definition

LINE TYPES

-  New Installation
-  Existing Pipework
-  Redundant Pipework
-  Pipework To Be Removed
-  Sanitary Drain / Waste Pipe
-  Stormwater Drain
-  Tradewaste Drainage
-  Field Drain - Nova Coil
-  Condensate Drain
-  Vent Pipe
-  Domestic Cold Water (DCW)
-  Hot Water Flow (HWF)
-  Hot Water Return (HWR)
-  Rising Cold Water Main
-  Rising Hot Water Main
-  Fire Hose Reel Supply
-  Non Potable Cold Water
-  Non Potable Hot Water
-  Rainwater Collection Pipe
-  High Level Pipe Work
-  Acoustically Lagged Pipe
-  Pipe Wrapped in Denso Tape
-  Pipework in Conduit
-  Gas Line
-  Electrical Cable
-  Control Cable
-  Telecom Cable
-  Data Cable
-  Hatched Foundations

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Shown in Millimetres

DRAWN	DESIGNED	CHECKED	FILE
David Walker	Aaron Rink	Aaron Rink	FC-1580.B-06.2025

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0800 3569 266

TRADEWASTE TREATMENT SYSTEM
HYDRAULIC DESIGN SERVICES
1799A GREAT SOUTH ROAD, BOMBAY

LEGEND

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	No Scale @ A3
DRG No.	H0010
REV	B
	A3 ORIGINAL

FOR CONSENT

PLUMBING AND DRAINAGE SERVICES - SCOPE OF WORK

It is proposed that the existing Fuel depot and washdown bay located at 1799A Great South Road, Bombay is to update the existing Trade waste Treatment system.

- Fuel Depot - Install 2 x catchpits and an API separator into a new concrete pad designed by others
- Washdown Bay - Install an Oil and Grit Interceptor
- Install square junctions on the inlet and outlet of the existing 5000 treatment tank.
- Redirect treated trade waste discharge to stormwater.

These Flow Consulting design plans detail the trade waste treatment and stormwater management services. Please refer to the TSC design for further stormwater treatment plans.

The following works are to be undertaken by the Plumbing and Drainage contractor as detailed on these plans and general specifications attached to deliver this new project:

Location of services:

1. Ensure the existing rain harvested water supply tank overflow discharges to the existing on-site soakage system under raised mound - 4 meters deep.

Trade waste - Fuel Depot:

2. Ensure the required drain fall is available before the installation of any new drainage works.
3. Excavate, supply, and install all required trade waste and stormwater drainage as detailed on the plans.
4. Install new concrete pad designed by others for fuel depot c/w 2 x catch-pits and an API separator.
 - Exact size and shape to be confirmed by others.
 - Refer to Structural Engineering.
5. Connect 150 API outlet to existing tradewaste pipework downstream of the new OGI.

Trade waste - Washdown Bay:

6. Ensure the required drain fall is available before the installation of any new drainage works.
7. Excavate, supply, and install all required trade waste and stormwater drainage as detailed on the plans.
8. Install new Hynds 3000L Oil and grit interceptor c/w open grate as detailed.
9. Install two new square junctions into the existing 5000 Litre tank and raise lid as detailed.
10. Re-direct the existing 150 tank outlet to discharge to the existing 150 rock swale novacoil as detailed.

Stormwater Management:

11. Allow for a new stormwater manhole to be installed in co-ordination with any proposed future development.
12. Refer to TSC design.

Heavy vehicle site requirements:

13. All new pipework is to be installed in uPVC Class SN16.
14. Allow supply of all required pipe bedding material ensuring all drains are backfilled and compacted with pit sand.
15. Allow for heavy vehicle cover of gravel base course as specified by others.
16. Remove all excess spoil from site.

General:

- All work is to be undertaken in accordance with NZBC and local authority requirements.
- The contractor is to liaise with the local authority for all necessary inspections providing appropriate notice before due inspection.
- Allow to attend coordination meetings on-site with other trades and make any necessary changes to pipe run locations detailed on these plans to accommodate other services.
- Please Note: Any deviation from this design scope, the Flow Consulting design plans and the products specified must be approved by Flow Consulting before the commencement of any works.



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 Shown in Millimetres

DRAWN Walter Hitchins
DESIGNED Mike McLaren
CHECKED Aaron Rink
FILE FC-1580.B-06.2025

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 Email : design@flowconsulting.co.nz

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 HYDRAULIC DESIGN SERVICES
 1799A GREAT SOUTH ROAD, BOMBAY

SCOPE OF WORKS

JOB 1580
DATE OF ISSUE 24.06.2025
SCALE No Scale @ A3
DRG No. H0110
REV B
A3 ORIGINAL



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Scale 1:1250
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DESIGNED	Walter Hitchins
CHECKED	Mike McLaren
FILE	Aaron Rink
FILE	FC-1580.B-06.2025

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EXISTING SITE LAYOUT

JOB	1580
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SCALE	1:1250 @ A3
DRG No.	H1000
REV	A3 ORIGINAL
B	



5000 LITRE STORMLITE TANK
FOR PRIMARY TRADEWASTE TREATMENT
• SQUARE JUNCTIONS REQUIRED ON INLET AND OUTLET

BORE WATER SUPPLY SHED
NON-POTABLE

ROOF WATER SUPPLY TANK
NON-POTABLE
OVERFLOW TO ON-SITE SOAKAGE

ON-SITE SOAKAGE SYSTEM UNDER RAISED MOUND
4 METERS DEEP

BUBBLE-UP OVERFLOW

Ø150 NOVACOIL

EXISTING ROCK SWALE - 400MM DEEP

SW DRAINAGE FROM EX DP's
EXACT LOCATIONS TBC

CATCH-PIT C/W Ø150 SQUARE JUNCTION OUTLET
GROSS POLLUTANT TRAP

WASHDOWN
BAY

SHED 1

OVERLAND
FLOW PATH

OPEN GRATE

OVERLAND
FLOW PATH

FUEL
DEPOT

EXISTING DOUBLE WALL
SURROUNDING TANK
- COMPLIANT

EXISTING FUELING STATION
- NON-COMPLIANT
REFER TO SCHEMATIC PHOTO

OFFICE

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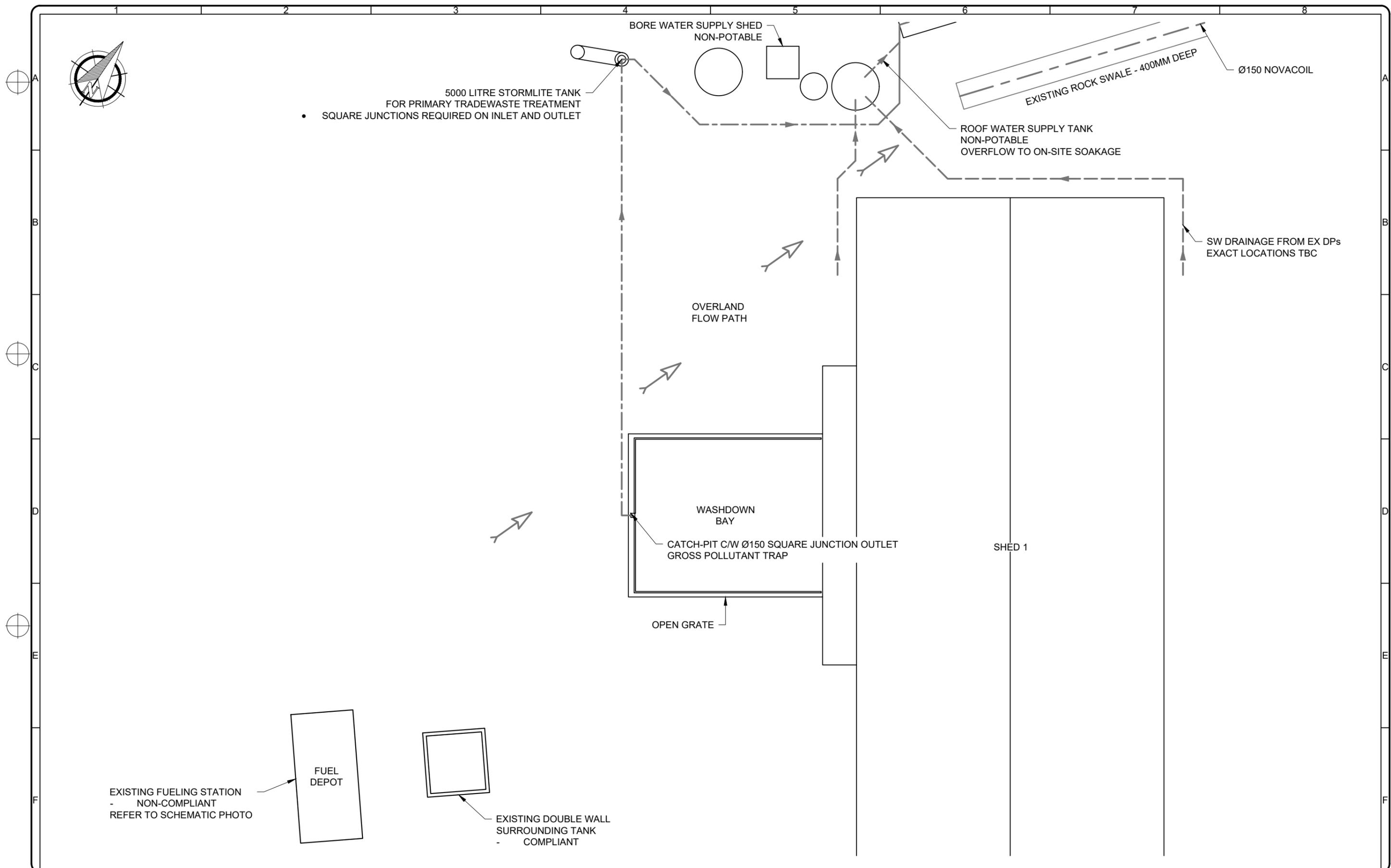
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EXISTING TRADEWASTE LAYOUT

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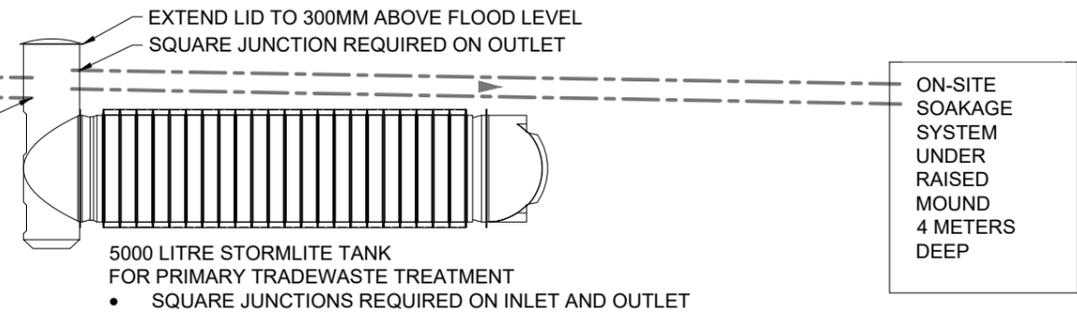
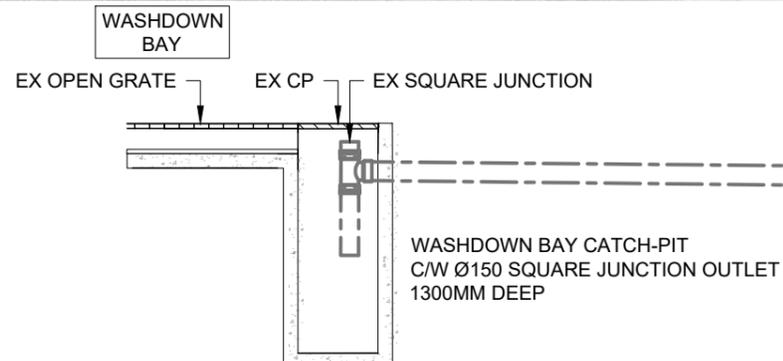
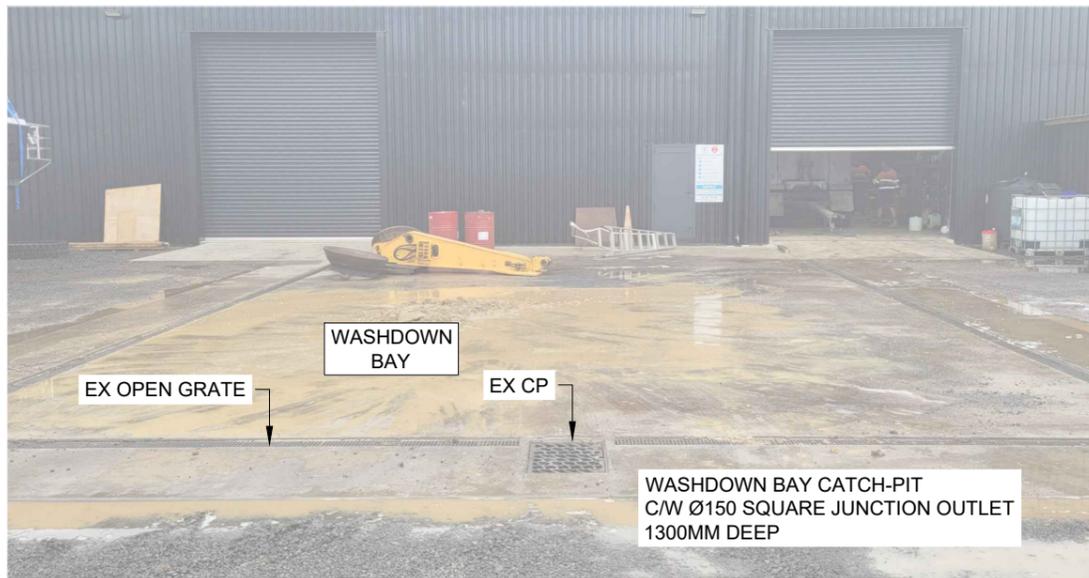
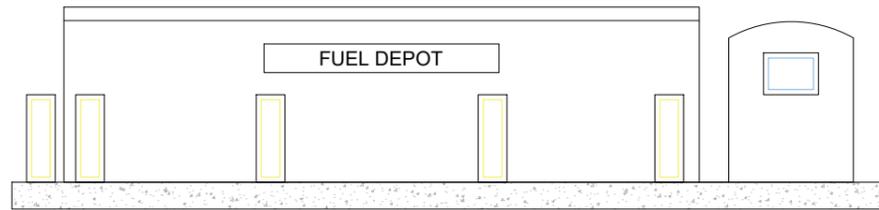
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EXISTING TRADEWASTE DETAIL

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REV	A3 ORIGINAL
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EXISTING TRADEWASTE TREATMENT



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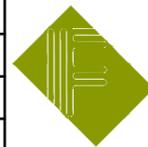
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Scale 1:1
 Shown in Millimetres

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DESIGNED	Mike McLaren
CHECKED	Aaron Rink
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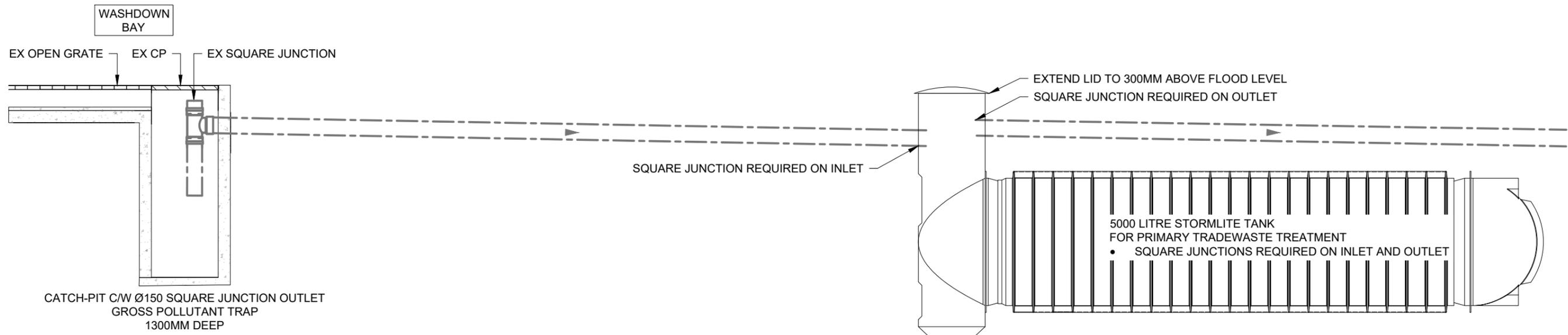
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FOR CONSENT

TRADEWASTE TREATMENT SYSTEM
 HYDRAULIC DESIGN SERVICES
 1799A GREAT SOUTH ROAD, BOMBAY

EXISTING TRADEWASTE TREATMENT SCHEMATIC

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	N.T.S. @ A3
DRG No.	H1070
REV	A3 ORIGINAL



**EXISTING WASHDOWN BAY
TRADEWASTE TREATMENT DETAIL**

REV	DATE	DESCRIPTION	BY
A	06.25	PRELIMINARY DESIGN	WHH
B	06.25	ISSUED FOR CONSENT	WHH

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CONTRACTOR
TSC
Planners, Surveyors & Engineers

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Aaron Rink

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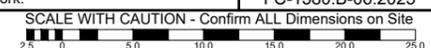
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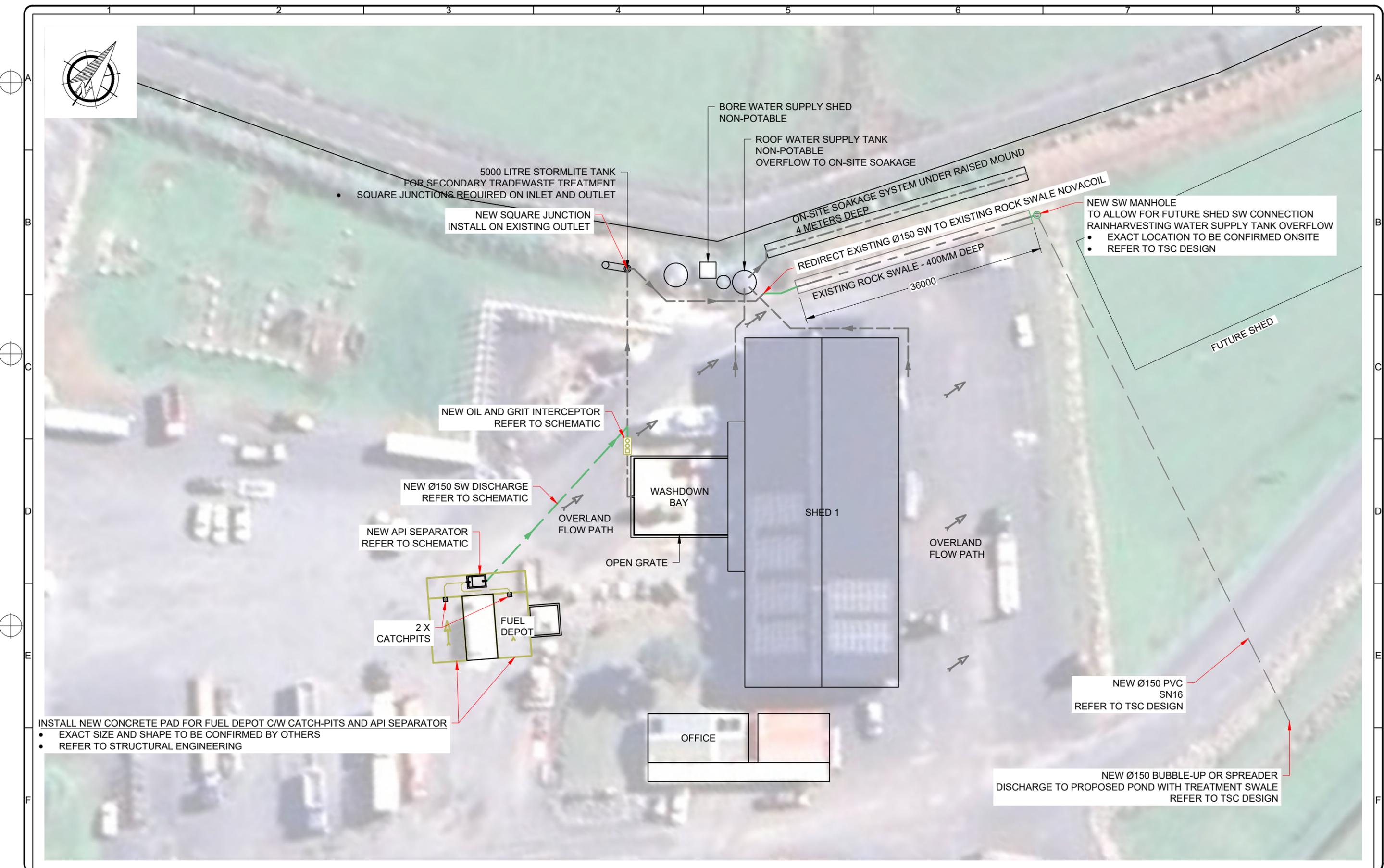
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TRADEWASTE TREATMENT SYSTEM
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**EXISTING TRADEWASTE
WASHDOWN BAY DETAIL**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:500 @ A3
DRG No.	H1071
REV	B
	A3 ORIGINAL





INSTALL NEW CONCRETE PAD FOR FUEL DEPOT C/W CATCH-PITS AND API SEPARATOR

- EXACT SIZE AND SHAPE TO BE CONFIRMED BY OTHERS
- REFER TO STRUCTURAL ENGINEERING

NEW Ø150 PVC SN16 REFER TO TSC DESIGN

NEW Ø150 BUBBLE-UP OR SPREADER DISCHARGE TO PROPOSED POND WITH TREATMENT SWALE REFER TO TSC DESIGN

REV	DATE	DESCRIPTION	BY
A	06.25	PRELIMINARY DESIGN	WHH
B	06.25	ISSUED FOR CONSENT	WHH

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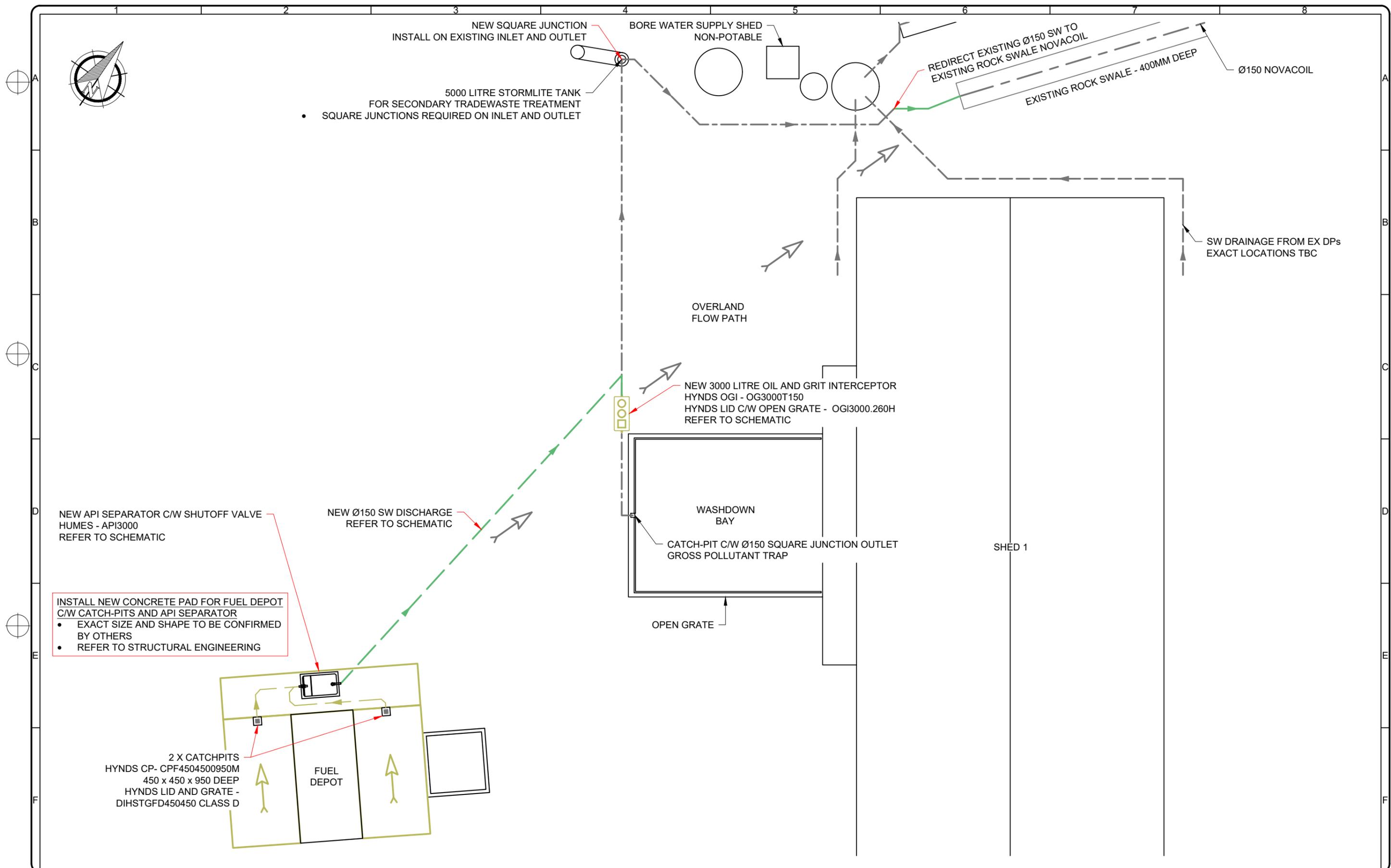
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 0800 3569 266

FOR CONSENT

TRADEWASTE TREATMENT SYSTEM
 HYDRAULIC DESIGN SERVICES
 1799A GREAT SOUTH ROAD, BOMBAY

**PROPOSED TRADEWASTE AND
 STORMWATER MANAGEMENT PLAN**

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:500 @ A3
DRG No.	H2011
REV	A3 ORIGINAL
B	



NEW SQUARE JUNCTION
INSTALL ON EXISTING INLET AND OUTLET

5000 LITRE STORMLITE TANK
FOR SECONDARY TRADEWASTE TREATMENT

- SQUARE JUNCTIONS REQUIRED ON INLET AND OUTLET

NEW API SEPARATOR C/W SHUTOFF VALVE
HUMES - API3000
REFER TO SCHEMATIC

INSTALL NEW CONCRETE PAD FOR FUEL DEPOT
C/W CATCH-PITS AND API SEPARATOR

- EXACT SIZE AND SHAPE TO BE CONFIRMED BY OTHERS
- REFER TO STRUCTURAL ENGINEERING

2 X CATCHPITS
HYNDS CP- CPF4504500950M
450 x 450 x 950 DEEP
HYNDS LID AND GRATE -
DIHSTGFD450450 CLASS D

NEW Ø150 SW DISCHARGE
REFER TO SCHEMATIC

NEW 3000 LITRE OIL AND GRIT INTERCEPTOR
HYNDS OGI - OG3000T150
HYNDS LID C/W OPEN GRATE - OGI3000.260H
REFER TO SCHEMATIC

WASHDOWN BAY
CATCH-PIT C/W Ø150 SQUARE JUNCTION OUTLET
GROSS POLLUTANT TRAP

OPEN GRATE

SHED 1

SW DRAINAGE FROM EX DPs
EXACT LOCATIONS TBC

REV	DATE	DESCRIPTION	BY
A	06.25	PRELIMINARY DESIGN	W/HH
B	06.25	ISSUED FOR CONSENT	W/HH

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Scale 1:250
Shown in Metres

AMENDMENTS
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DESIGNED Mike McLaren
CHECKED Aaron Rink
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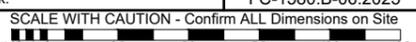
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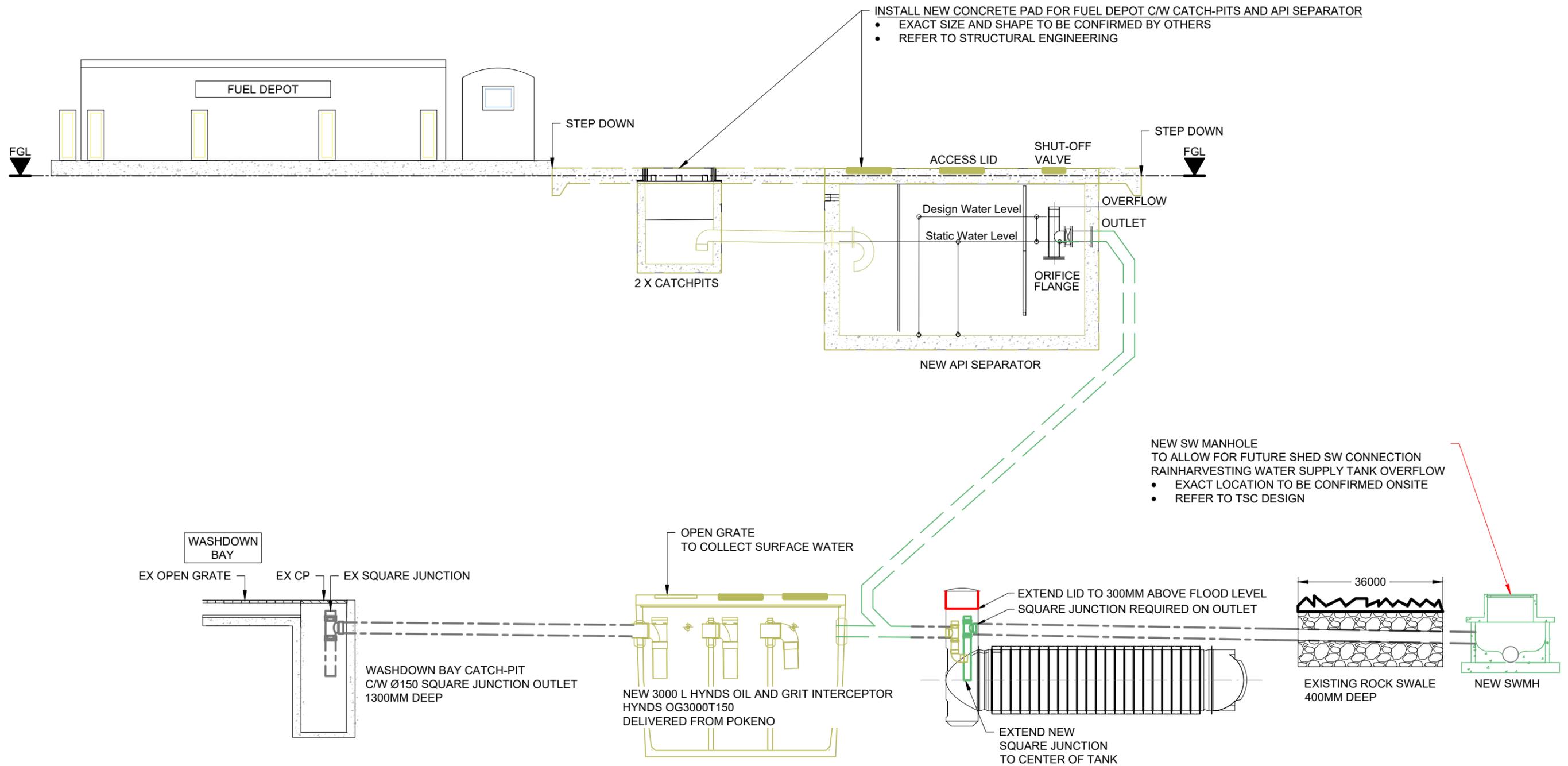
TRADEWASTE TREATMENT SYSTEM
HYDRAULIC DESIGN SERVICES
1799A GREAT SOUTH ROAD, BOMBAY

PROPOSED TRADEWASTE DETAIL

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:250 @ A3
DRG No.	H2012
REV	A3 ORIGINAL
	B



PROPOSED TRADEWASTE TREATMENT



INSTALL NEW CONCRETE PAD FOR FUEL DEPOT C/W CATCH-PITS AND API SEPARATOR

- EXACT SIZE AND SHAPE TO BE CONFIRMED BY OTHERS
- REFER TO STRUCTURAL ENGINEERING

NEW SW MANHOLE TO ALLOW FOR FUTURE SHED SW CONNECTION RAINHARVESTING WATER SUPPLY TANK OVERFLOW

- EXACT LOCATION TO BE CONFIRMED ONSITE
- REFER TO TSC DESIGN

REV	DATE	DESCRIPTION	BY
A	06.25	PRELIMINARY DESIGN	WHH
B	06.25	ISSUED FOR CONSENT	WHH

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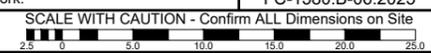
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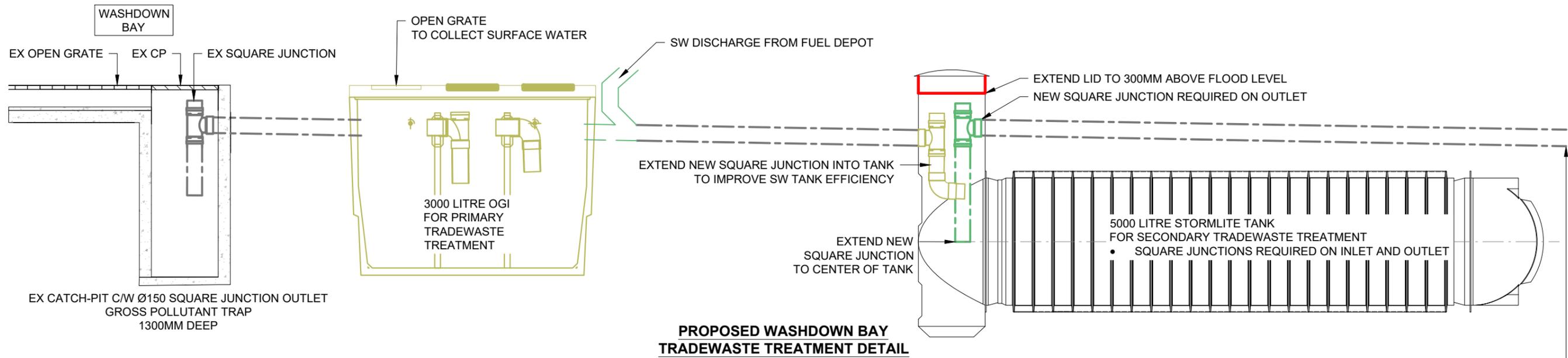
TRADEWASTE TREATMENT SYSTEM
 HYDRAULIC DESIGN SERVICES
 1799A GREAT SOUTH ROAD, BOMBAY

PROPOSED TRADEWASTE TREATMENT SCHEMATIC

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:500 @ A3
DRG No.	H2070
REV	B A3 ORIGINAL

FOR CONSENT





- DISCHARGE TO EXISTING Ø150 NOVACOIL**
- EXISTING ROCK SWALE
 - PROPOSED POND WITH TREATMENT SWALE - REFER TO TSC DESIGN

REV	DATE	DESCRIPTION	BY
A	06.25	PRELIMINARY DESIGN	WHH
B	06.25	ISSUED FOR CONSENT	WHH

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TRADEWASTE TREATMENT SYSTEM
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PROPOSED TRADEWASTE WASHDOWN BAY DETAIL

JOB	1580
DATE OF ISSUE	24.06.2025
SCALE	1:500 @ A3
DRG No.	H2071
REV	B
	A3 ORIGINAL

Catchpit Units Flat Top and Back Entry

Technical Guide D5.1

Manufactured at our state of the art world leading concrete manufacturing plant in Pokeno, the Catchpit Units have improved lower openings and are lighter weight than standard catchpits



02.25 | DRAINAGE | D5.1 HYNDS CESSPIT UNITS FLAT TOP AND BACK ENTRY

Applications

Stormwater drainage

Product Attributes

Available as flat top or back entry

Riser units available on request

Durable precast concrete manufacturing

Economical installation

Approvals/Standards

NZS 3109, Concrete Construction

AS3996-2006, Streetware

Sustainability

Available in Hynds LC[®] low carbon concrete

Verifiable carbon footprint data available

Customisable for climate-resilient infrastructure

Quality/Environment/Health & Safety

ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018

Hynds have a range of precast concrete cesspit units, ideal for draining storm water from roadsides and into drainage pipes.

Installation

- The unit features factory fitted lifting anchors cast into the concrete to allow for safe off-loading and easy economical installation by the contractor.
- Slam Lock Cast iron or ductile iron frames, grates and back inlet kerb blocks are also available through Hynds. Units must be installed on compacted level hardfill.
- The units with the pre-formed soft spots situated in the sidewalls provide easy fitting for outlet pipe work.
- Installation is completed by filling the gap between the holes made for the pipe work with epoxy mortar, backfilling the trench and compacting as required.

Design Specifications

- Soft spots are cast on all four sides (certain models excluded).
- Flat top cesspit has no back inlet.
- Back entry cesspit available in: 675 x 450 mm standard; and 675 x 450 mm syphon cesspit.
- Hydro 675 x 450 Class D is an excellent alternative to standard grates and frames. Please refer to our D4.16 product sheet for further information.

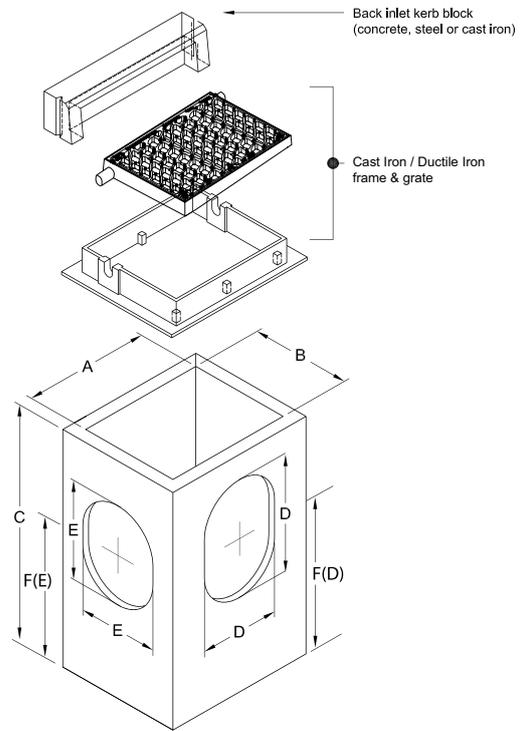


FIG. 1 Flat Top Cesspit (refer to Table 1)

TABLE 1 Flat Top Cesspit Dimensions

Product Code	Internal Size (mm)	External Size (mm)	Soft Spots (mm)		Depth to Centre (mm)		Avg. Thickness (mm)	Mass (kg)
			D(WxH)	E(WxH)	F(D)	F(E)		
	AxBxC (L x W x H)	AxBxC (L x W x H)						
Standard Flat Top								
CPF4504500950M	450 x 450 x 950	600 x 600 x 1025	390 x 390	390 x 390	400	400	75	449
CPF6754500900M	675 x 450 x 900	825 x 600 x 975	319 x 319	244 x 244	295	332.5	75	543
CPF6754501200M	675 x 450 x 1200	825 x 600 x 1275	370 x 435	370 x 435	652.5	652.5	75	709
CPF6754501650M	675 x 450 x 1650	825 x 600 x 1725	339 x 789	339 x 789	910	910	75	956

- Please refer to your local Hynds Branch or contact Hynds Technical Services for further details.
- Available within the North Island Region only.

TABLE 2 Flat Top Cesspit Dimensions

Product Code	Nominal Size (mm) (L x W x H)	Back Entry Dimensions (mm)				Mass (kg)
		L1	L2	H1	H2	
CPB6754500900M	675 x 450 x 900	480	450	100	176	530
CPB6754501200M	675 x 450 x 1200	480	450	100	176	696
CPB6754501650M	675 x 450 x 1650	480	450	100	176	946

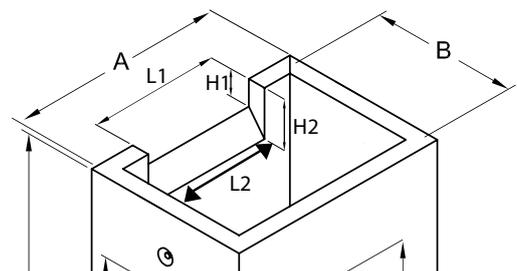


FIG. 2 Back Entry Catchpit Opening Shape

TABLE 3 Cast Iron Grates and Frames Available

Product code	Class	Dimensions (mm)	Mass (kg)
CIC450450GF	B	450 x 450	69
CIC675450GF	D	675 x 450	118
CIC675450HDGF	D	675 x 450	117

TABLE 4 Galvanised Mild Steel Heel Proof Grates and Frames Available

Product code	Class	Dimensions (mm)	Mass (kg)
GGHS450450AGF	A	450 x 450	16
GGHS450450DGF	D	450 x 450	35
GGHS675450AGF	A	675 x 450	23
GGHS675450DGF	D	675 x 450	59

TABLE 5 Ductile Iron Hydro Grates and Frames Available

Product code	Class	Dimensions (mm)	Mass (kg)
DIHSTGFD450450	D	450 x 450	55
DIHSTGFDSL	D	675 x 450	66.5

Note: Products are getting replaced

TABLE 6 Standard Concrete Kerb Block

Product code	Mass (kg)
CP900	51

Also refer to:

D16.12 Hydro Stormwater Grate and Frame Hynds Streetware Catalogue

Lifting and Handling

Hynds Pipe Systems has designed and manufactured Hynds Cesspit Units Flat Top and Back Entry 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 cesspits:

- 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
- 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:
 - Transporting the element as close as practical to ground level (300mm recommended)
 - Establishing and maintaining exclusion zones
 - Transporting only precast concrete elements that are unlikely to topple if they were to hit the ground
 - Inspecting lifting anchors both after transportation and before final lifting into place
- Hynds uses both Reids and Ancon lifting anchors which are both designed to (*Haeussler*) specifications and as such are compatible with Reid, Deha or Ancon anchors, clutches, and recess formers of the same load range.

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 Cesspit Units 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 0800 93 7473*

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.

hynds.co.nz
0800 93 7473

HYNDS
PIPE SYSTEMS

The logo for Hynds Pipe Systems features the word "HYNDS" in a large, bold, white sans-serif font. Below it, the words "PIPE SYSTEMS" are written in a smaller, white sans-serif font. A yellow curved line, resembling a stylized pipe or a smile, is positioned at the bottom of the logo.

HUMES

API Oil Interceptor



Design meets the standards set by the Oil Industry Guidelines and ARC TP10 (2003)*

The Humes API Oil Interceptor is designed to separate hydrocarbons from stormwater runoff and has the capability to capture an accidental spill up to 2500 litres discharging at 1000 litres per minute. The butterfly shut-off valve closes at capacity allowing containment of excessive accidental spills.

Applications

- Service stations
- Truck stops
- Vehicle service centres
- Terminals and depots
- Blending and manufacturing plants

Benefits

- Cost effective
- Safe and reliable
- Reduced installation cost
- Retention of accidental spill
- Easy access for servicing

Features

- Efficient separation, industry compliance
- Full range to suit individual catchment areas
- Emergency shut-off
- Few moving parts
- Quality precast unit
- Designed to carry legal wheel loadings

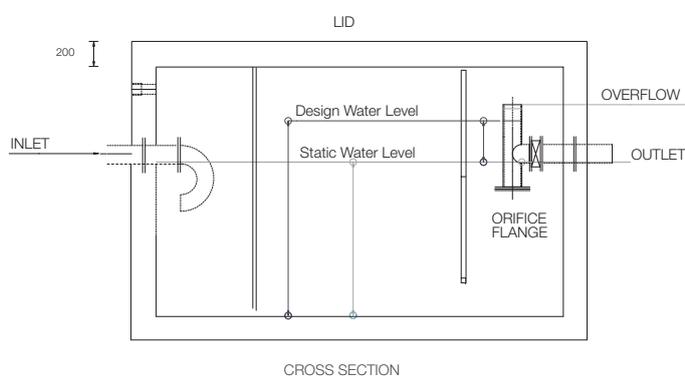
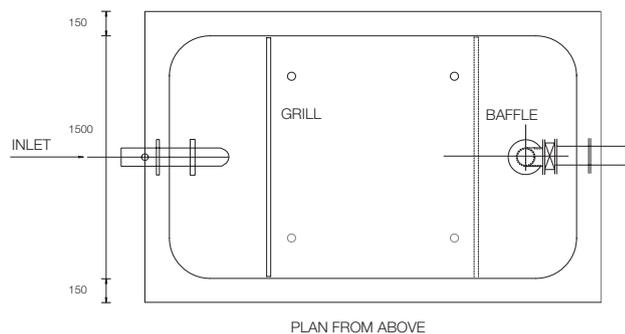
Testing and Design

Testing and design of the Humes API Oil Interceptor has been carried out as per requirements of ARC TP10 (2003) and the Environmental Guidelines for Water Discharge from Petroleum Industry sites in New Zealand (MFE):

- to retain at least 2500 litres of spill
- to discharge less than 15 parts/million total petroleum hydrocarbons
- to not exceed 25m/hour horizontal velocity through unit.

*TP10 is a design guideline manual for Stormwater Management Devices published by the Auckland Regional Council

API Oil Interceptor



Installation

The Humes API unit must be bedded to a level and uniform surface providing a safe bearing capacity of 100kPa. If for any reason this cannot be achieved an engineer experienced in foundations should be contacted for specialist advice.

The minimum requirement for the prepared bedding is a 100mm layer of compacted granular material. The lid must be bedded uniformly on all sides to a full width layer of mortar.

Units installed below ground or on a sloped finished ground or pavement surface must be designed specifically for those conditions. Wall props are required as tabulated below.

Maintenance and operation

The units must be maintained and operated in accordance with the appropriate industry guidelines and the environmental management plan developed for the site.

Manufacturing standards

All materials comply with the relevant New Zealand standard. Precast manufacture is to NZS 3109:1997 with surface finishes to NZS 3114:1987, F4 and U2 for formed and trowelled respectively. Concrete has a design strength of 40 MPa.

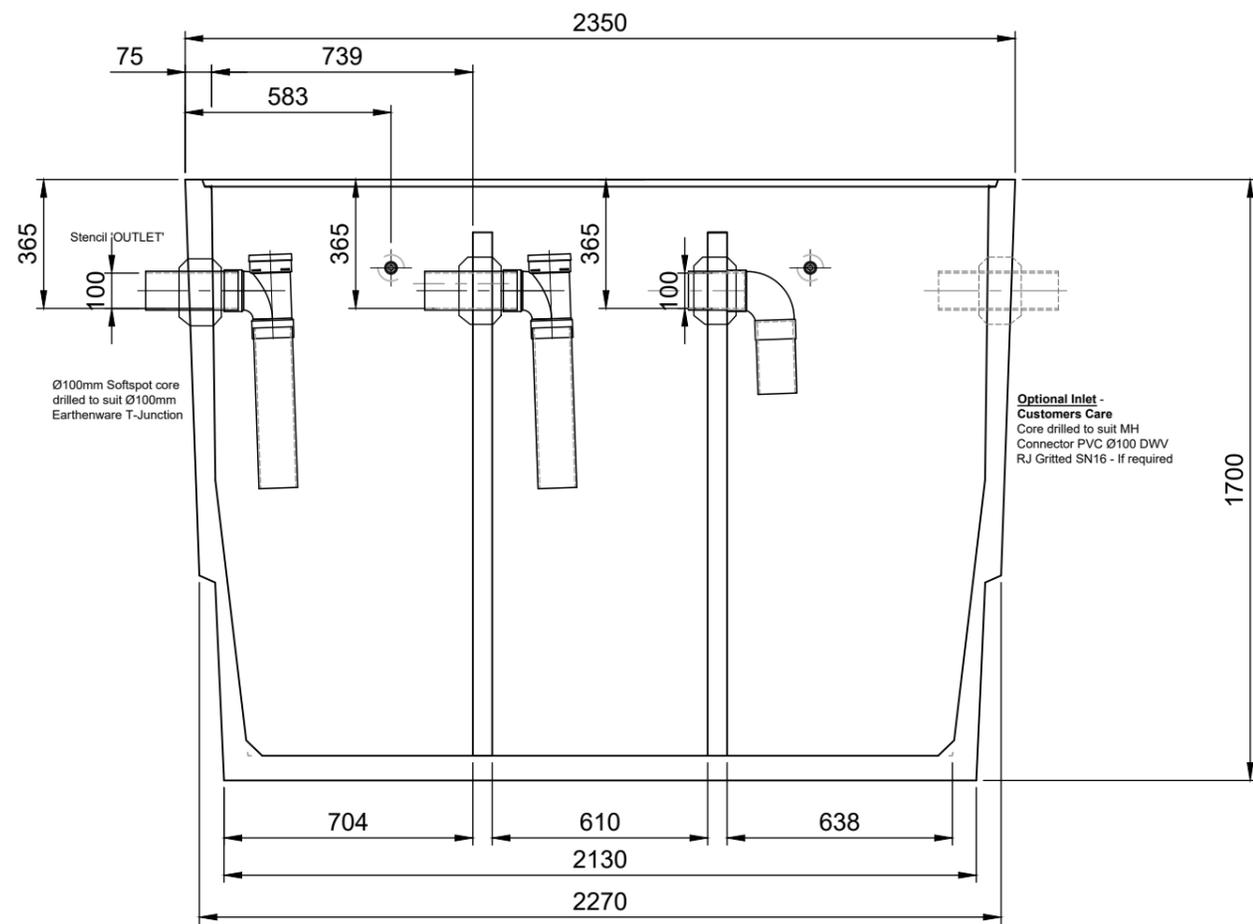
API Oil Interceptor

Oil Industry Guidelines

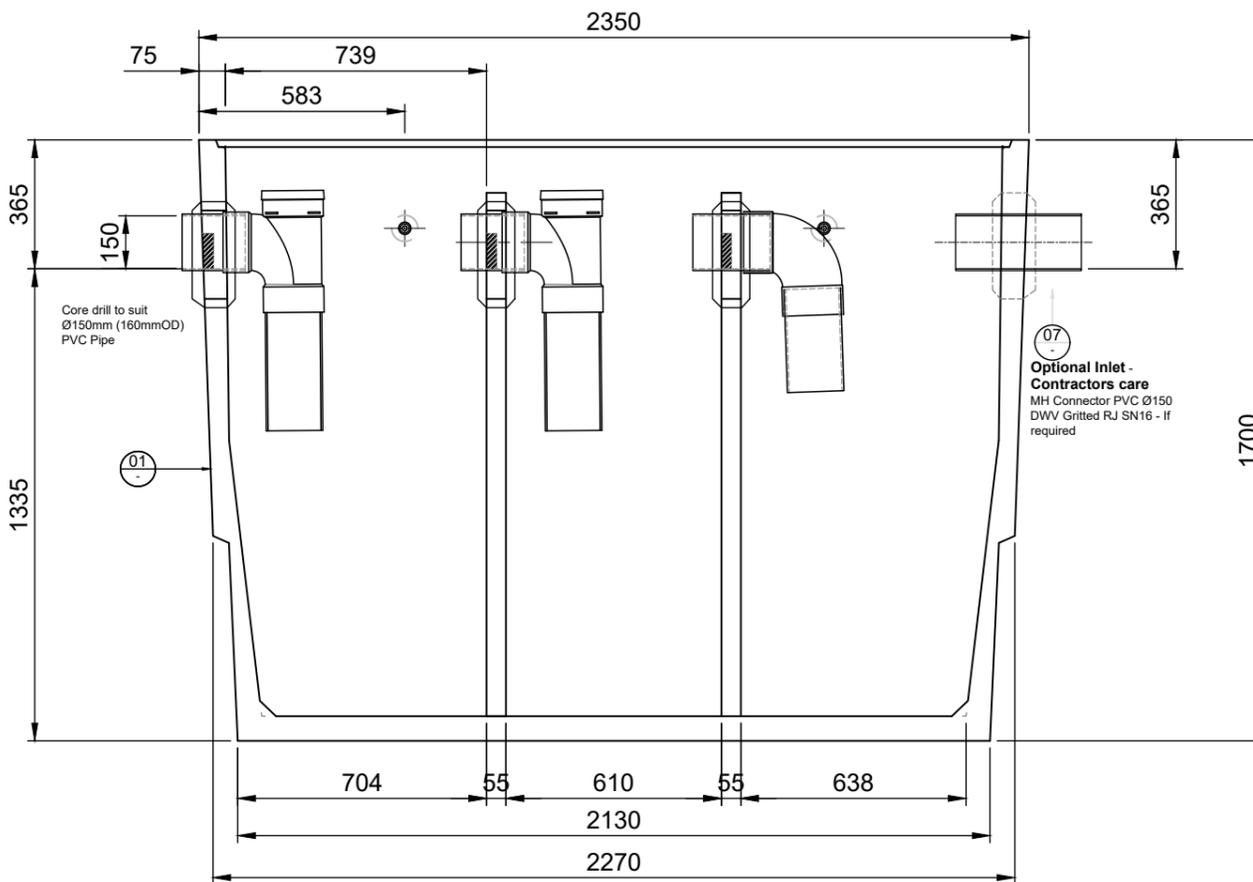
Model Reference	API3000	API3500	API4000	API4500	API5000	API5500
Item Code (API Body fitted out)	04070	04073	04022	04028	04043	04052
Item Code (API lid c/w access covers)	04098	04078	04024	04032	04050	04054
Internal Length	3000	3500	4000	4500	5000	5500
Internal Width	1500	1500	1500	1500	1500	1500
External Height	1850	1850	1875	1875	1875	1875
External Length	3300	3800	4300	4800	5300	5800
External Width	1800	1800	1800	1800	1800	1800
Unit Weight (tonnes)	10.6	11.9	13.9	15.4	16.6	18.0
R.H.S. Struts	1	1	1	2	2	3
Intercepted Length to Baffle	2400	2900	3400	3900	4400	4900
Capacity for AGO (SG 0.9) m³	3.00	3.63	4.25	4.88	5.50	6.13
Design Flow m³/hr	2.45	2.95	3.45	3.95	4.35	4.80
Orifice Size D mm	25	28	30	32	33	35
Catchment Area m²						
9mm/hr	272	328	383	439	483	533
12mm/hr	204	246	288	329	363	400
15mm/hr	163	197	230	263	290	320
ARC Chapter 10, TP10						
Design Flow m ³ /hr	1.75	2.10	2.40	2.75	3.05	3.40
Orifice Size D mm	21	23	25	27	28	30
Area m ² 15mm/hr	117	140	160	183	203	227

Buyers and users of the products described in this brochure must make their own assessment of the suitability and appropriateness of the products for their particular use and the conditions in which they will be used. All queries regarding product suitability, purpose or installation should be directed to the nearest Humes Sales Centre for service and assistance. © Fletcher Concrete and Infrastructure Limited 2014. Printed 03/14.

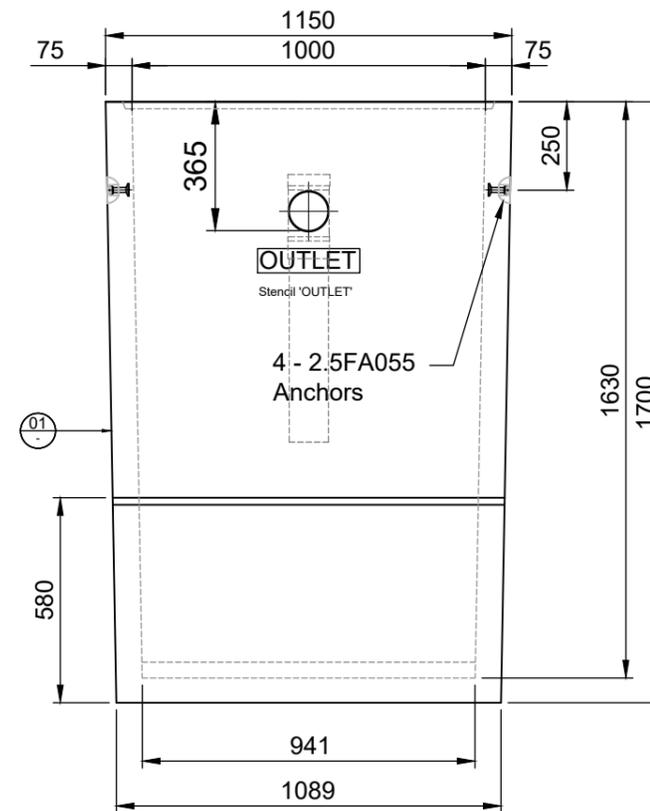




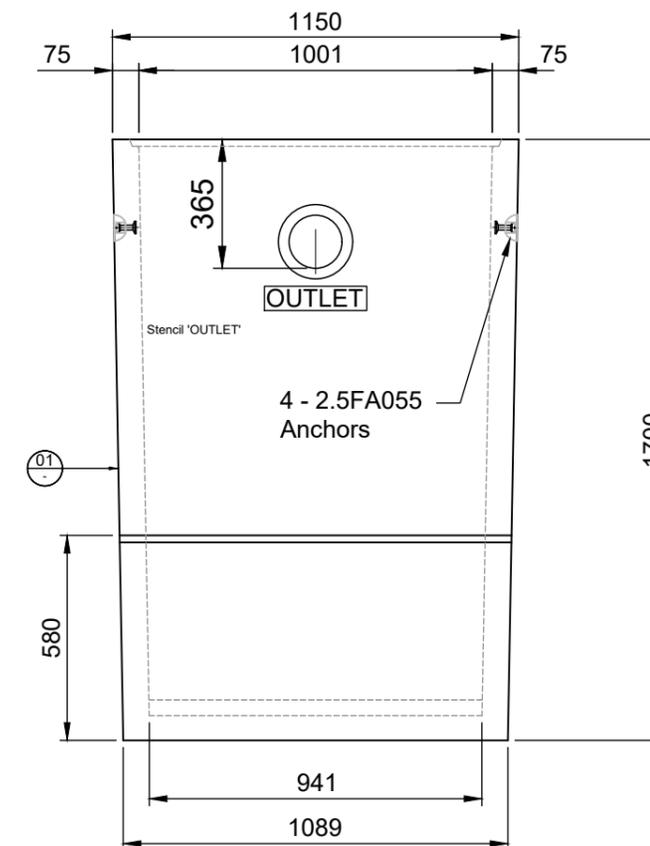
OG3000T100



OG3000T150



OG3000T100



OG3000T150

NOTES:

1. Concrete :
 - 1.1. $f'c = 50MPa$, 10mm Aggregate
 - 1.2. Demould = 15MPa Min.
 - 1.3. Lift & Rotate = 25MPa Min.
2. Reo :
 - 2.1. $f_y = \text{Grade 500E MA}$
 - 2.2. Reo Cover = 20mm Min.
 - 2.3. Tolerances for Reinforcement: As per NZS3109:1997 - Clause 3.9, and reproduced in DRG. no T6910 for reference.
 - 2.4. Min Lap Length : 40 x Bar Dia
 - 2.5. Do not re-bend reinforcing steel
3. Tolerances for Precast Components: As per NZS3109:1997 - Table 5.1
4. Design Load: LD20
5. Design Life: - Years
6. Exposure Classification: Internal = -, External = -
7. Finish: F3 as per NZS3114.

MATERIALS

VOL (m³/unit) =
 WT (ton/unit) =
 CODE = OG3000T100 & OG3000T150

REVISIONS

REV #	REVISION DESCRIPTION:	DATE:	DRAWN:
4	Details Revised - Issued For Construction	11 Feb 2022	S.K
5	Fittings Changes To PVC	04 April 24	GH
6	Lid Dimensions Updted To Match POD MOuld	18 March 25	GH
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PO Box 58142, Botany, Auckland, 2163
 Tel: 09-274 0316
 Fax: 09-272 7485
 email: technicalservices@hynds.co.nz



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ISO 9001 CERTIFIED MANAGEMENT SYSTEM

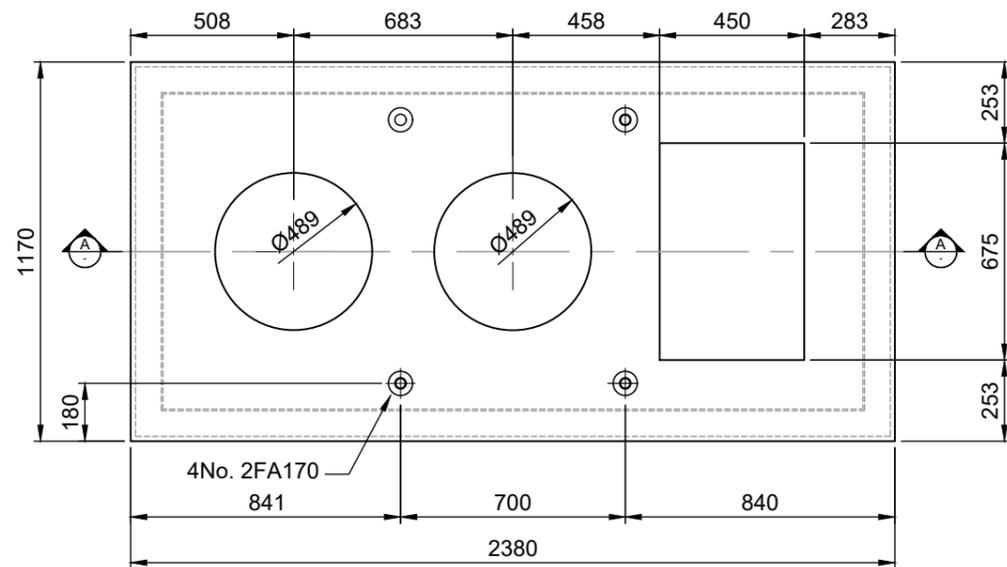
PROJECT DESCRIPTION:

Hynds Standard Drawing
 -
 3000L Light Duty Oil & Grit Interceptor
 (Ex-Pokeno)

SERVICE DETAIL:

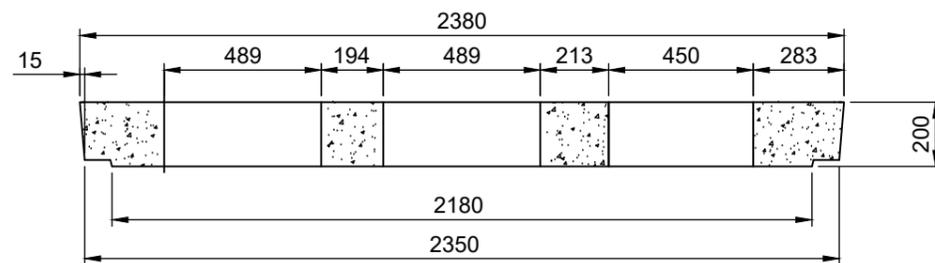
3000L Light Duty Oil & Grit Interceptor
 2350x1150x1700mm
 Triple Chamber - Ø100&Ø150mm Fittings
 General Arrangement

REFERENCE/QUOTE NUMBER:	18612	
DRAWN: S.K	DESIGN: -	CHECKED: S.P
SIGNATURE:	SIGNATURE:	SIGNATURE:
SCALE: As Shown	Note: Do not scale drawing if in doubt ASK!!!	DATE: 9-Apr-25
PAPER SIZE: A3		
DRAWING NUMBER: T2285- 1	SHEET NUMBER: 1 of 1	REVISION NUMBER: 6



PLAN - Tank (No Lid)

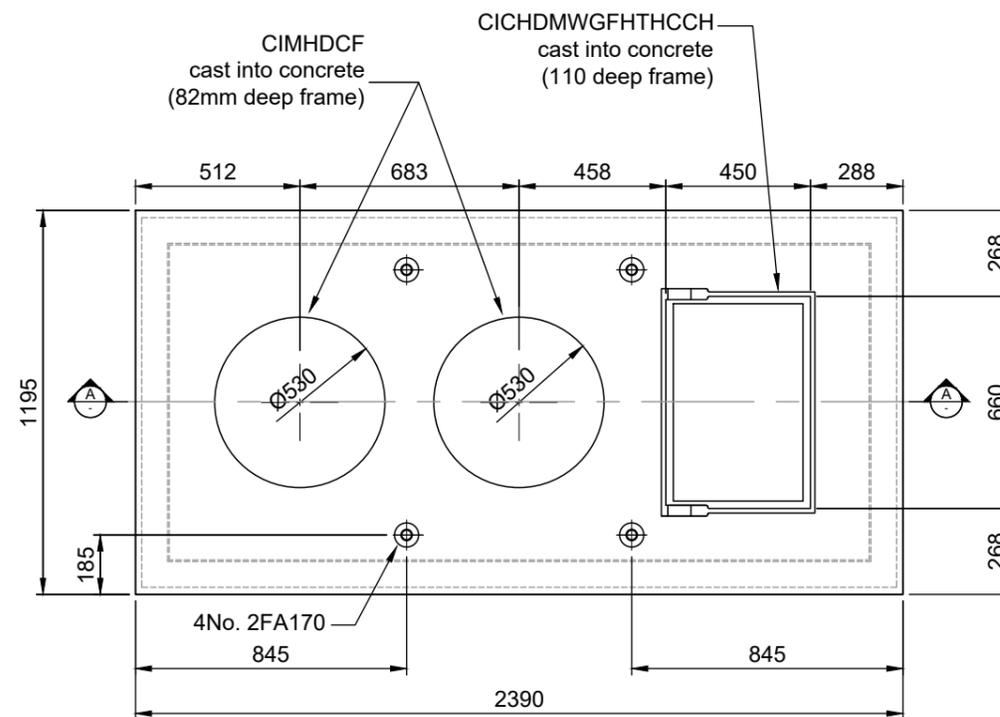
Scale: 1:25



SECTION A-A

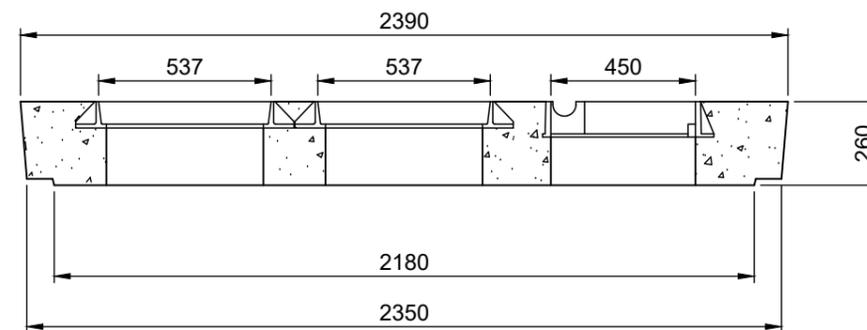
Scale: 1:25

OGL3000.200NC



Plan View

Scale: 1:20



Section 'A-A'

Scale: 1:20

OGL3000.260H

NOTES:

1. Concrete :
 - 1.1. f_c = 50MPa, 10mm Aggregate
 - 1.2. Demould = 15MPa Min.
 - 1.3. Lift & Rotate = 25MPa Min.
2. Reo :
 - 2.1. f_y = Grade 500E MA
 - 2.2. Reo Cover = 20mm Min.
 - 2.3. Tolerances for Reinforcement: As per NZS3109:1997 - Clause 3.9, and reproduced in DRG. no T6910 for reference.
 - 2.4. Min Lap Length : 40 x Bar Dia
 - 2.5. Do not re-bend reinforcing steel
3. Tolerances for Precast Components: As per NZS3109:1997 - Table 5.1
4. Design Load: LD20
5. Design Life: - Years
6. Exposure Classification: Internal = -, External = -
7. Finish: F3 as per NZS3114.

MATERIALS

VOL (m³/unit) =

WT (ton/unit) =

CODE =

REVISIONS

REV #	REVISION DESCRIPTION:	DATE:	DRAWN:
4	Details Revised - Issued For Construction	11 Feb 2022	Z.S
5	Fittings Changes To PVC	04 April 24	GH
6	Lid Dimensions Updted To Match POD MOuld	18 March 25	GH
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ISO 9001 CERTIFIED MANAGEMENT SYSTEM

PROJECT DESCRIPTION:

Hynds Standard Drawing

3000L Light Duty Oil & Grit Interceptor
 Lid (Ex-Pokeno)

SERVICE DETAIL:

3000L Light Duty Oil & Grit Interceptor
 Lid - OGL3000.200NC & OGL3000.260H

REFERENCE/QUOTE NUMBER:	18612	
DRAWN: S.K	DESIGN: -	CHECKED: S.P
SIGNATURE:	SIGNATURE:	SIGNATURE:
SCALE: As Shown	Note: Do not scale drawing if in doubt ASK!!!	DATE: 10-Apr-25
PAPER SIZE: A3		
DRAWING NUMBER:	SHEET NUMBER:	REVISION NUMBER:
T2285- 2	1 of 2	6