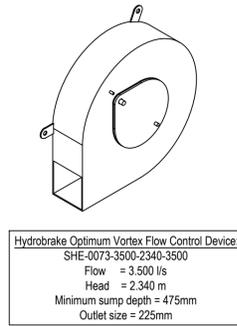


PLAN ON HYDROBRAKE MANHOLE S60

SCALE 1:25



Hydrobrake Optimum Vortex Flow Control Device:
 SHE-0073-3500-2340-3500
 Flow = 3.500 l/s
 Head = 2.340 m
 Minimum sump depth = 475mm
 Outlet size = 225mm

HYDROBRAKE DETAIL
 NOT TO SCALE

Manhole covers & frames must have a clear opening of 1220mm x 675mm and shall be double Class D400 to BS EN 124 with 150mm deep frames. 1:3 cement mortar bed & haunch to cover & frame sat on Class B eng Brickwork (min 2 courses-max 4 courses) Covers to be stamped BS EN124, carry BSI certification trademark (The Kitemark) and the manufacturer's name. Lockable fall arrest grille by PETER SAVAGE to be fitted beneath covers.

2250 cast iron disc valve attached to mass concrete wall with 4 No. M18 bolts. Disc valve to be set level with flow control unit. Disc valve supplied by 'Express Valve Services Ltd'.

Flow Control Unit.

Fixing lugs with masonry stud anchor fixing bolts. A neoprene rubber gasket is to be placed between the flow control and mounting block.

Benching formed with GEN3 concrete with a high strength topping minimum 40mm thick with a smooth and neat finish.

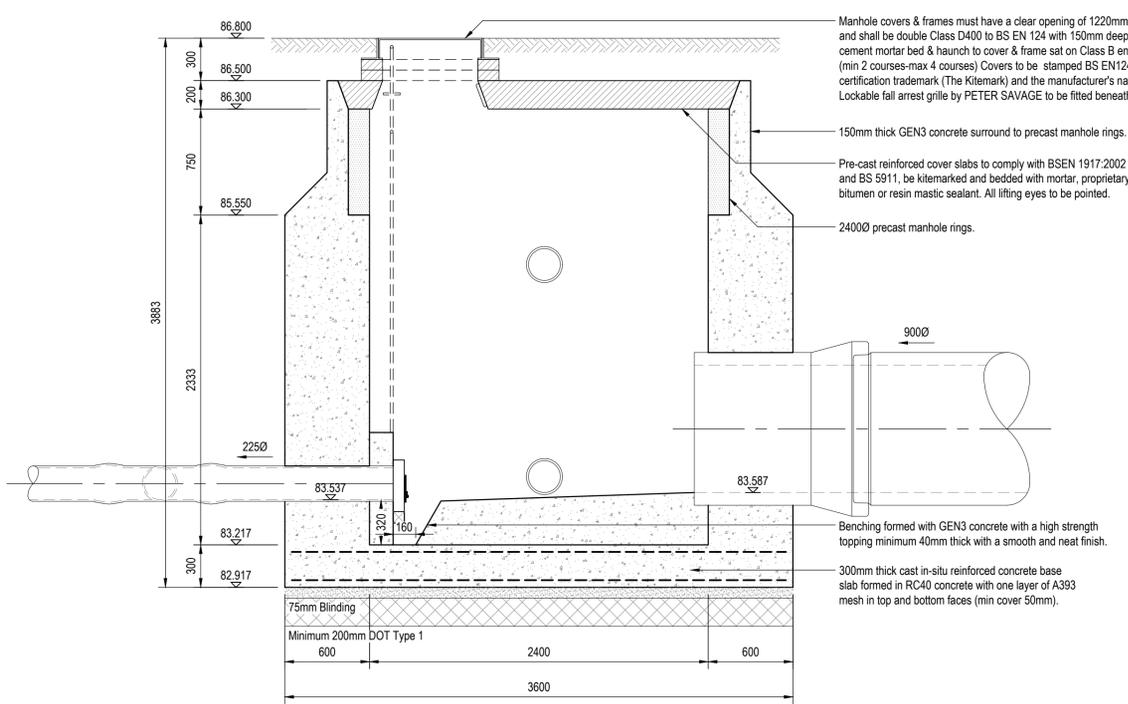
24000 precast manhole rings.

9000

IL 83.537

IL 83.587

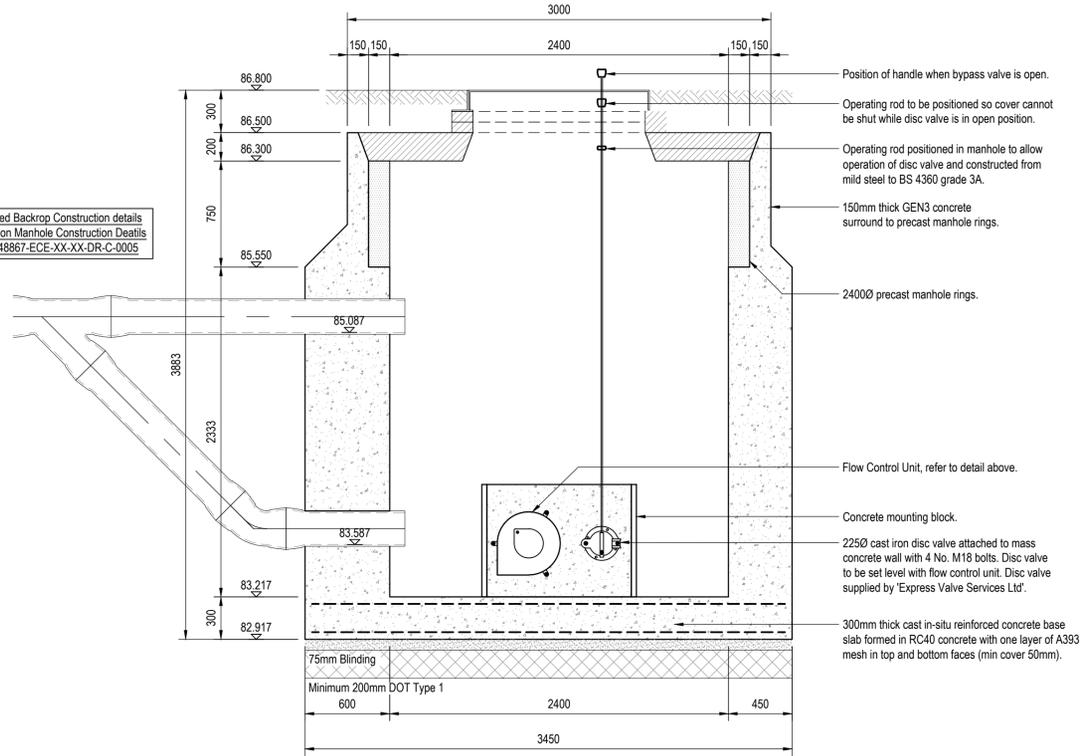
Pre-cast concrete manhole sections and cover slabs must be Kitemarked and are to be bedded with mortar, proprietary bitumen or resin mastic sealant. All lifting eyes in concrete sections to be pointed. 150mm thick GEN3 concrete surround to precast manhole rings.



SECTION A-A

SCALE 1:25

Ramped Backrop Construction details shown on Manhole Construction Details Drg: 48867-ECE-XX-XX-DR-C-0005



SECTION B-B

SCALE 1:25

- Notes:**
- To be read in conjunction with Eastwood Consulting Engineers drawings prefixed 48867.
 - All pipes shall be either:
 - A - Verified clay to BS EN 295 with a minimum crushing strength as follow :-
 100/150 dia - 45 kN/m²
 225 dia - 45 kN/m²
 300 dia - 72 kN/m²
 - B - PVC (certified to WIS 4-35-01 & BSEN 13476)
 - C - Class 120 concrete to BS 5911-1:2002/EN 1916.
 - All pipes should always connect soffit to soffit unless noted otherwise.
 - All sewers to have BSI kitemark status (certified to WIS 4-35-01 & BS EN 13476). Maximum pipe length to be 3m. Plastic channel sections in manholes are not acceptable. Clay channel sections shall be used.
 - Sewers to be laid in Class 'S' Bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 800mm in non-vehicular access areas) then a concrete slab should be provide above granular bed and surround. Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).
 - Manhole covers shall have a clear opening of 600 and shall be class D400 to BS EN 124 with 150 deep frames in highways.
 - Pipes entering manholes and road gullies shall have a flexible joint within 600 of the inside the manhole or gully joining with a short Rocker pipe.
 - The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
 - Sewers must have 5m clearance from trees and hedges or the width of the canopy at mature height
 - All trenches in roads and paved areas shall be backfilled with Type 1 DOT granular sub-base material, or other granular material approved by the highway authority.
 - Filled ground must be filled and consolidated under the supervision and to the satisfaction of ICOSA Water before any sewer works are carried out.
 - All in situ concrete to be designated mix FND2 to BS 8500-1 unless agreed otherwise.
 - The invert levels at the proposed points of connection to existing public sewers shall be checked before any new drains are constructed. Any variation to the levels shown on the drawing shall be notified to Eastwood Consulting Engineers.
 - The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate the connections and bends.
 - Cover levels are indicative only. Covers to be set to suit camber/gradient of existing and proposed roads.
 - Cover slabs must carry the BSI Kitemark or will be rejected by ICOSA Water Inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600mm x 600mm for the ICOSA Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued Autumn 2004 for Kitemarked cover slab opening sizes.
 - All foul lateral sewers and drains to be 1500 unless noted otherwise.
 - Manhole covers shall have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
 - Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.
 - All adoptable sewer works and material to be in accordance with 'Code for Adoption'. The Relevant British/European and ICOSA Water's Standards/Requirements/Local Practices for the Adoption of Small Submersible Foul and Surface Water Pumping Stations and Kitemarked.
 - ICOSA Water is not obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (directly or indirectly). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section with regard to the disposal of the filter drain/land drainage run-off.
 - Sulphate resistant cement (C20-D2C) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
 - Adoptable plastic sewer pipes to be BSI Kitemarked (certified to WIS 4-35-01 and BSEN13476). Adoptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths. Plastic channel sections in manholes are not acceptable and ICOSA Water would prefer clayware channel in manholes.
 - There must be enough clearance at crossovers to accommodate bedding to both pipes, approx. 300mm: if crossover is near the rocker then the clearance needed may need to be increased
 - All adoptable laterals to be 1500 and PVC unless stated otherwise
 - All FFLs to be a minimum 150mm above external levels and drainage cover levels

P05	Hydrobrake outlet reverted to a 2250 pipe.	AT	CH	19.06.2025
P04	Starter bars and reinforcement to pipe openings deleted.	PWAH	CH	12.06.2025
P03	Hydrobrake chamber updated to suit latest drainage layout	AT	PWAH	06.06.2025
P02	Hydrobrake chamber updated to suit revised invert level.	JB	TB	02.01.2025
P01	First issue.	CD	TB	06.06.2024
REV	DESCRIPTION	SIG	CHK	DATE

HARRON HOMES

MERCHANT FIELDS

MHS60 HYDROBRAKE DETAILS

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ECE PROJECT No	SCALE AT A1	STATUS	SUITABLE FOR
48867	1:25	S4	Approval
DRAWING NUMBER		REV	
48867 - ECE - XX - XX - DR - C - 0026	P05	Project	Originator
Zone	Level	Type	Role