

H-3-264-???

Heavy Duty Reinforced Precast SRC Concrete Cover Slab to BS 5911 bedded on mortar proprietary bitumen, or resin mastic sealant. Slab must be kitemarked

Bolted Segmental or Precast Reinforced Concrete Manhole Ring, 2.40m Internal Dia, bedded on mortar, proprietary bitumen, or resin mastic Sealant.

150mm C20-DC2 concrete surround, with sulphate resisting cement to precast rings

Mass concrete base/wall constructed to min 100mm above barrel of pipe. Walls 450mm thickness with A393 mesh to each face, cover 50mm min

Benching formed with GEN3 Concrete with a High Strength topping, min 40mm thickness with a smooth neat finish

Cover and frame to be heavy duty twin 600mm x 600mm double triangular covers, with a clear access opening of 1220mm x 675mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways. 1:3 Cement Mortar bed & haunch to cover & frame sat on Class 'B' Eng bricks with lockable fall arrest grille. Brickwork (min 2 courses-max 4 courses)

Express Valve Penstock, fixed to cast insitu mounting block for use with 150mm diameter bore operated from above by way of operating handle

ELEVATION ON PENSTOCK (1:20)

COVER SLAB PLAN (1:20)

1200mm x 675mm access provided to allow maintenance.

Section A-A is an idealised section and is shown for clarity, any surface box and access should be positioned as per the plan drawing

Cover and frame to be heavy duty twin 600mm x 600mm double triangular covers, with a clear access opening of 1220mm x 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways. 1:3 Cement Mortar bed & haunch to cover & frame sat on Class 'B' Eng bricks with lockable fall arrest grille. Brickwork (min 2 courses-max 4 courses)

Operating rod to be positioned so surface box cannot be shut while disc valve in open position

Guides for operating rod to be attached to cover slab

Tee Key to be stored within manhole by installing an eyelet within the brickwork. (or similar approved)

Operating rod positioned in manhole to allow operation of disc valve and constructed from mild steel to BS 4360 grade 43A

Mounting plate with masonry stud anchor fixing bolts. A Neoprene rubber gasket is to be placed between the hydrobrake and mounting block.

Flow Control Device

T12 starter bars at 200c/c to both faces of wall cast into base slab to tie into wall reinforcing

300mm thick Cast In-situ Reinforced Concrete Base Slab formed in C20-DC2 Concrete with sulphate resistant cement with two layers of A393 Mesh in both top and bottom faces. Min cover 50mm, on 50mm concrete blinding

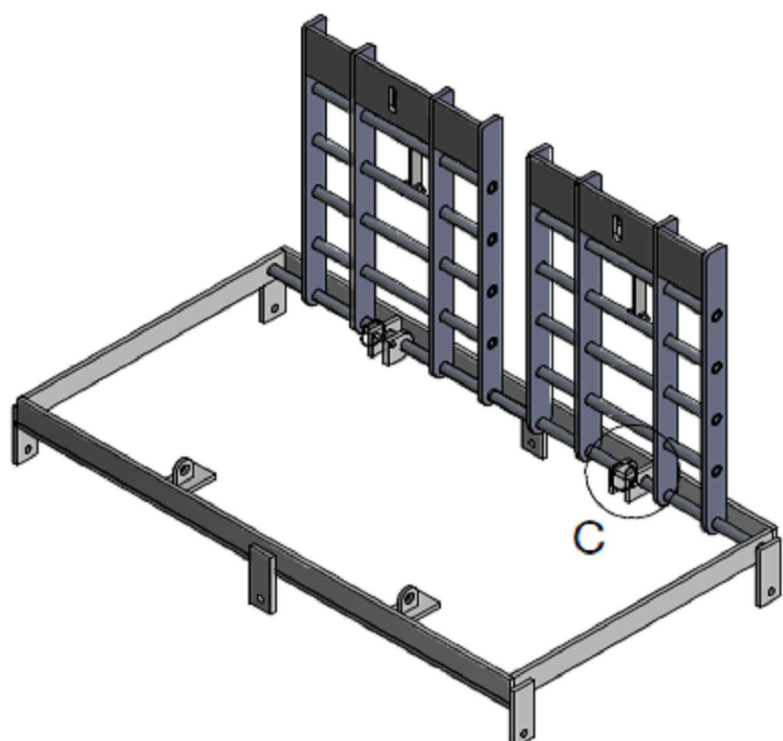
SECTION A-A THROUGH CONTROL MANHOLE (1:20)

Tumbling bay junction (actual details will be dependant on the type of pipe being used)

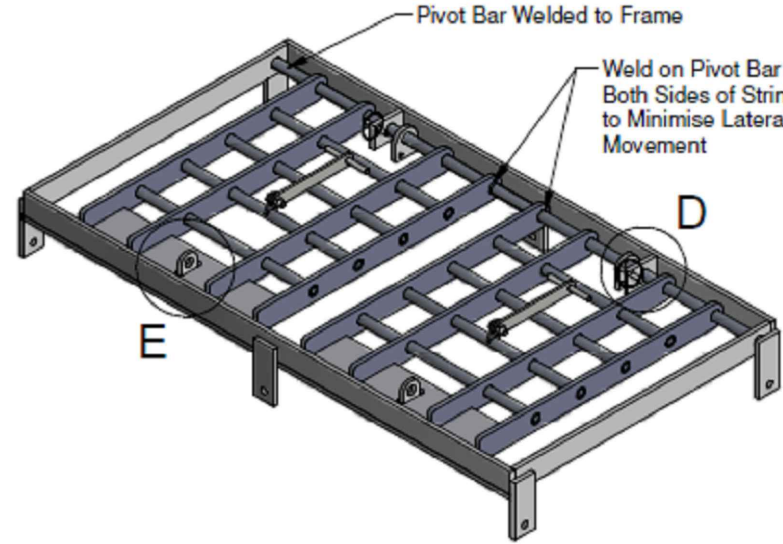
All in situ concrete to be C20-DC2 with sulphate resisting cement unless agreed otherwise

Two 45° bends 225mm minimum dia, where pipe exceeds 300mm a 300mm 90° bend may be used

SECTION THROUGH BACKDROP (1:20)



TYPICAL FALL ARREST GRILLE DETAIL (BY PETER SAVAGE LIMITED) (NTS)



The benching to manholes shall be boxed out and benched in accordance with standard details and the following conditions:

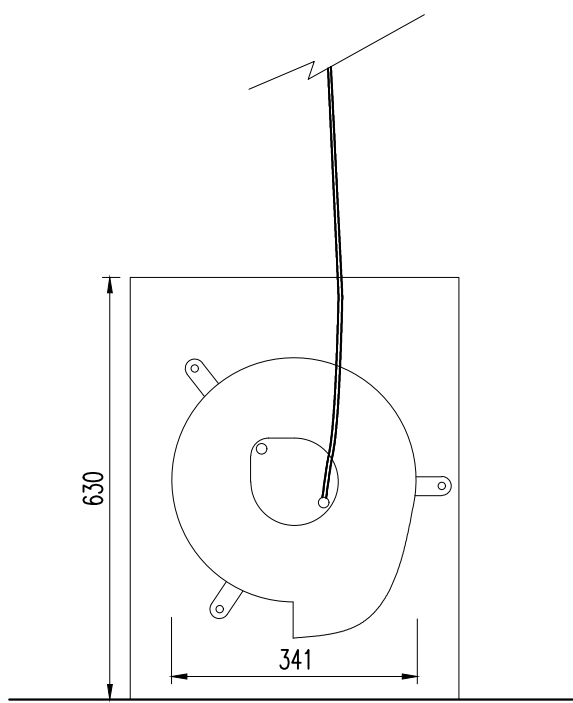
- Where access into manholes is restricted and the required headroom cannot be achieved.
- Where the pipe internal diameters are 1050mm or greater.
- The width of the boxed out benching shall be 750mm.
- All access ladders or step irons must continue in accordance with the standard manhole details.

All boxing out of the benching within the manholes shall be approved by Yorkshire Water before work commences

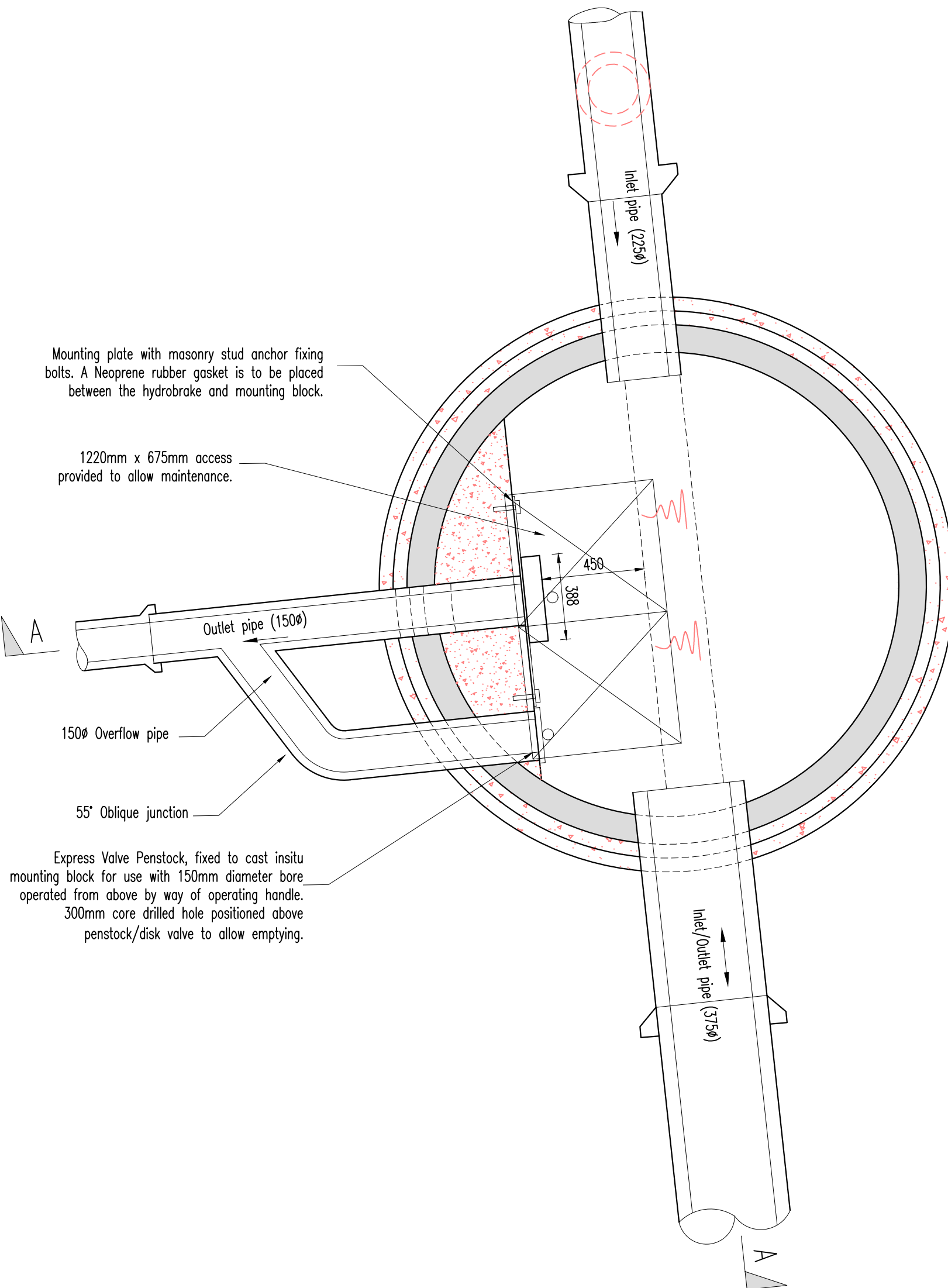
All custom built ironwork to be hot-dipped galvanised prior to final fixing

FLOW CONTROL DATA S8

MANUFACTURER	FP MCCANN
TELEPHONE	028 7964 2558
TYPE	STORM BRAKE
FLOW/HEAD	3.5 l/s @ 2.15m
UNIT REF	FPW-SB1-02150-0150-0100
To be installed in accordance with manufacturers specifications and recommendations before the manhole cover slab is installed	



FLOW CONTROL FACE-ON VIEW (NTS)



CONTROL MANHOLE PLAN (1:20)

N O T E S

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

DO NOT SCALE ORIGINAL DRAWING SIZE A1

- Yorkshire Water General Notes**
- This drawing is to be read in conjunction with all relevant OEC Consulting Engineers and Architects drawings and project specifications.
 - All adaptable sewer works and material to be in accordance with Design and Construction Guidance (DGC)/Code for Adoption. The relevant British/European and Yorkshire Water's Standards/Requirements/Addendum to the Mechanical and Electrical Specification and be Kitemarked.
 - The location, size and depth of all existing drains/sewers and services shall be established by the contractor prior to commencement of works on site. Any discrepancies from the information indicated on these drawings shall immediately be brought to the attention of the engineers.
 - All levels and dimensions shall be verified on site prior to commencement of any works. Any discrepancies shall immediately be brought to the attention of the engineers.
 - Sewers must have 5 metres clearance from trees and hedges, (please also refer to Figure 2.3 on page 33 in "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to Sewers).
 - The adaptable sewers should be a minimum of 1m and manholes 0.5m from verb faces and service margins.
 - All connections to public sewers to be a minimum of 150mm Ø via a 45° junction.
 - 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 900mm in none vehicular access areas) then a concrete slab should be provided above the granular bed and surround.
 - Yorkshire Water policy is not to accept Type "C" brick manhole and 1050mm dia manhole rings. Instead it is preferred that you use a type "B" manhole with 1200mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
 - 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.
 - Manhole covers shall/must 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.
 - Cover slabs must carry the BSI Kitemark or will be rejected by the Yorkshire 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 600x600mm for the Yorkshire Water specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), Technical Bulletin issued autumn 2004 for Kitemarked cover slab opening sizes.
 - Plastic channel sections in manholes are not acceptable and clayware is preferable. Plastic channels are difficult to set in concrete and a satisfactory finish cannot be obtained on the benching.
 - Maximum depth of demarcation chamber to be 2m, where depth exceeds 2m, manhole to be constructed as type B manhole.
 - Demarcation chambers to be a min. 450mm chambers for 100mm foul & 150mm surface water pipes up to 1.2m deep. For depths greater than 1.2m, restricted access opening to 350mm is required for safety reasons.
 - Where plastic pipes are proposed for adaptable sewers, structural calculations for the plastic pipes and a site investigation report to prove that the ground condition is suitable for the plastic pipes are to be produced.
 - There should be enough clearance to accommodate the bedding for both pipes, approx 300mm. If the crossover is near the rocker then the clearance needed may be increased.
 - If plastic pipes are to be used then the following should apply:-
 - All adaptable sewers to be BSI Kitemark (certified to WIS 4-35-01 and BS EN13476
 - Bedding and backfill material to conform to the requirements of the Water Industry Specification 4-08-02 (Table A2)
 - Adaptable plastic sewer pipes to be BSI Kitemarked (Certified to WIS 4-35-01 and BS/EN13476). Adaptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer.
 - Filled ground or soft spots must be excavated, backfilled and consolidated under the supervision, and to the satisfaction, of Yorkshire Water before any sewer works are carried out.
 - Sulphate resisting cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
 - The strength of vitrified clay pipes (if used) to be 40kN/m for 100k, 40kN/m for 150k, 45kN/m for 225k and 72kN/m for 300k. All concrete pipes to be Class 120 to EN 1916/BS 5911-1:2002.
 - Surface water and foul rising mains to be provided with marker tape above the rising mains.
 - Yorkshire Water is not obliged to accept filter drain/land drainage runoff into the public sewer network or adaptable drainage system (directly or in-directly). An alternative method of disposal of the land drainage runoff will therefore be required and you will have to liaise with the Land Drainage Authority/Land Drainage Section with regard to the disposal of the filter drain/land drainage runoff is required.
 - All excavations in areas of high water tables and granular materials with high sand/silt contents shall be wrapped with a suitable geotextile filter membrane to prevent migration of sands/silts. Full height clay stanks across trenches and/or at manhole locations at 25m intervals to restrict water movement along the excavation shall be provided.
 - All works within the public highway to be reinstated to the highway authority requirements. All drainage connections onto adaptable drainage systems shall be carried out to the water authority's approval.
 - The contractor must allow for any fee's required for road and sewer opening permits, sewer connections and make the appropriate applications.
 - Where there are double road gullies, the gully leads shall be connected onto separate pipe lengths.

/ LS 03.03.23 Issued for approval AB
Rev By Date Description Chk

oec
CONSULTING ENGINEERS LTD

Clarke Hall Farm • Aberford Road • Wakefield • WF1 4AL
T: 01924 782312 • E: info@oeconsult.co.uk • W: www.oeconsult.co.uk

Client YORKSHIRE CHOICE HOMES

Project WESTFIELD LANE, WYKE

Title FLOW CONTROL MANHOLE DETAIL

Scale 1:20 Drawn LS Checked AB Date MARCH.23

Drawing Status APPROVAL

Job No. 155.004 Drawing No. 12 Revision /