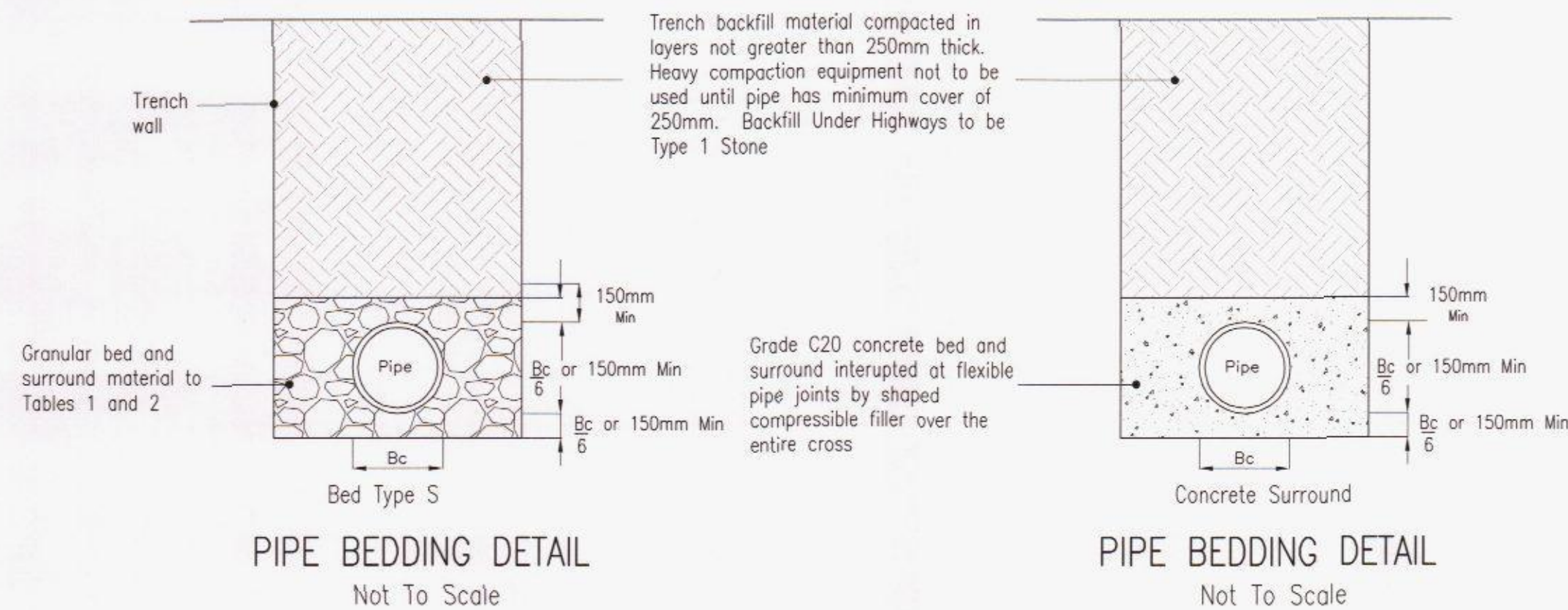
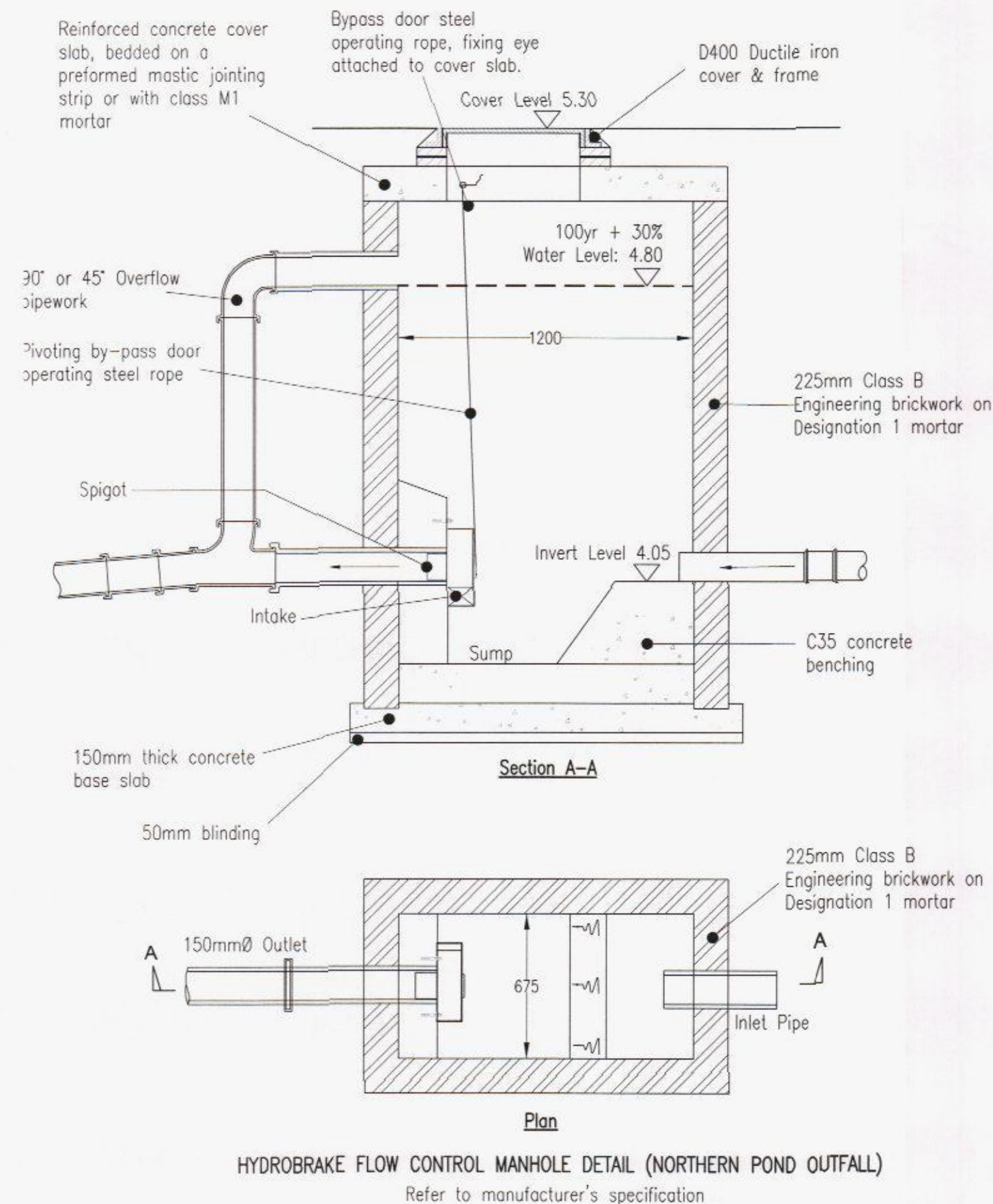




Bedding and Sidefill Material

Bedding, sidefill and surround materials shall comply with Water Industry Specification No. 4-08-02. Bedding and sidefill material may be selected as dug granular material or processed granular material complying with Tables 1 and 2 for rigid and flexible pipes respectively. Material excavated from trenches dug through land contaminated with domestic, building or industrial waste should not be used as bedding and sidefill material. Selected excavated material should be readily compactable and be free from organic matter and combustible materials. Frozen soil should not be used. During selection, soil containing clay lumps larger than 75mm and stones larger than those permitted in Tables 1 or 2 as appropriate should be discarded. All selected as-dug granular bedding and sidefill material should be evaluated using the Compaction Fraction Test detailed in Appendix B of the WIs No. 4-08-02. Materials are suitable if the values obtained do not exceed those given in Table 1 and 2 as appropriate.

Trench backfill material compacted in layers not greater than 250mm thick. Heavy compaction equipment not to be used until pipe has minimum cover of 250mm. Backfill Under Highways to be Type 1 Stone

Grade C20 concrete bed and surround interrupted at flexible pipe joints by shaped compressible filler over the entire cross

Trench Backfill Material

Where pipe trenches lie beneath road, footway and parking areas trench backfill material shall be type 1 up to formation level. Trench backfill material, whether selected from locally excavated material or imported, shall consist of uniform, readily compactable material, free from vegetable matter, building rubbish and frozen material, or materials susceptible to spontaneous combustion, and excluding clay of liquid limit greater than 80 and/or plastic limit greater than 55 and materials of excessively high moisture content. Clay lumps and stones shall be retained on 75mm and 37.5mm sieves

General Notes

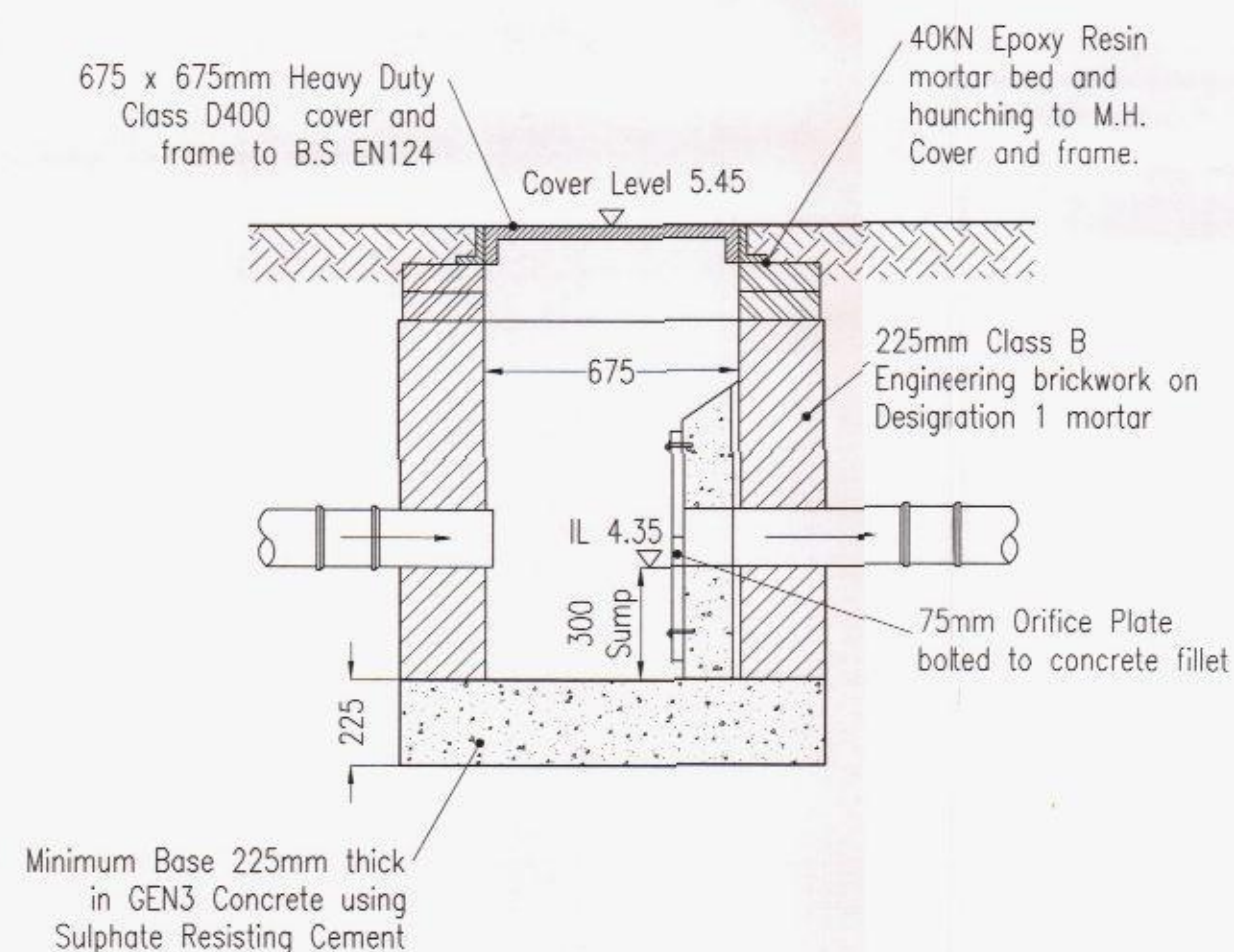
- Access cover Grades
BSN 124 - 1994
Class D400 - Carriageway and parking areas.
Class B125 - Footways etc.
 - Access cover for Type B manhole to have a minimum clear opening of 675mm square.
 - Permissible chamber diameters for manhole Type B.
- | Diameter of largest pipe in Manhole(mm). | Chamber section diameter(mm). |
|--|-------------------------------|
| Less than 375 | 1200 |
| 375 - 450 | 1350 |
| 450 - 700 | 1500 |
| 750 - 900 | 1800 |
- Pipes built into manholes shall have a flexible joint as close as feasible to the external face of the structure and the length of the first pipe and rocker pipe shall be as shown.
- | Nominal diameter(mm). | Rocker Pipe length(m). |
|-----------------------|------------------------|
| 150 - 600 | 0.60 |
| 675 - 750 | 1.00 |
| 825 & Over | 1.25 |

Pipe nominal size (DN)	Nominal maximum particle size (mm) See note (c)	Class of bedding See note (d)	EITHER: Maximum CF value for acceptability See note (b) OR: Materials specified in British Standards See note (e)
100	10	S	10mm nominal single-size
		B	0.15
		F	0.30
		N	0.15
Over 100 to 150	16	S	10mm or 14mm nominal single-size or 14mm to 5mm graded
		B	0.15
		F	0.30
		N	0.15
Over 150 to 300	20	S	10, 14 or 20mm nominal single-size or 14mm to 5mm graded or 20 to 5mm graded
		B	0.15
		F	0.30
		N	0.15
Over 300 to 550	20	S	14mm or 20mm nominal single-size or 14mm to 5mm graded or 20 to 5mm graded
		B	0.15
		F	0.30
		N	0.15
Over 550	40	S	14, 20 or 40mm nominal single-size or 14mm to 5mm graded or 20 to 5mm graded or 40 to 5mm graded
		B	0.15
		F	0.30
		N	0.15

- Notes:
- Processed granular materials to include aggregates to BS EN 12620.
 - Compaction Fraction value (CF), see Appendix B of WIs IG No. 4-08-02.
 - The nominal maximum particle sizes apply both to processed and as-dug materials (see Section 4 of IG No. 4-08-01-Issue 4 and No.4-08-01 Amendment (Nov 2008)).
 - Bedding classes are defined in BS EN 1295-1:1997 Structural Design of Buried Pipelines under various conditions of loading. Table 1 - Simplified Table of External Loads on Buried Pipelines.
 - The sulphate content of bedding and sidefill materials for use with cementitious pipe should not be greater than 0.3% as sulphur trioxide.

Pipe nominal size (mm) See note (d)	Nominal maximum particle size (mm)	EITHER: Maximum CF value for acceptability See note (b) OR: Materials specified in British Standards See note (e)
		Non-pressure pipe
		Pressure pipe
100	10	0.15
Over 100 to 150	16	0.15
Over 150 to 300	20	0.15
Over 300 to 550	20	0.15
Over 550	40	0.15

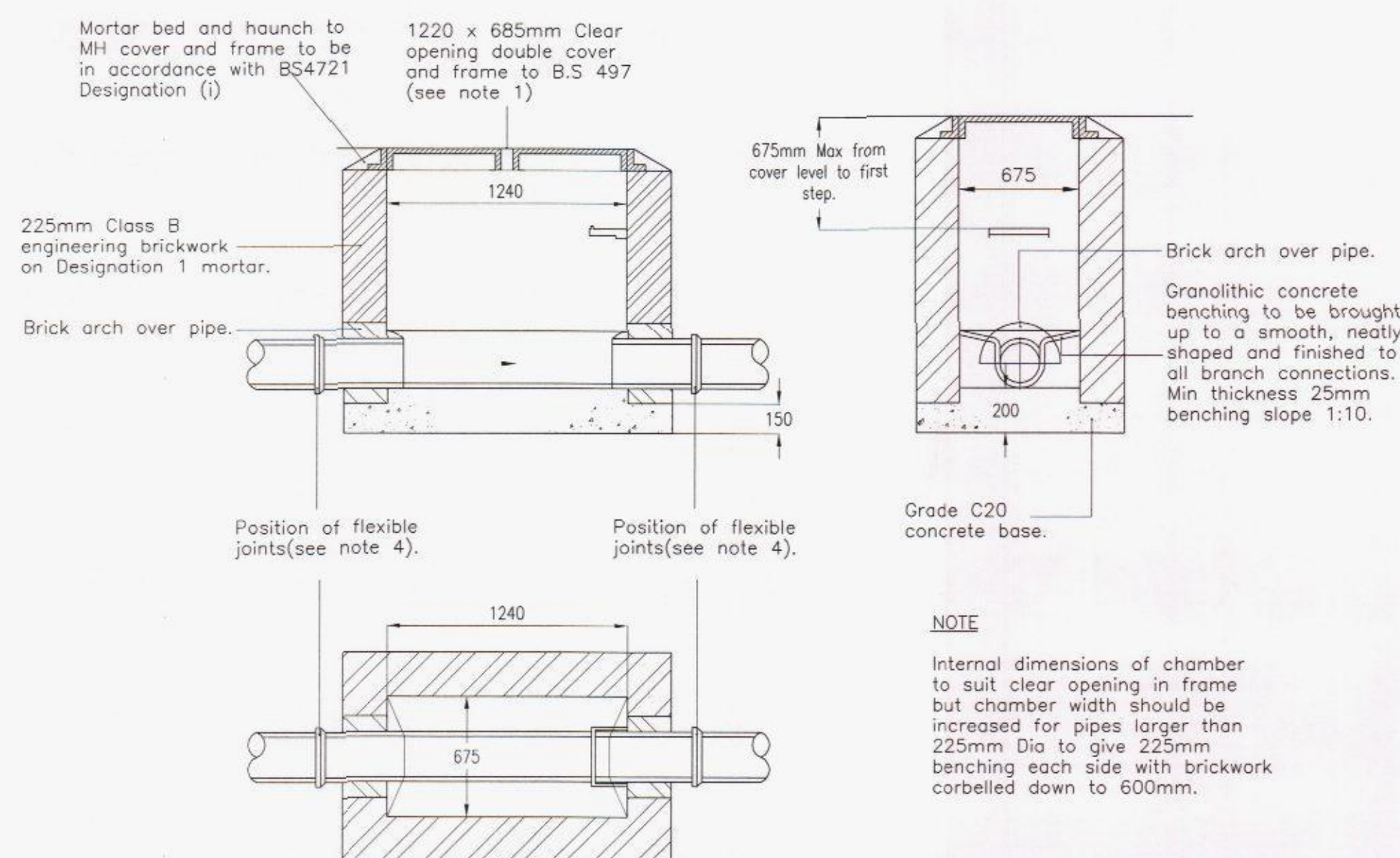
- Notes:
- Processed granular materials to include aggregates to BS EN 12620.
 - Compaction Fraction value (CF), see Appendix B of WIs IG No. 4-08-02.
 - Nominal bore is used in preference to DN because of the different nominal size classification for flexible pipes.
 - For PE80 and PE100 polyethylene pipe complying with current relevant Water Industry Specifications, the maximum sidefill particle size may be increased to 10% of the pipe nominal size.
 - For 'E' values for processed granular materials reference should be made to Table A.3 of WIs IG No. 4-08-02 where specific site tests have not been performed.
 - For ferrous cementitious pipeline materials, the sulphate content of bedding and sidefill materials should not be greater than 0.3% as sulphur trioxide.



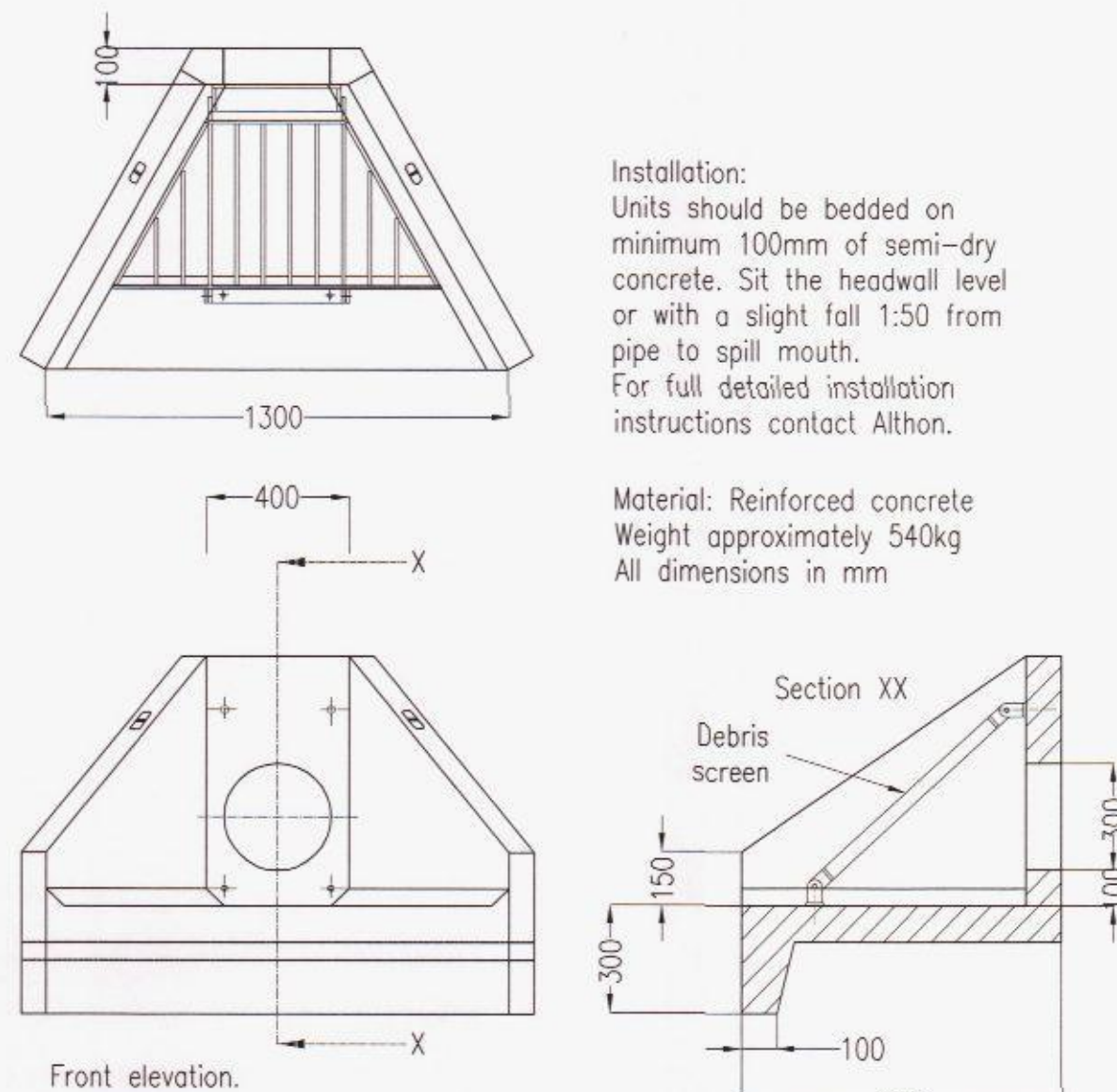
ORIFICE PLATE FLOW CONTROL MANHOLE DETAIL
Levels Refer To Chamber S1
Not To Scale

MH REFERENCE	COVER LEVEL	INVERT LEVEL	FLOW CONTROL	Q RATE
S1	5.45	4.35	75mm Orifice Plate	9.7 L/S To Basin 1
S2	5.30	4.35	30mm Orifice Plate	1.5 L/S To Basin 1
S3	5.20	4.05	Hydrobrake	3.0 L/S To Ditch
S4	5.30	4.20	30mm Orifice Plate	1.5 L/S To Ditch
S5	5.10	3.90	40mm Orifice Plate	2.7 L/S To Ditch
S8	4.70	3.28		To Basin 2
S9	4.30	3.20		8 L/S To Ditch

FLOW CONTROL CHAMBER SCHEDULE



TYPICAL MANHOLE DETAIL - TYPE C
Depth To Soffit 1.0m to 1.45m



ALTHON PRECAST HEADWALL TYPE H3C DETAIL
1:20

Installation:
Units should be bedded on minimum 100mm of semi-dry concrete. Sit the headwall level or with a slight fall 1:50 from pipe to spill mouth.
For full detailed installation instructions contact Althon.

Material: Reinforced concrete
Weight approximately 540kg
All dimensions in mm

A MR 25/9/14 Construction issue	
Copyright	
COLE EASDON CONSULTANTS YORK HOUSE EDISON PARK DORCAN WAY SWINDON WILTSHIRE SN3 3RB Tel : 01793 619965 Fax : 01793 619967 Web Site : www.ColeEasdon.com E-mail : cec@ColeEasdon.com	
Client	
Bellway Homes (Wessex)	
Job Title	
Goldring Close Hayling Island Hampshire	
HAVANT BOROUGH COUNCIL 03 OCT 2014 RECEIVED	
Drawing Title	
Drainage Construction Details	
Designed by	Checked by
RMB	RMB
Drawn by	Scale
NP	NTS @ A1
Date	
June 2014	
Dwg No	Rev
4159/06	A