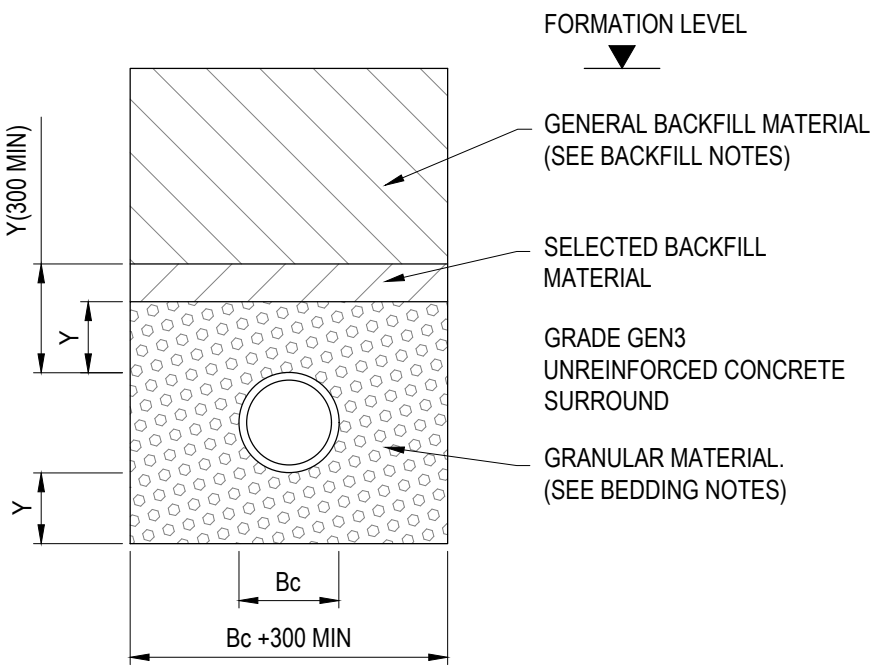
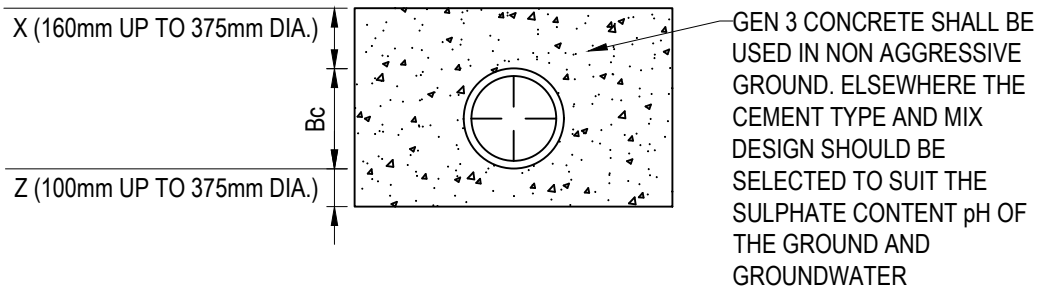


SEWER TRENCHES IN ADOPTABLE CARRIAGEWAYS ARE TO BE BACKFILLED WITH TYPE 2 GRANULAR MATERIAL UNLESS OTHERWISE AGREED WITH THE ADOPTING HIGHWAY AUTHORITY.

WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS AND VERGES CONCRETE SLAB SHOULD BE PROVIDE ABOVE GRANULAR BED AND SURROUND. NOT REQUIRED IN NON-VEHICULAR AREAS.



CLASS S DETAIL



CONCRETE SURROUND (CLASS Z) DETAIL

PIPE TRENCH BEDDING DETAILS

NOTES

A) Bc = OUTSIDE DIAMETER OF PIPE BARREL.

B) Y = FOR UNIFORM SOILS:
SLEEVE JOINTED PIPES, MIN. 50mm OR 1/6Bc, WHICHEVER IS THE GREATER.
SOCKETED PIPE, MIN. 100mm OR 1/6Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 50mm UNDER SOCKETS. FOR ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, STONES OR OTHER IRREGULAR HARD SPOTS: SLEEVE JOINTED PIPES, MIN. 150mm OR 1/4Bc, WHICHEVER IS THE GREATER. SOCKETED PIPE, MIN. 200mm OR 1/4Bc, WHICHEVER IS THE GREATER UNDER BARRELS AND NOT LESS THAN 150mm UNDER SOCKETS.

NOMINAL PIPE DIA (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450 TO 1200	36
GREATER THAN 1200	54

COMPRESSIBLE FILLER TABLE

(BITUMEN IMPREGNATED INSULATING BOARD TO BS 1142: PART 3)

- SUITABLE BACKFILL MATERIAL (REFER TO NOTES)
- SELECTED SIDEFILL AND SURROUND (REFER TO NOTES)
- GRANULAR BEDDING MATERIAL. (REFER TO NOTES)
- GEN3 CONCRETE BED AND SURROUND (REFER TO NOTES)

MH COVER AND FRAME BEDDED ON MORTAR (SEE NOTE 9). MANHOLE COVERS MUST BE TO BSEN 124 CLASS D400 AND HAVE 600x600mm OPENING AND 150mm DEEP FRAME

MORTAR HAUNCHING TO M.H. COVER AND FRAME
MIN. 2. MAX. 4 COURSES OF CLASS B ENGINEERING BRICKWORK, CONCRETE BLOCKS OR TYPE 2 PCC COVER FRAME SEATING RINGS.

HEAVY DUTY P.C.C. REINFORCED COVER SLAB TO BE KITEMARKED AND TO BS EN 1917:2002 BEDDED ON MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT AND TO BE KITEMARKED. COVER SLAB TO HAVE 600x600mm ECCENTRIC CLEAR OPENING AS PER BS EN 1917:2002.

BENCHING SLOPE TO BE 1 IN 10 MAX. TO 1 IN 30 MIN

BITUMEN OR RESIN MASTIC SEALANT.

150 THICK GRADE GEN3 CONCRETE SURROUND WITH SULPHATE RESISTING CEMENT. CONSTRUCTION JOINTS SHALL NOT BE WITHIN 150mm OF A JOINT IN THE PCC RINGS.

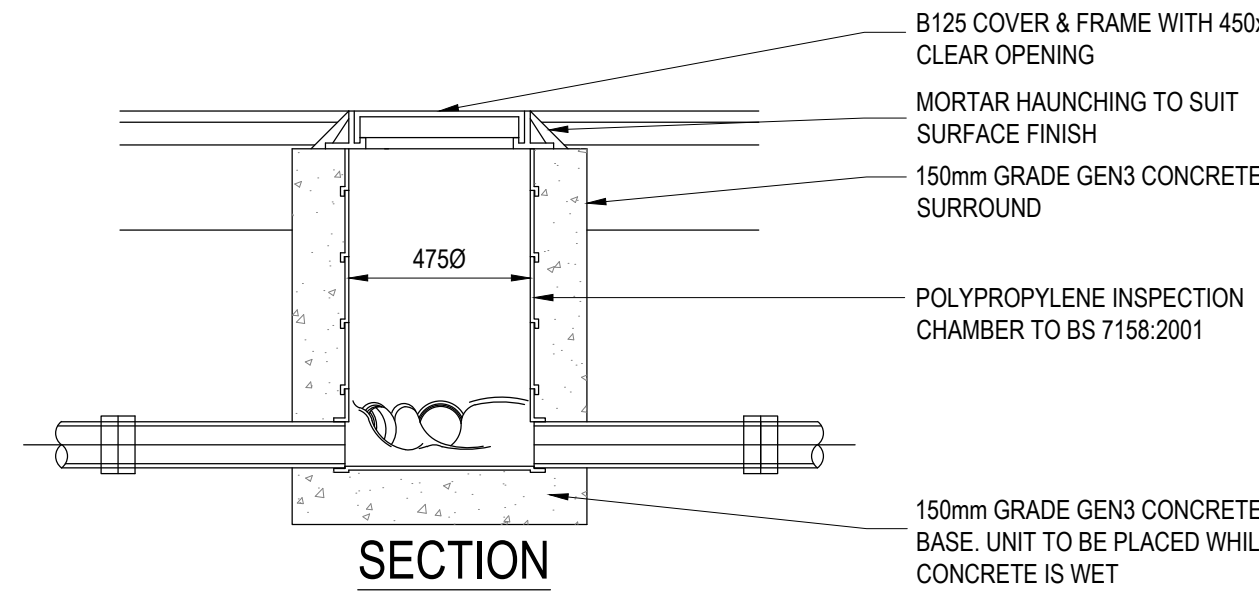
HIGH STRENGTH OR GRANOLITHIC CONCRETE TOPPING TO BE BROUGHT UP TO A DENSE SMOOTH FACE NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS (MINIMUM THICKNESS 20mm)

GRADE GEN3 CONCRETE

INVERTS TO BE FORMED USING CLAY CHANNEL PIPES

TYPICAL MANHOLE DETAIL - TYPE E
MAX DEPTH TO SOFFIT OF PIPE < 1.5m

NOTE:
MANHOLES LESS THAN 1.5m TO SOFFIT WITH 1500mm Ø CHAMBER SIZE OR LARGER SHOULD HAVE A 1200x675mm OPENING (CENTRAL OR ECCENTRIC) SITED OVER CHANNEL WITH DOUBLE TWIN 600x600mm COVERS

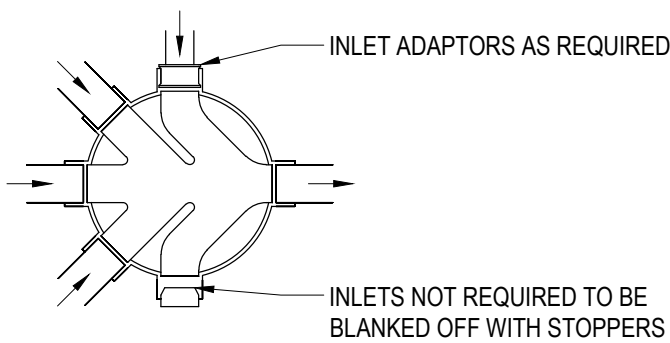


SECTION

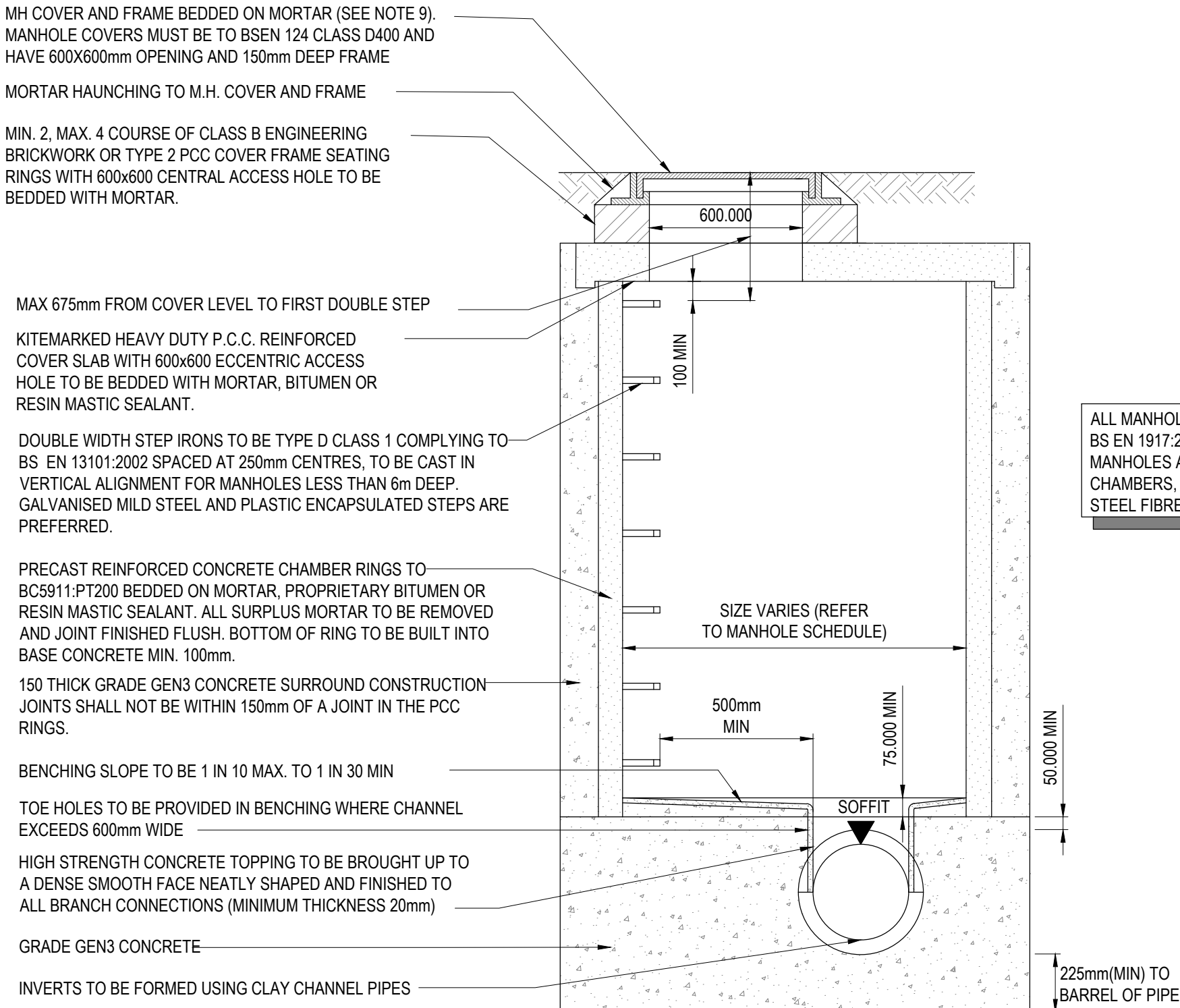
TYPICAL POLYPROPYLENE INSPECTION CHAMBER (Private)

DEPTH UP TO 2.00m

(SCALE 1:20)



TYPICAL PLAN



SECTION

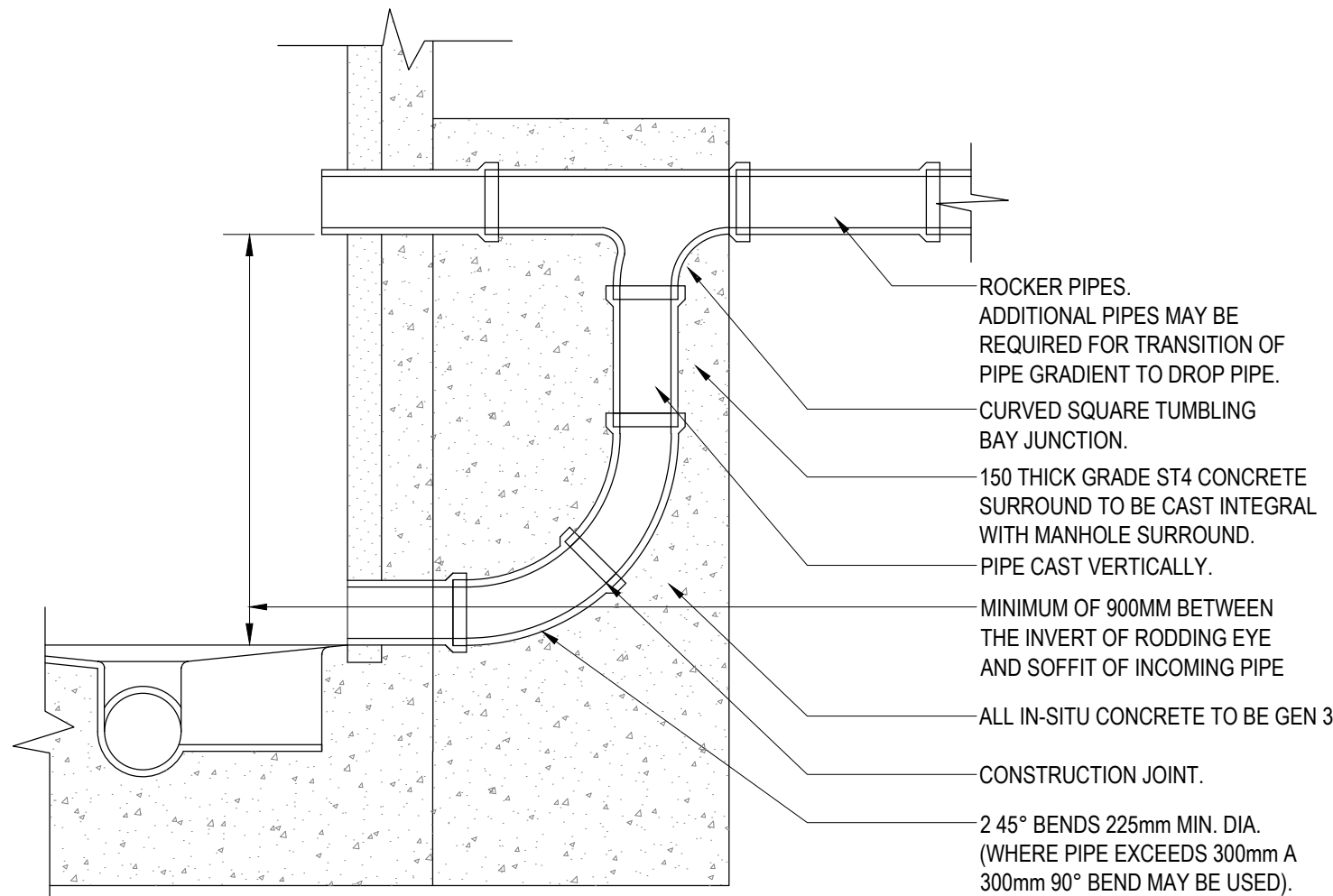
TYPICAL MANHOLE DETAIL - TYPE B MAX
DEPTH TO SOFFIT OF PIPE 1.5- 3.0m

DIA. OF LARGEST PIPE IN M.H.	CHAMBER SECTION INT. DIA. (mm)
LESS THAN 375mm	1200
375 TO 700	1500
750 TO 900	1800
1000	2100

TABLE APPLICABLE TO MANHOLE TYPES A AND B

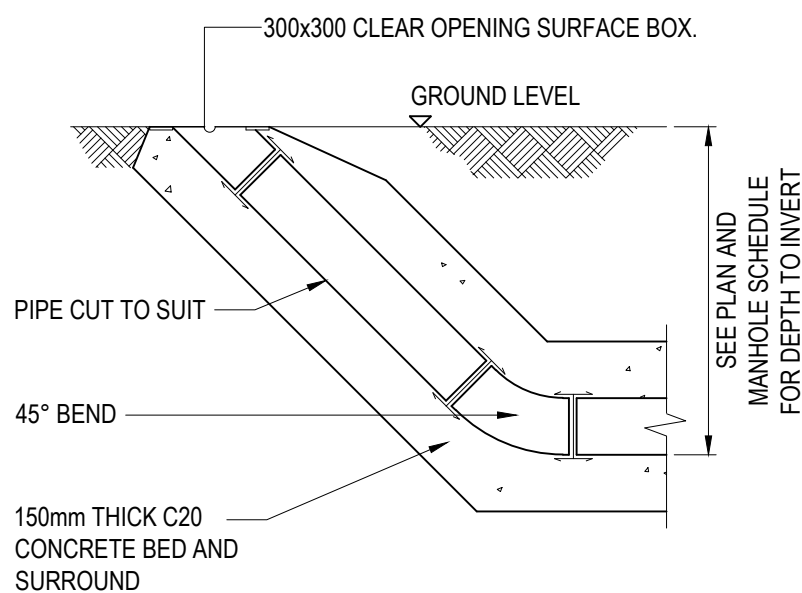
CHAMBER SIZES ARE MINIMUM REQUIRED. SEE LAYOUT FOR ANY VARIATIONS.

TYPE B MANHOLE DETAILS MAY BE APPLIED TO TYPE A MANHOLES FOR CHAMBER DIAMETERS LESS THAN 1500Ø UP TO 6.0m DEPTH TO SOFFIT.

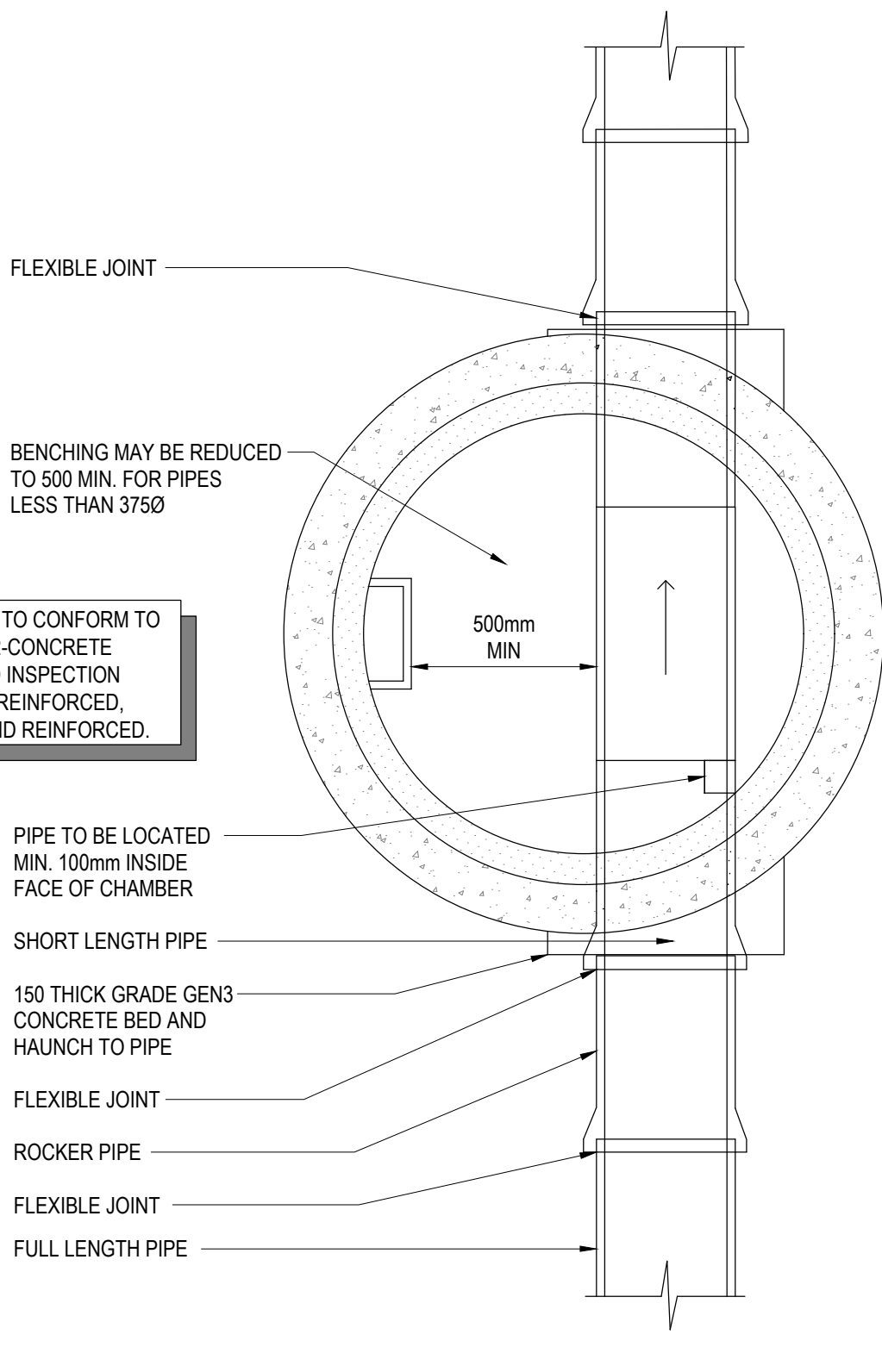


TYPICAL VERTICAL BACKDROP MANHOLE DETAIL

(NOTE: CONSTRUCTION DETAILS AS STANDARD PPC MANHOLE.)



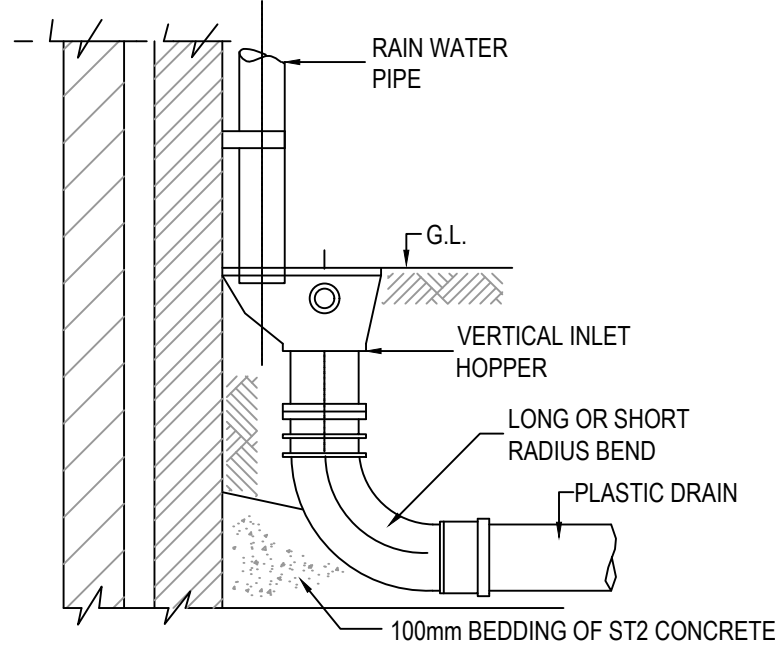
TYPICAL RODDING EYE DETAIL



PLAN

NOMINAL SIZE	EFFECTIVE LENGTH (mm)
150 TO 600	600
675 TO 675	1000
825 AND ABOVE	1250

SHORT AND ROCKER PIPE LENGTHS TABLE
APPLICABLE TO ALL MANHOLE TYPES



UNIVERSAL GULLY WITH
VERTICAL INLET

NOTES

1. ALL ADOPTABLE DRAINAGE WORKS HAVE BEEN DESIGNED AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH "SEWERS FOR ADOPTION 6TH EDITION" AND WATER AUTHORITY SUPPLEMENT GUIDELINES AND STANDARD DETAILS.

2. ALL CLAY PIPE WORK SHALL BE EXTRA STRENGTH CLAYWARE TO B.S EN 295:1991 PART 1.

3. ALL PRECAST CONCRETE PIPEWORK SHALL BE TO THE CLASS STATED ON THE DRAWINGS IN ACCORDANCE WITH B.S EN 1916:2002. ALSO, ALL MANHOLES AND CHAMBERS SHALL BE TO B.S EN 1917:2002.

4. THE CONTRACTOR MAY ELECT TO USE REINFORCED PVC PIPES AS COVERED BY B.S 4660:2000 & B.S EN 1401-1. STRUCTURED WALL UPVC PIPES TO COMPLY WITH WIS 4-35-01 UPTO AND INCLUDING 300mm. (BY PRIOR AGREEMENT WITH ADOPTING AUTHORITY) MAX. PIPE LENGTH TO BE 3.0m.

5. ALL LEVELS RELATE TO TOPOGRAPHICAL SURVEY DATUM.

6. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

7. PLOT DRAINAGE CONNECTIONS TO SEWERS MUST BE 150MM DIAMETER AND UNLESS OTHERWISE STATED LAID TO THE INVERT SHOWN.

8. LEVELS GIVEN ON DRAUGHT CHAMBERS ARE INCOMING PIPE LEVELS.

9. PLOT DRAINAGE RUNS TO BE KEPT WITHIN THE CURTLAGGE OF THE PLOT THEY SERVE WHEREVER POSSIBLE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ANY EXISTING INVERT LEVELS AND EXISTING SITE LEVELS (EXISTING BOUNDARY LEVELS) INDICATED ON DRAWINGS ARE CORRECT BEFORE WORKS COMMENCE.

11. ALL CONNECTIONS TO ADOPTABLE SEWERS SHALL BE MANUFACTURED JUNCTION PIPES. SADDLE CONNECTIONS WILL NOT BE PERMITTED, UNLESS SPECIFIED.

12. ALL SEWERS FOR ADOPTION WITH GREATER THAN 1.20m COVER IN ROADS OR 0.9m COVER IN FIELDS SHALL HAVE CLASS S GRANULAR BED AND SURROUND.

13. ANY SEWER FOR ADOPTION WITH LESS THAN 1.2M COVER IN ROADS OR 0.9m COVER IN FIELDS SHALL HAVE A MINIMUM OF 150MM ST4 CONCRETE SURROUND. FLEXIBILITY SHALL BE MAINTAINED BY THE PROVISION OF FLEXCELL OR SIMILAR APPROVED JOINT FILLER BREAKS IN THE CONCRETE SURROUND AT EACH PIPE JOINT.

14. IT IS THE RESPONSIBILITY FOR THE CONTRACTOR TO CHECK ALL ONSITE EXISTING GROUND LEVELS PRIOR TO COMMENCING AND IF THERE ARE ANY DISCREPANCIES THE CONTRACTOR MUST REPORT TO THE ENGINEER IMMEDIATELY.

15. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DRAINAGE AUTHORITY OF THE COMMENCEMENT OF ANY DRAINAGE WORKS AND TO COMPLETE ANY REQUIRED SEWER CONNECTION FORMS INCLUSIVE OF PAYING ANY REQUIRED FEES. THE CONTRACTOR MUST ALLOW FOR THE SUPERVISION OF THE SEWER CONSTRUCTION WORKS BY THE LOCAL AUTHORITY AND NOTIFY THE SUPERVISING OFFICER, GIVING NOTICE WHICH IN ACCORDANCE WORTH THE L.A REQUIREMENTS.

16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY FOR ANY REQUIRED ROAD OPENING PERMITS WITH THE LOCAL AUTHORITY INCLUDING THE PAYMENT OF ANY FEES.

17. BEFORE COMMENCING ANY WORKS ON SITE, THE CONTRACTOR MUST CONTACT THE RELEVANT STATUTORY UNDERTAKER AND BE IN POSSESSION OF THE LATEST AVAILABLE DRAWINGS FROM THE STATUTORY UNDERTAKERS WHICH SHOWS DETAILS OF THEIR SERVICES/APPARATUS. THE CONTRACTOR MUST CONFIRM EXACT LOCATION AND DEPTH OF ANY SERVICES/APPARATUS BY THE USE OF ELECTRO-LOCATION OR SIMILAR DEVICES AND BY HAND DUG TRIAL HOLES. MECHANICAL EXCAVATOR, POWER TOOLS ETC. MUST NOT BE USED TO LOCATE EXISTING SERVICES/APPARATUS.

18. COUNCILS HIGHWAY SUPERVISION OFFICER REQUIRED ONSITE THROUGHOUT CONSTRUCTION. DESIGN SUBJECT TO CBR TESTING TO BE AGREED WITH HIGHWAYS OFFICER ONSITE.

19. SUBJECT TO HIGHWAYS APPROVAL.

20. SUBJECT TO WATER AUTHORITY APPROVAL.

Rev: Description: Date: By: Chkd: Status: PRELIMINARY

Client: OPULWOOD DEVELOPMENTS

Project: 22006 - THE WATERSIDE VILLAGE

Dwg Title: PRIVATE DRAINAGE DETAILS

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