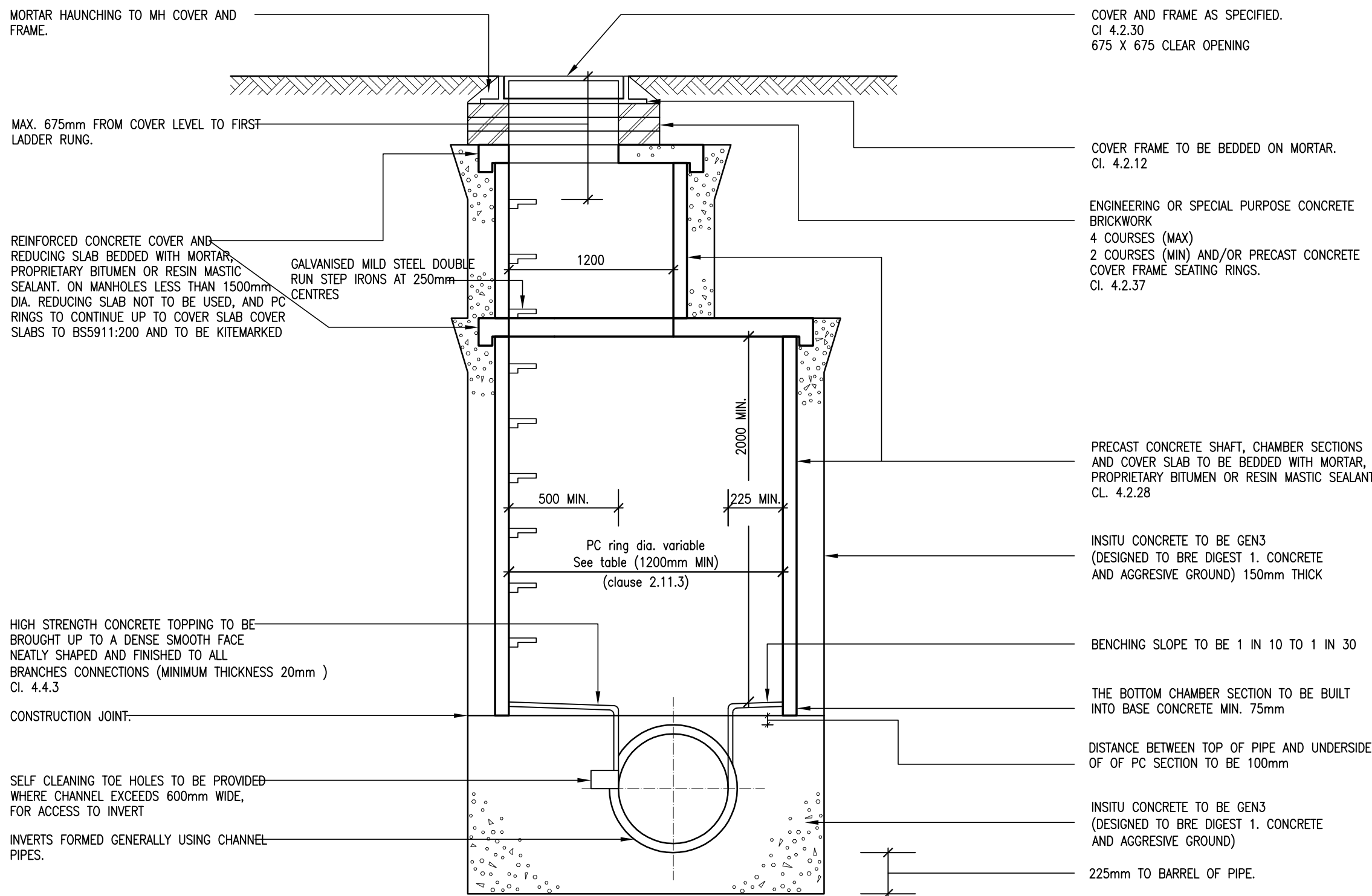
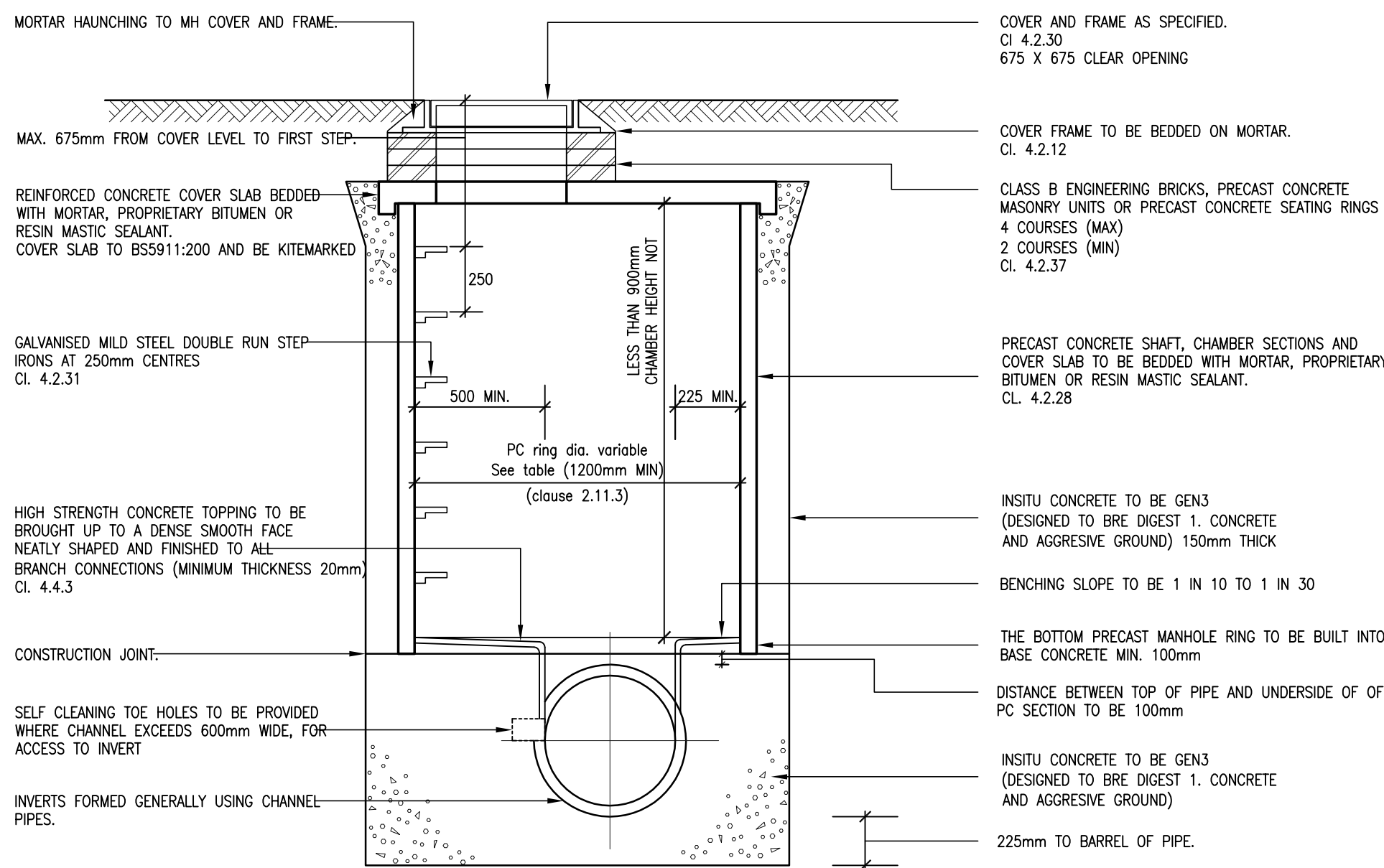


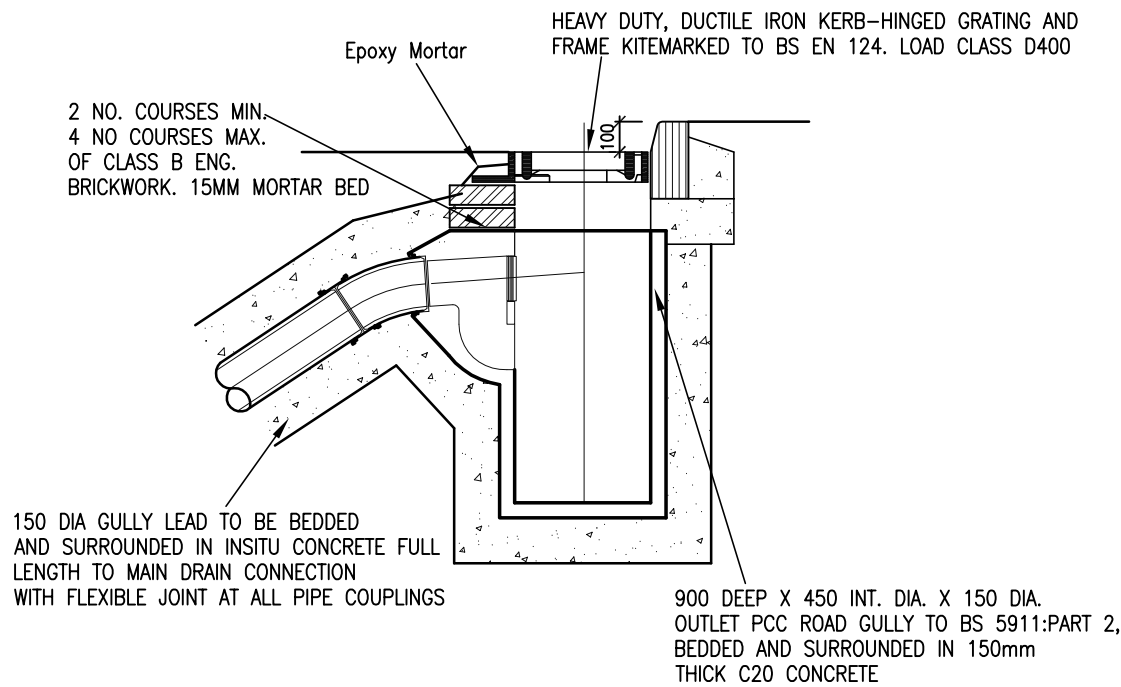
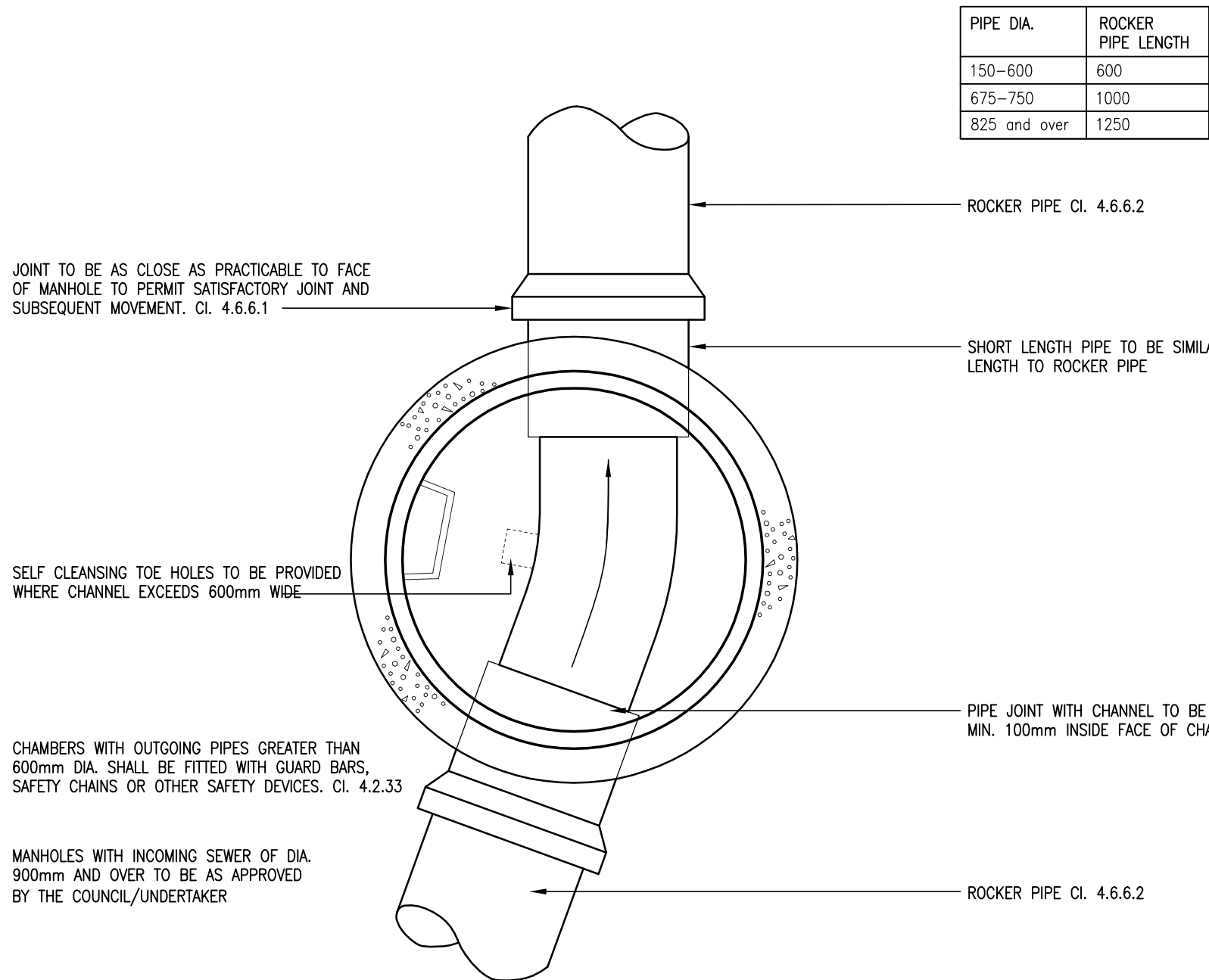
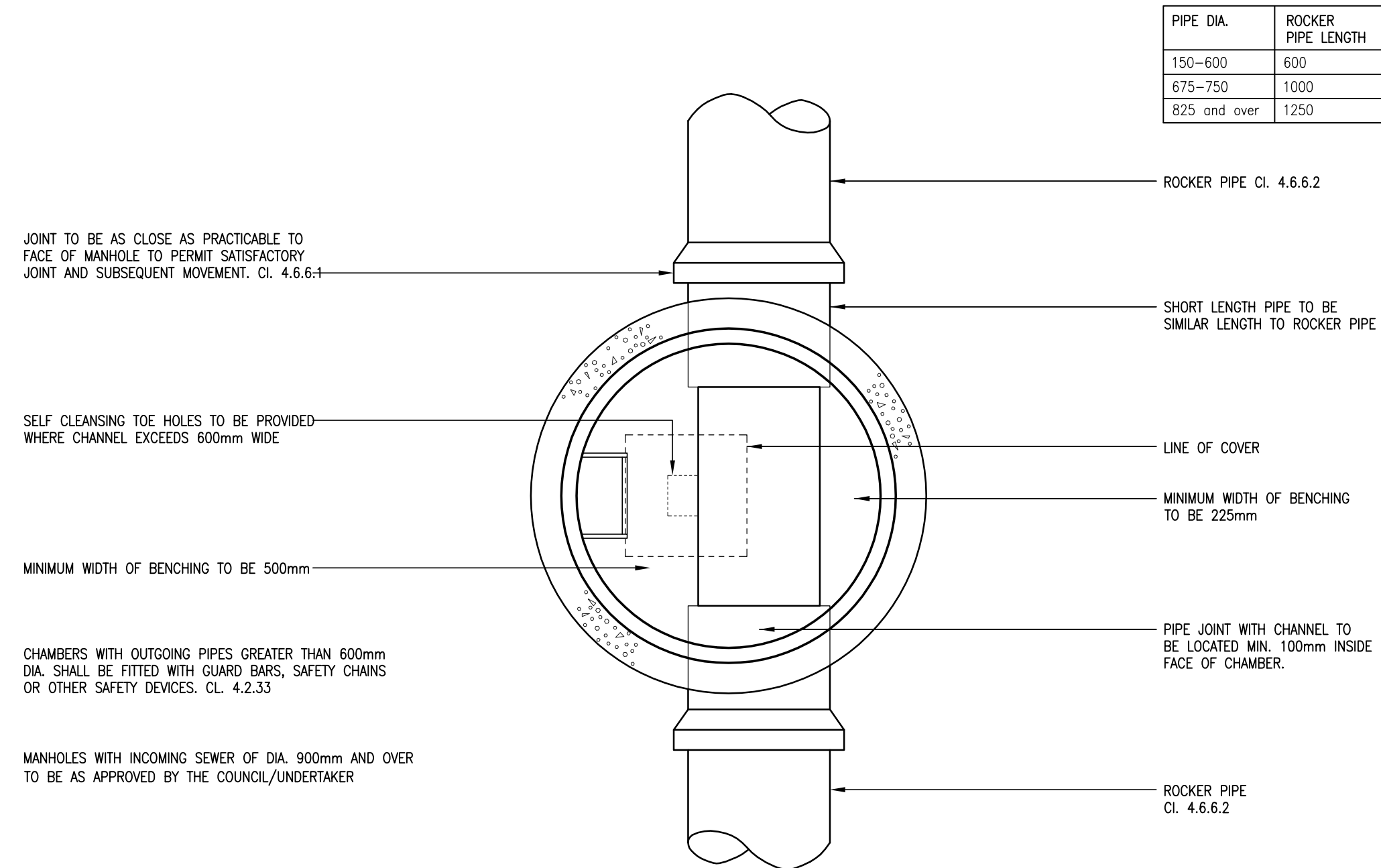


DIA. OF LARGEST PIPE IN MH (mm)	INTERNAL DIA. OF MANHOLE
LESS THAN 375	1200min
375 – 450	1350
500 – 700	1500
750 – 900	1800



DIA. OF LARGEST PIPE IN MH (mm)	INTERNAL DIA. OF MANHOLE
LESS THAN 375	1200 (1050 where depth to soffit is 1.35m–1.5m)
375 – 450	1350
500 – 700	1500
750 – 900	1800

PIPE DIA.	ROCKER PIPE LENGTH
150–600	600
675–750	1000
825 and over	1250



ROAD GULLY DETAIL
SCALE 1:25

BRICKS AND BLOCKS – (Cl. 4.2.37)
CLAY BRICKS SHALL BE SOLID TYPE, AND BE EITHER CLASS B ENGINEERING COMPLYING WITH THE RELEVANT PROVISIONS OF BS 3921. BLOCKS SHALL BE PRECAST CONCRETE MASONRY UNITS COMPLYING WITH THE RELEVANT PROVISIONS OF BS 6073-PART 1 AND HAVING A SULPHATE RESISTING PORTLAND CEMENT BINDER.

MANHOLE COVERS AND FRAMES – (Cl. 4.2.30)
MANHOLE COVERS AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN124 AND SHALL BE OF A NON-ROCKING DESIGN WHICH DOES NOT RELY ON THE USE OF CUSHION INSERTS. ALL MANHOLE COVERS SHALL BE OF THE NON-VENTILATING TYPE AND SHALL HAVE CLOSED KEYWAYS. FRAMES SHALL BE BEDDED AND HAUNCHING EXTERNALLY OVER THE BASE AND SIDES OF THE FRAME IN MORTAR. FOR PRECAST CONCRETE MANHOLES THE FRAME SHALL BE SEATED ON MINIMUM TWO, MAXIMUM FOUR COURSES OF BRICKWORK OR SEATING RINGS TO REGULATE THE DISTANCE BETWEEN THE TOP OF THE COVER AND THE TOP STEP TO NOT GREATER THAN 675 MM. A MORTAR FILLET SHALL BE PROVIDED WHERE THE CORNERS TO AN OPENING IN A SLAB ARE CHAMFERED AND THE BRICKWORK IS NOT FLUSH WITH THE EDGES OF THE OPENING.

CLASS D400 COVERS SHALL BE USED IN CARRIAGEWAYS OF ROADS (INCLUDING PEDESTRIAN STREETS), HARD SHOULDERS AND PARKING AREAS USED BY ALL TYPES OF VEHICLES. CLASS B125 COVERS SHALL BE USED IN FOOTWAYS, PEDESTRIAN AREAS AND COMPARABLE LOCATIONS.

MANHOLE STEPS – (Cl. 4.2.31)
STEPS IN MANHOLES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 1247-PARTS 1,2 AND 3 AND POLYPROPYLENE ENCAPSULATED STEPS SHALL COMPLY WITH WS 4-33-01. STEPS SHALL BE BUILT INTO THE MANHOLE AT 250 MM INTERVALS VERTICALLY. 'DOUBLE STEPS' ARE PREFERRED TO 'SINGLE STEPS'. 'SINGLE STEPS' SHALL BE STAGGERED AT 300 MM CENTRES HORIZONTALLY.

LADDERS – (Cl. 4.2.35)
LOW CARBON STEEL LADDERS FOR VERTICAL FIXING SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 4211, CLASS A. AFTER FABRICATION LOW CARBON STEEL LADDERS SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH BS 729.

STAINLESS STEEL LADDERS FOR VERTICAL FIXING SHALL BE FABRICATED FROM GRADE 316S31 STEEL COMPLYING WITH ANY DIMENSIONAL PROVISIONS OF BS 4211 CLASS A.

SAFETY CHAINS – (Cl. 4.2.33)
MILD STEEL SAFETY CHAINS SHALL BE 8 MM NOMINAL SIZE GRADE M(4) NON-CALIBRATED CHAIN, TYPE 1, COMPLYING WITH BS 4942: PART 2. AFTER MANUFACTURE, MILD STEEL SAFETY CHAIN SHALL BE HOT DIP GALVANISED IN ACCORDANCE WITH BS 729.

STAINLESS STEEL SAFETY CHAIN SHALL BE MANUFACTURED FROM GRADE 316S31 STEEL COMPLYING WITH BS 970: PART 1. CHAIN LINKS SHALL BE WELDED AND HAVE AN INTERNAL LENGTH NOT EXCEEDING 45MM AND AN INTERNAL WIDTH OF BETWEEN 12 AND 18 MM. THE FINIS CAUSED BY WELDING SHALL BE REMOVED AND THE WELD SHALL BE SMOOTHLY FINISHED ALL ROUND. WHEN TESTED IN ACCORDANCE WITH CLAUSE 7.3 OF BS4942: PART 2, EACH CHAIN SHALL WITHSTAND A BREAKING FORCE OF 30 KN AND A PROOF FORCE OF 15 KN.

HIGH STRENGTH CONCRETE TOPPING – (Cl. 4.4.3)
HIGH STRENGTH CONCRETE TOPPING SHALL BE PRODUCED, LAID AND FINISHED IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF BS 8204: PART 2 AND THE FOLLOWING APPROXIMATE MIX PROPORTIONS BY WEIGHT SHALL BE USED :-
1 PART CEMENT : 1 PART NATURAL SAND : 2 PARTS SINGLE SIZED COURSE AGGREGATE.

MORTAR – (Cl. 4.2.12)
MORTAR SHALL BE MIXED ONLY AS AND WHEN REQUIRED, IN THE RELEVANT ALTERNATIVE PROPORTIONS FOLLOWING :- 1:1/4:3 CEMENT:LIME:SAND OR 1:3 CEMENT : SAND OR 1 : 2 1/2 TO 3 CEMENT:SAND WITH PLASTICIZER.

READY MIXED LIME:SAND FOR MORTAR AND READY-TO-USE RETARDER MORTAR SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS4721 AND BE OF CATEGORY 1.12 AND DESIGNATION (I) RESPECTIVELY.

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DO NOT SCALE OFF DIMENSIONS FROM THIS DRAWING.
ALL DIMENSIONS ARE TO BE CHECKED ON SITE AND ANY DISCREPANCIES TO BE REPORTED TO TIM STOWER AND PARTNERS LTD IN WRITING.
CONTRACTORS, SUB-CONTRACTORS AND SUPPLIERS MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING ANY WORK OR PRODUCING ANY SHOP DRAWINGS.
WORK AND MATERIALS TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS AND TO COMPLY WITH ALL RELEVANT BRITISH STANDARDS.

NOTES FOR ADOPTABLE MANHOLES GENERAL

THE CONTRACTOR SHALL CHECK AND VERIFY ALL BUILDING AND SITE DIMENSIONS AND LEVELS, AND THE INVERT LEVELS OF ALL EXISTING SEWERS, DRAINS, CULVERTS, AND WATERCOURSES AT THE CONNECTION POINTS OF ALL PROPOSED SEWERS AND DRAINS BEFORE ANY WORK STARTS ON SITE.

THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF THE CURRENT BUILDING REGULATIONS, BRITISH STANDARDS AND CODES OF PRACTICE, WHETHER SPECIFICALLY REFERED TO ON THE DRAWINGS OR NOT.

ALL WORK SHALL BE CARRIED OUT TO THE SATISFACTION OF THE WATER COMPANY'S ENGINEER OR THEIR AGENT.

SPECIFICATION
FOR FULL SPECIFICATIONS THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WATER SERVICES ASSOCIATION PUBLICATION "SEWERS FOR ADOPTION – 5TH EDITION", AND ALL OTHER RELEVANT ARCHITECTS AND CONSULTANTS DRAWINGS.

CONCRETE – (Cl. 4.4.1)
STANDARD CONCRETE MIXES IN ACCORDANCE WITH BS 5328, WITH A 20MM NOMINAL MAXIMUM SIZE AGGREGATE AND A 75MM SLUMP, SHALL BE USED THROUGHOUT THE WORKS. IN FILLINGS, BUILDINGS, SOFT SPOTS AND DRAINAGE SUMPS STANDARD MIX ST1 GRADE C7.5 SHALL BE USED. IN ALL OTHER APPLICATIONS STANDARD MIX ST4, GRADE C20 SHALL BE USED.

EXCEPT FOR CONCRETES HAVING AN EQUIVALENT COMPRESSIVE STRENGTH LESS THAN 20 N/MM², SULPHATE RESISTING CEMENT SHALL BE USED IN ALL CONCRETE, OR CONSIST OF A SPECIAL COMBINATION OF CEMENT COMPLYING WITH THE RELEVANT PROVISIONS OF BS 12 AND GG68 OR PFA UNLESS IT HAS BEEN PROVED BY TESTING THAT ANY ATTACK FROM SOILS OR GROUNDWATERS WILL ADEQUATELY BE RESISTED BY THE USE OF CEMENT TO BS 12.

FOR PRECAST CONCRETE PIPES OR MANHOLES COMPLYING WITH BS 5911 A MINIMUM CLASS 3 SULPHATE RESISTING CEMENT SHALL BE USED UNLESS IT HAS BEEN PROVED BY TESTING THAT A LOWER CLASS SHALL BE RESIST ATTACK FROM SOILS AND GROUNDWATER.

COMPRESSIVE STRENGTH TESTING SHALL NOT BE USED TO JUDGE THE COMPLIANCE OF A CONCRETE BUT WHERE REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE EVIDENCE OF THE BATCH MASSES USED TO PRODUCE ANY CONCRETE, ADMIXTURES (INCLUDING CALCIUM CHLORIDE AND PIGMENTS) SHALL NOT BE USED IN THE PRODUCTION OF ANY CONCRETE.

CONCRETE PIPES AND FITTINGS – (Cl. 4.2.19)
UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS 5911-PART 100, AND BE KITEMARKED. (SEE ALSO NOTES ON CONCRETE WHICH ALSO APPLY.)

VITRIFIED CLAY PIPES AND FITTINGS – (Cl. 4.2.18)
VITRIFIED CLAY PIPES AND FITTINGS FOR SEWERS SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN295 AND BS 65 RESPECTIVELY, AND BE KITEMARKED.

PRECAST CONCRETE MANHOLES – (Cl. 4.2.28)
PRECAST CONCRETE MANHOLE UNITS OF CIRCULAR CROSS SECTION FOR MANHOLES SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS 5911-PART 200 AND BE KITEMARKED. (SEE ALSO NOTES ON CONCRETE WHICH APPLY.)

PRECAST CONCRETE SEATING RINGS
PRECAST CONCRETE SEATING RINGS SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS 5911-PART 200 AND BE KITEMARKED. (SEE ALSO NOTES ON CONCRETE WHICH APPLY.)

REV.	DATE.	AMENDMENT.	BY.

STATUS: TENDER

TSP TIM STOWER
AND PARTNERS LTD
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
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CLIENT:
UNIVERSITY of HUDDERSFIELD
PROJECT:

PROPOSED JOSEPH PREISTLEY
BUILDING

TITLE:
PROPOSED PRIVATE MANHOLE
DETAILS (SHEET 1)

SCALE: 1:25 @ A1 DATE: 08.11.16

DRAWN: VG CHECKED: --

DWG REF:
5006–303 REV:
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