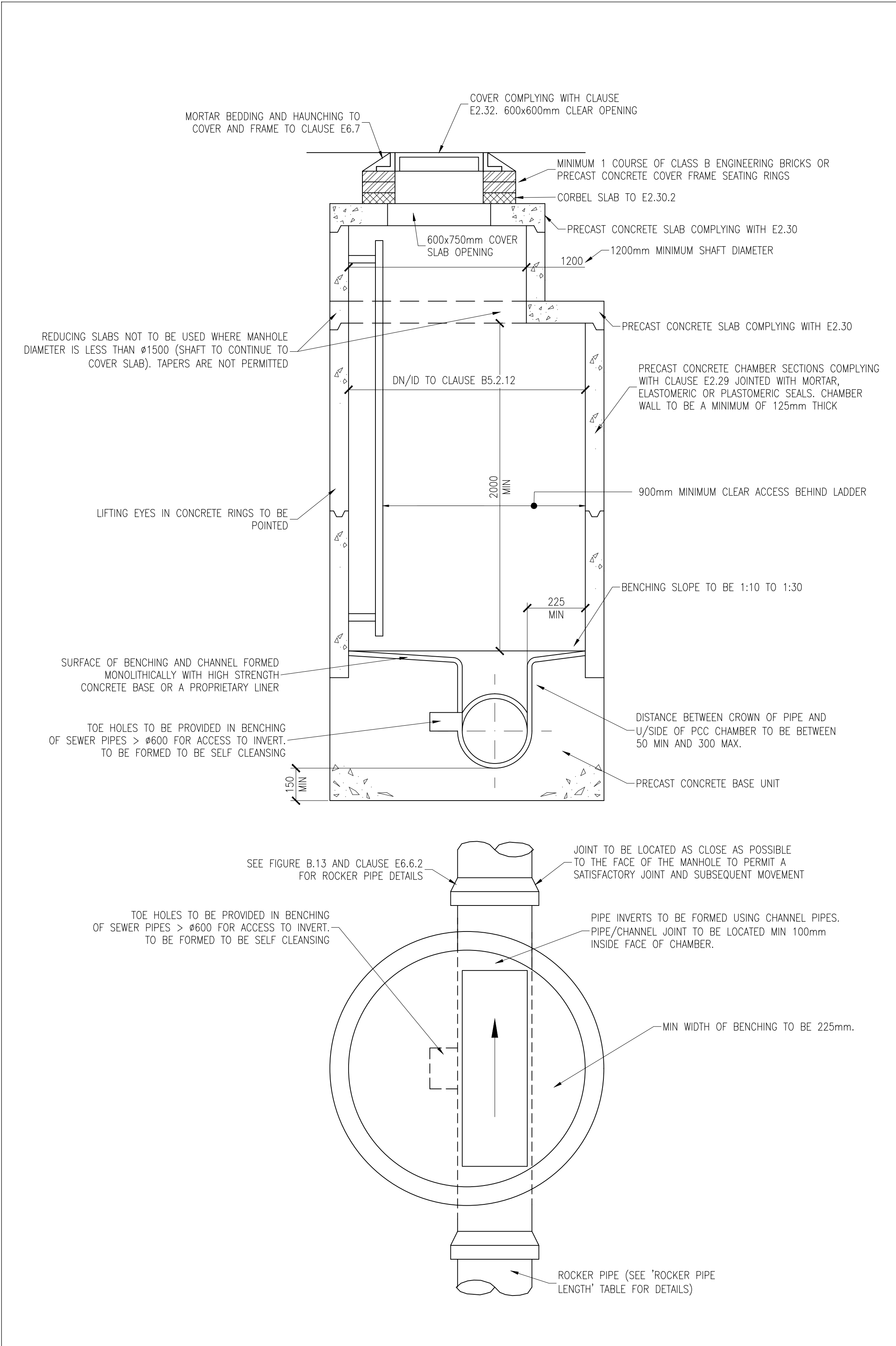
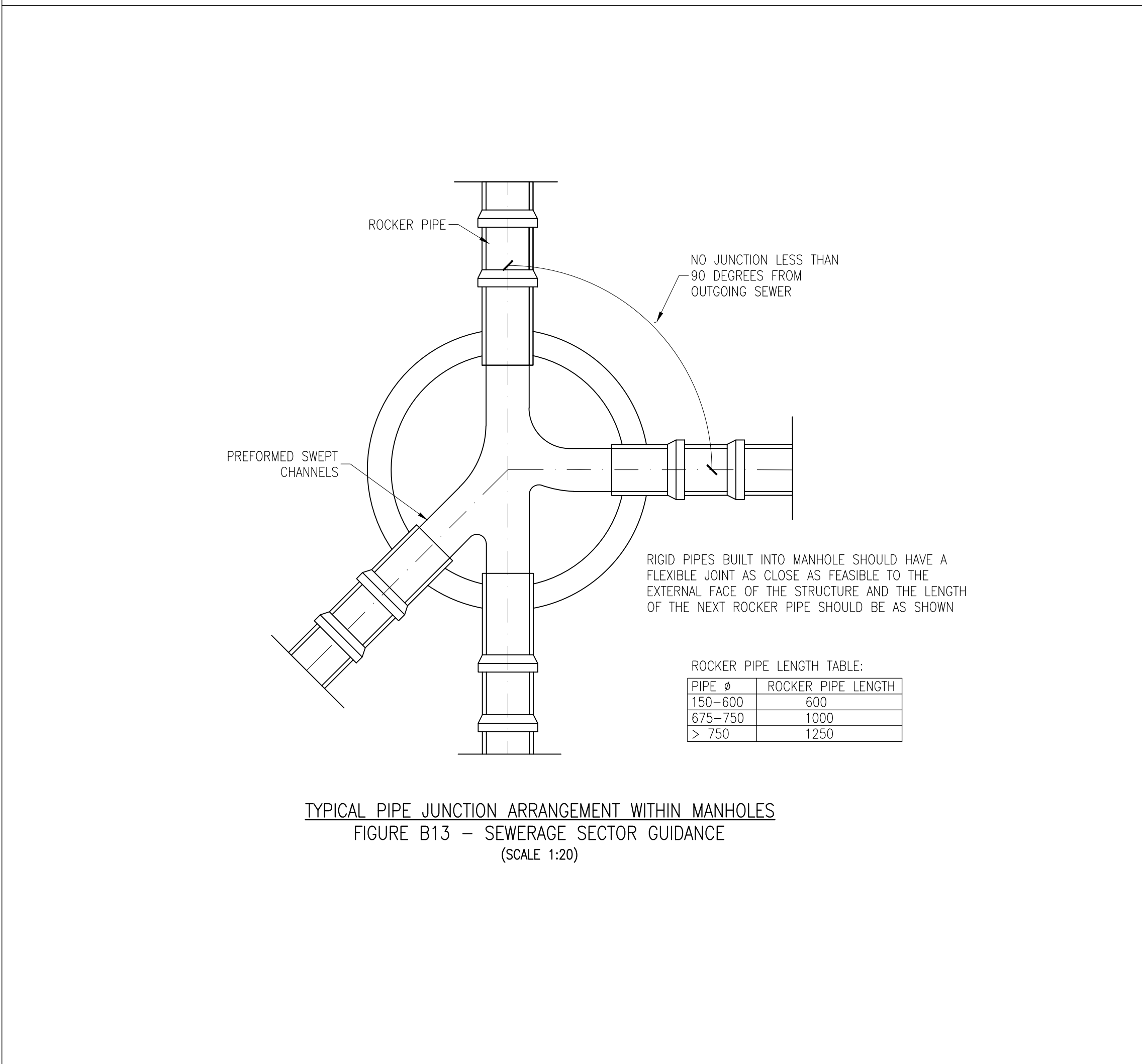
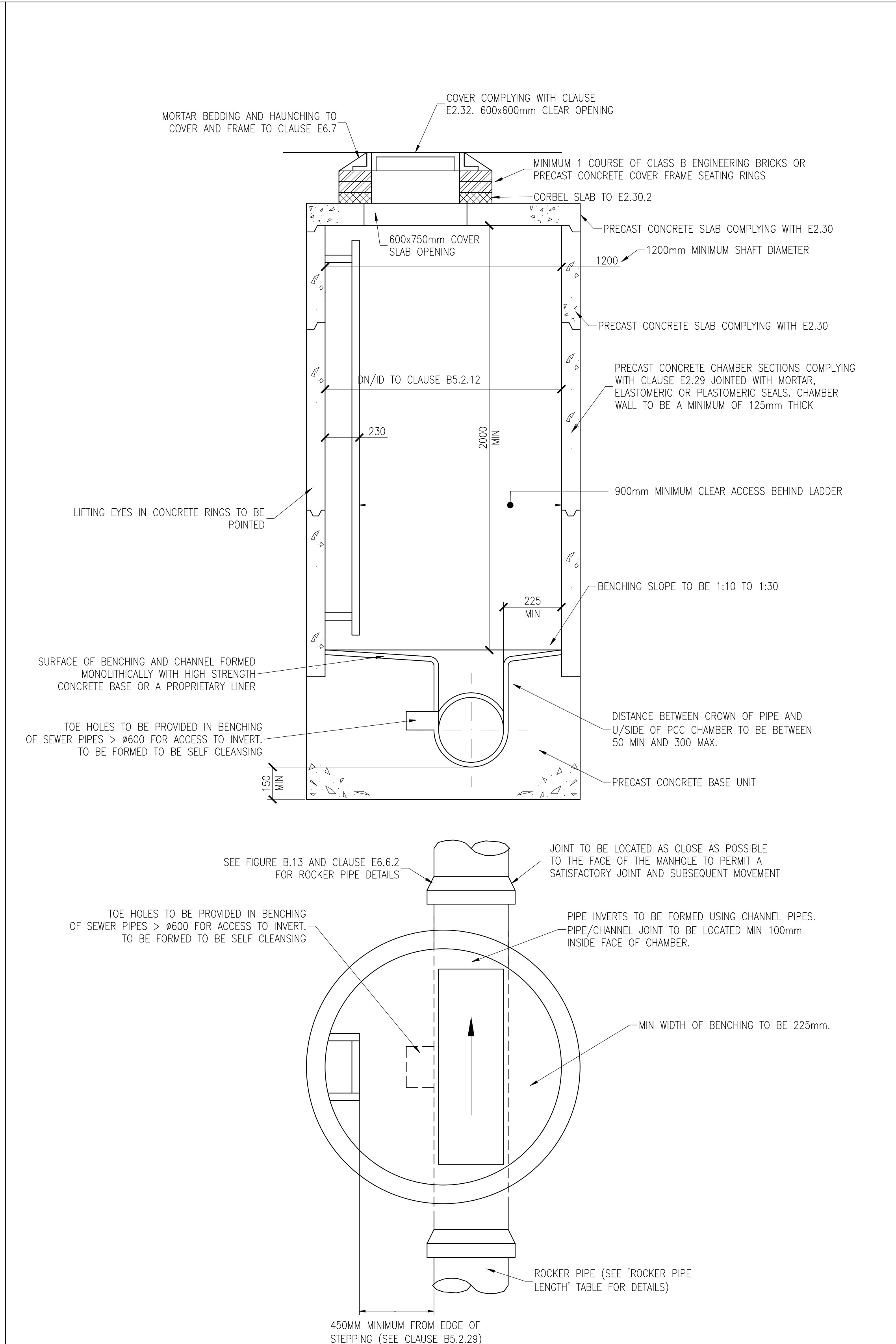




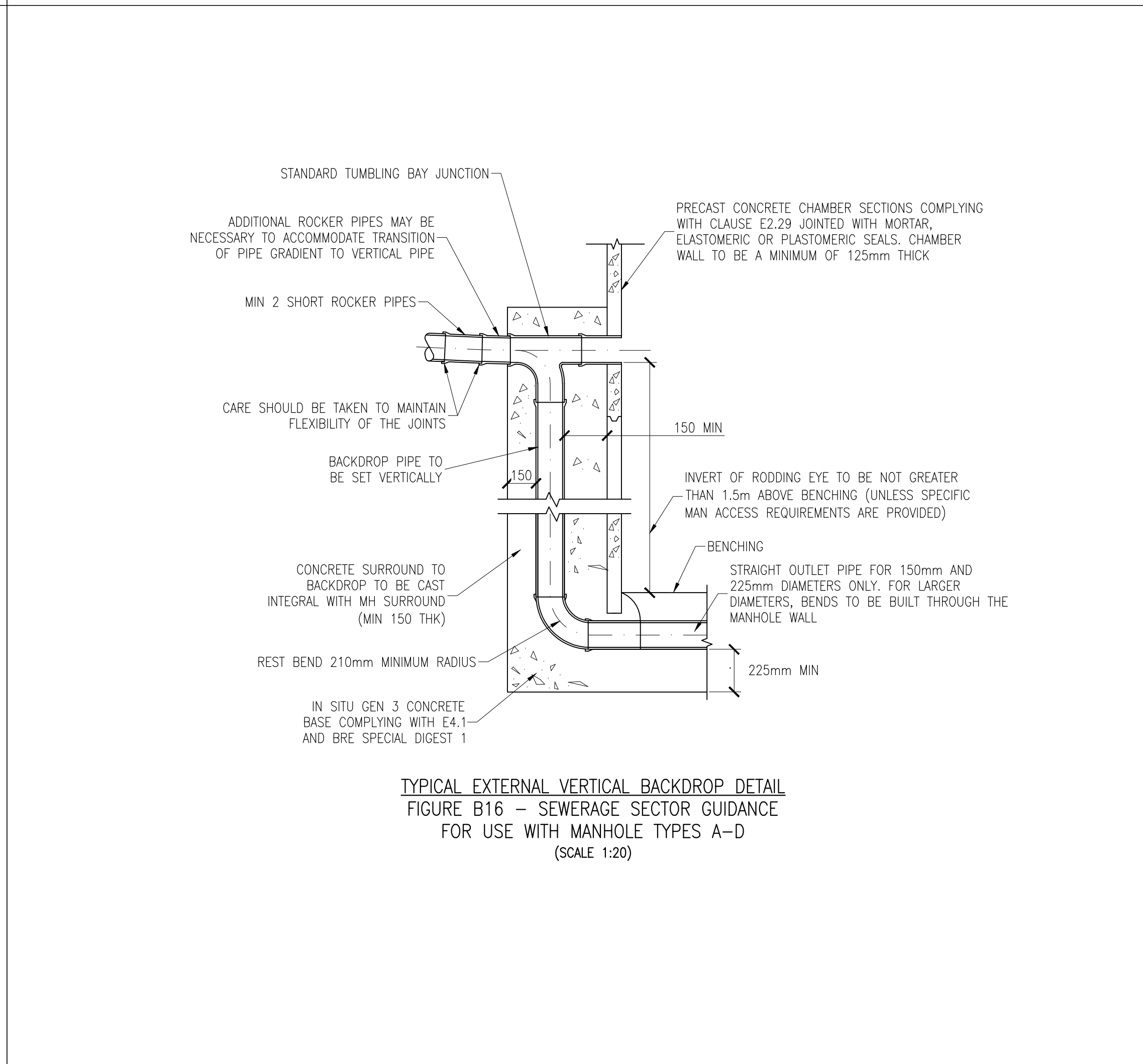
TYPICAL MANHOLE DETAIL
TYPE A1 – FIGURE B4, SEWERAGE SECTOR GUIDANCE
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3m to 6m
(SCALE 1:20)



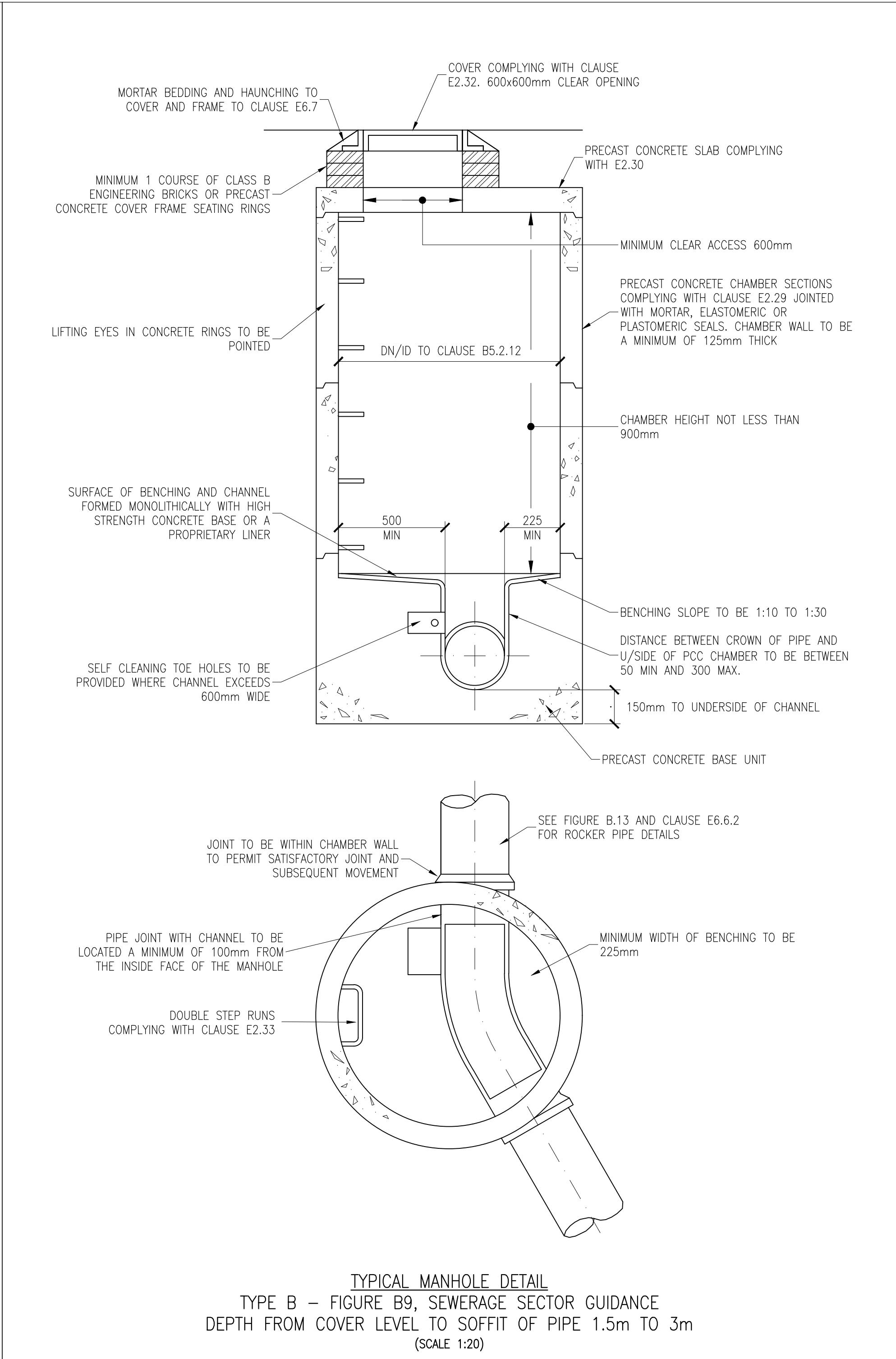
TYPICAL PIPE JUNCTION ARRANGEMENT WITHIN MANHOLES
FIGURE B13 – SEWERAGE SECTOR GUIDANCE
(SCALE 1:20)



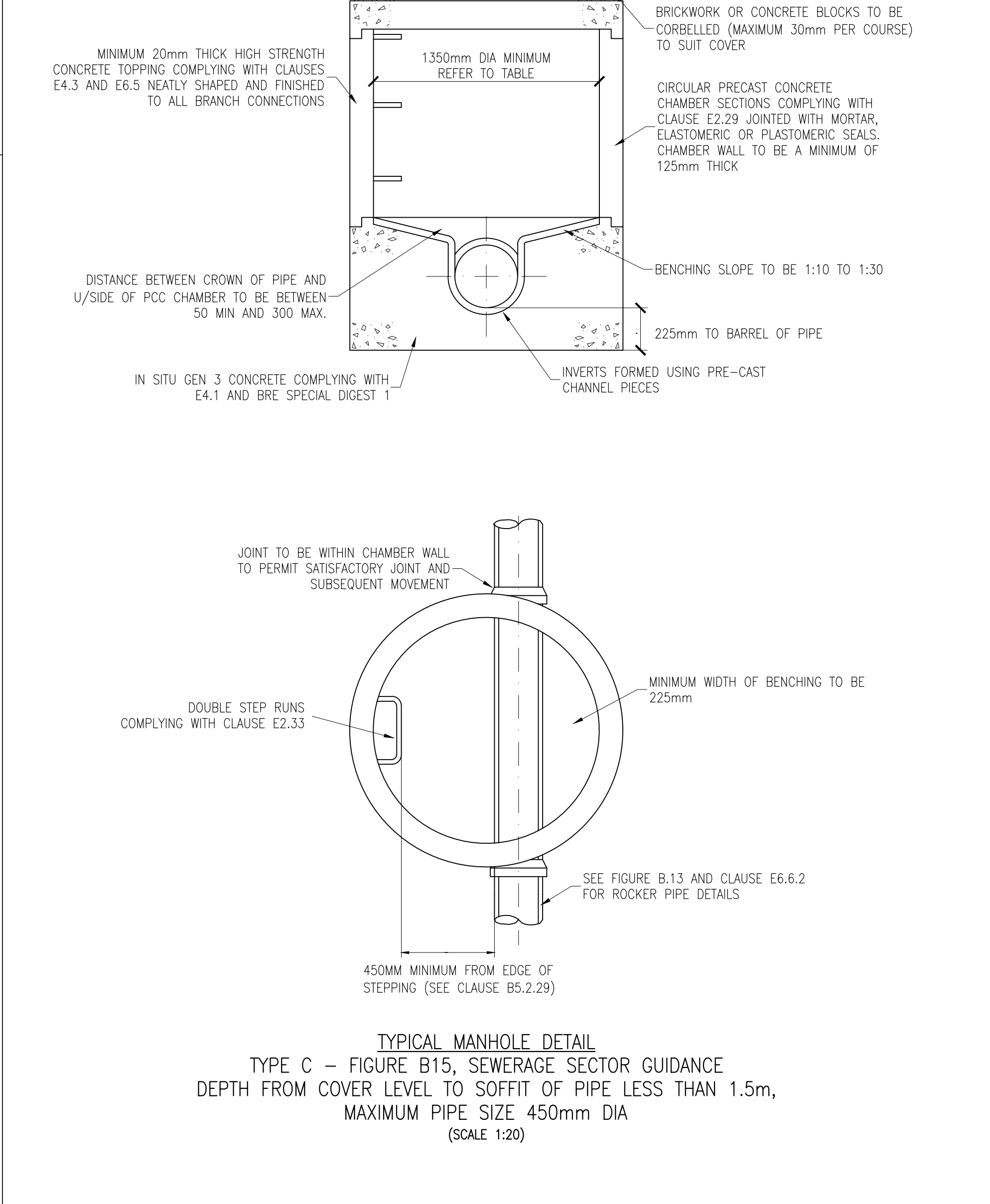
TYPICAL MANHOLE DETAIL
TYPE A1 – FIGURE B6, SEWERAGE SECTOR GUIDANCE
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3m to 6m
(SCALE 1:20)



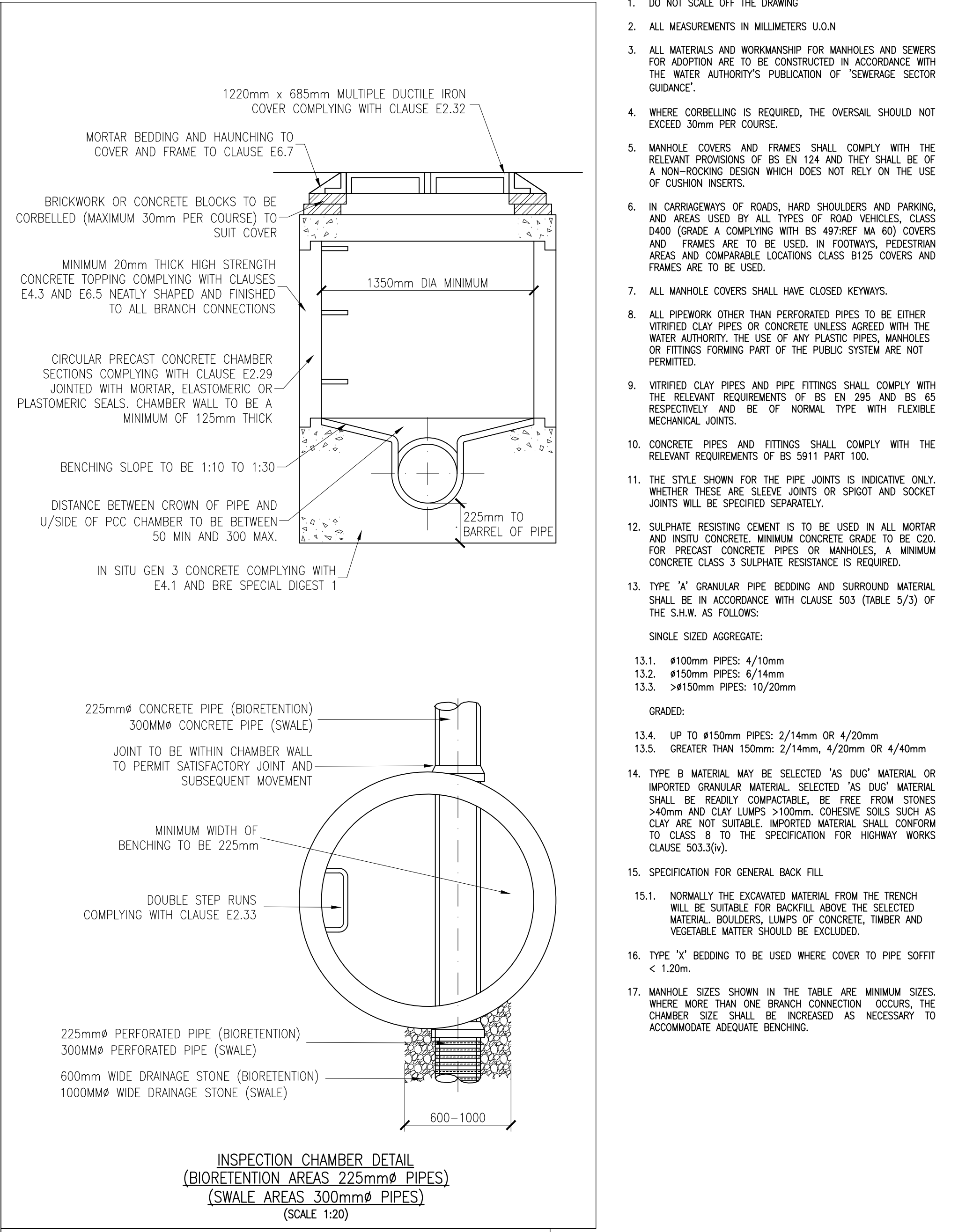
TYPICAL EXTERNAL VERTICAL BACKDROP DETAIL
FIGURE B16 – SEWERAGE SECTOR GUIDANCE
FOR USE WITH MANHOLE TYPES A–D
(SCALE 1:20)



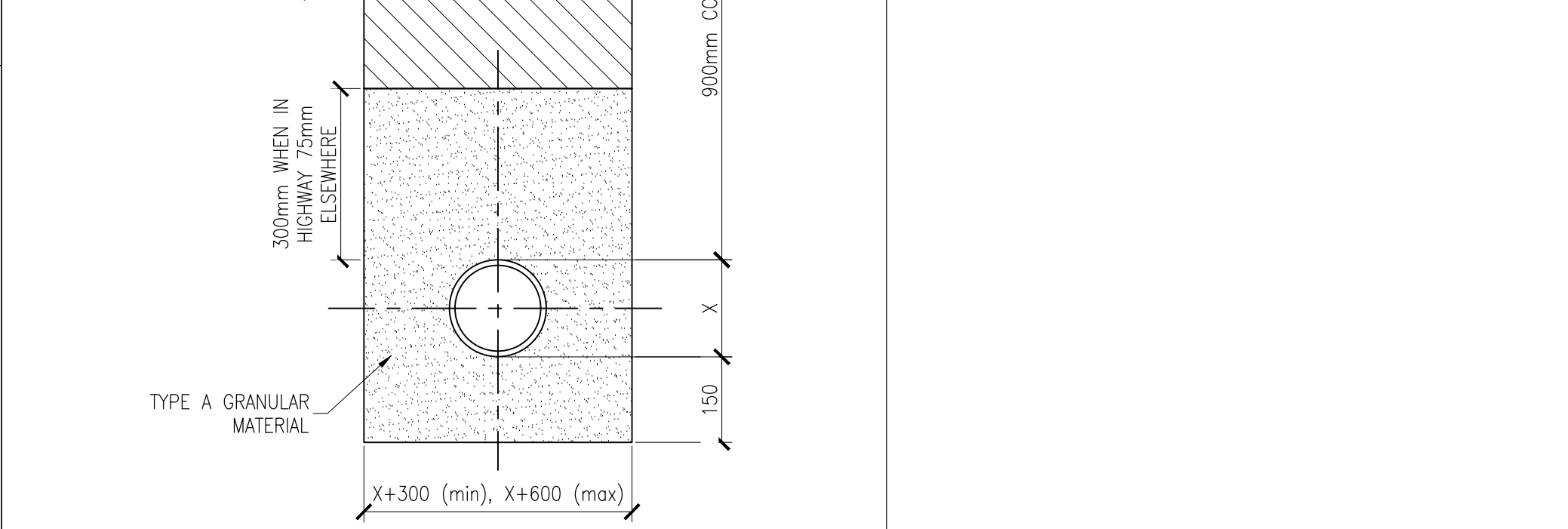
TYPICAL MANHOLE DETAIL
TYPE B – FIGURE B9, SEWERAGE SECTOR GUIDANCE
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 1.5m to 3m
(SCALE 1:20)



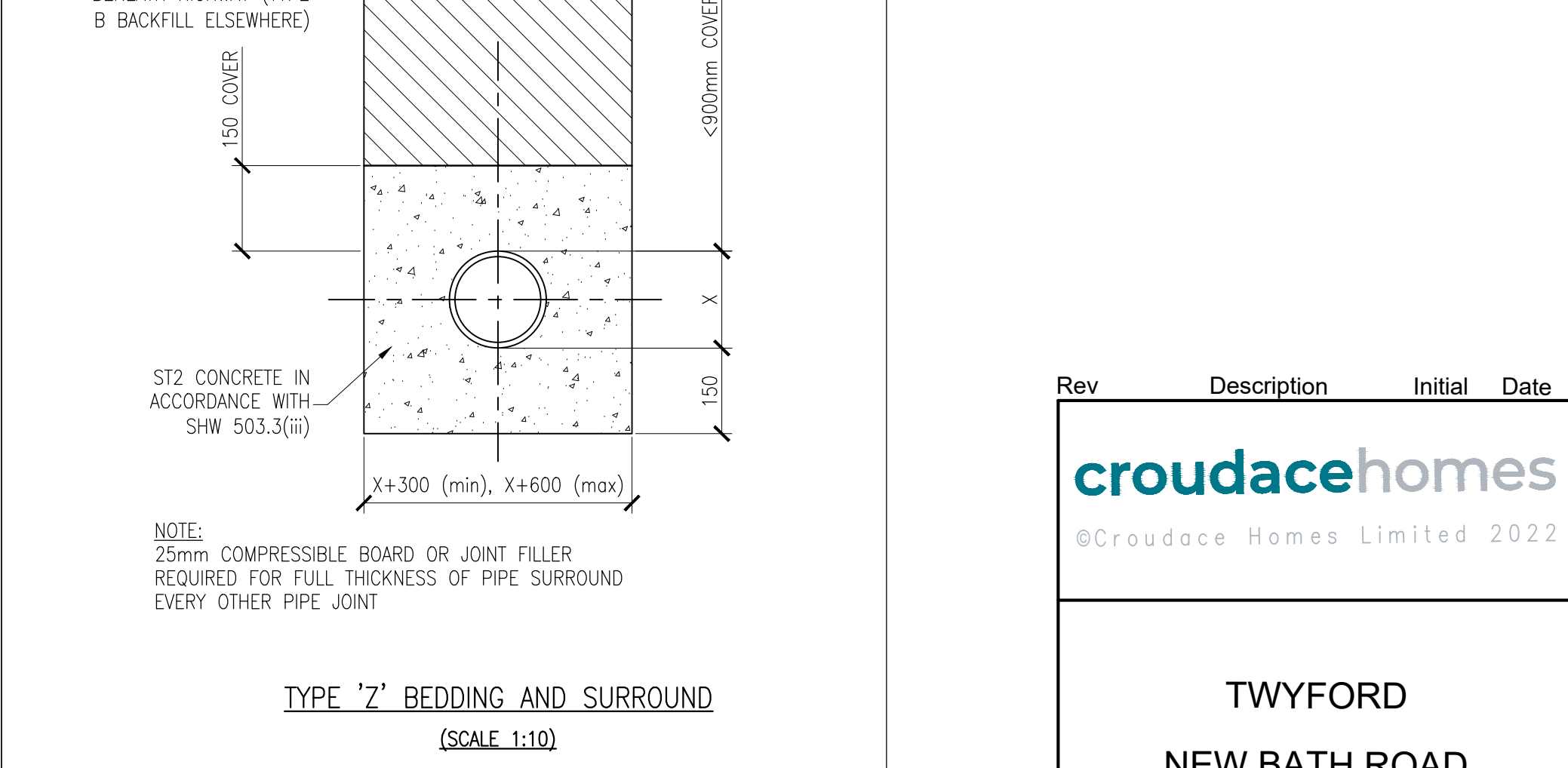
TYPICAL MANHOLE DETAIL
TYPE C – FIGURE B15, SEWERAGE SECTOR GUIDANCE
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE LESS THAN 1.5m,
MAXIMUM PIPE SIZE 450mm DIA
(SCALE 1:20)



INSPECTION CHAMBER DETAIL
(BIORETENTION AREAS 225mm ϕ PIPES)
(SWALE AREAS 300mm ϕ PIPES)
(SCALE 1:20)



TYPE 'S' BEDDING AND SURROUND
(SCALE 1:10)



TYPE 'Z' BEDDING AND SURROUND
(SCALE 1:10)

ALL MANHOLE DETAILS REFLECT THE SEWERAGE SECTOR GUIDANCE (SSG) – DESIGN AND CONSTRUCTION GUIDANCE. ALL CLAUSES REFERENCED WITHIN THE DETAILS CAN BE FOUND WITHIN THE SSG DOCUMENTATION.	
MANHOLE DIAMETERS	
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
<375	1200 (NOT APPLICABLE FOR TYPE C CHAMBERS)
375–450	1350
500–700	1500
750–900	1800
>900	PIPE DIAMETER + 900

NOTES:

- DO NOT SCALE OFF THE DRAWING
- ALL MEASUREMENTS IN MILLIMETERS U.O.N
- ALL MATERIALS AND WORKMANSHIP FOR MANHOLES AND SEWERS FOR ADDITION ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE WATER AUTHORITY'S PUBLICATION OF SEWERAGE SECTOR GUIDANCE.
- WHERE CORRELLING IS REQUIRED, THE OVERALL SHOULD NOT EXCEED 30mm PER COURSE
- MANHOLE COVERS AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 124 AND THEY SHALL BE OF A NON-ROCKING DESIGN WHICH DOES NOT RELY ON THE USE OF CUSHION INSERTS.
- IN CARBONWAYS OF ROADS, HARD SHOULDERS AND PARKING, AND AREAS USED BY ALL TYPES OF ROAD VEHICLES, CLASS D400 (GRADE A COMPLYING WITH BS 497:REF M 60) COVERS AND FRAMES ARE TO BE USED. IN FOOTWAYS, PEDESTRIAN AREAS AND COMPARABLE LOADING CLASS B175 COVERS AND FRAMES ARE TO BE USED.
- ALL MANHOLE COVERS SHALL HAVE CLOSED KEYS.
- ALL PREWORK OTHER THAN PERFORATED PIPES TO BE EITHER VITRIFIED CLAY PIPES OR CONCRETE UNLESS AGREED WITH THE WATER AUTHORITY. THE USE OF ANY PLASTIC PIPES, MANHOLES OR FITTINGS FORMING PART OF THE PUBLIC SYSTEM ARE NOT PERMITTED.
- VITRIFIED CLAY PIPES AND PIPE FITTINGS SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN 295 AND BS 45 RESPECTIVELY AND BE OF NORMAL TYPE WITH FLEXIBLE MECHANICAL JOINTS.
- CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS 5911 PART 100.
- THE STYLE SHOWN FOR THE PIPE JOINTS IS INDICATIVE ONLY. WHETHER THESE ARE SLEEVE JOINTS OR SPIGOT AND SOCKET JOINTS WILL BE SPECIFIED SEPARATELY.
- SULPHATE RESISTING CEMENT IS TO BE USED IN ALL MORTAR AND IN-SITU CONCRETE. MINIMUM CONCRETE GRADE TO BE C20 FOR PRECAST CONCRETE PIPES OR MANHOLES. A MINIMUM CONCRETE CLASS 3 SULPHATE RESISTANCE IS REQUIRED.
- TYPE 'A' GRANULAR PIPE BEDDING AND SURROUND MATERIAL SHALL BE IN ACCORDANCE WITH CLAUSE 503 (TABLE 5/3) OF THE S.S.G. AS FOLLOWS:
SINGLE SIZED AGGREGATE:
13.1. #100mm PIPES: 4/10mm
13.2. #150mm PIPES: 6/14mm
13.3. >415mm PIPES: 10/20mm
GRADED:
13.4. UP TO #150mm PIPES: 2/14mm OR 4/20mm
13.5. GREATER THAN 150mm: 2/14mm, 4/20mm OR 4/40mm
- TYPE B MATERIAL MAY BE SELECTED 'AS DUG' MATERIAL OR IMPORTED GRANULAR MATERIAL. SELECTED 'AS DUG' MATERIAL SHALL BE READILY COMPACTABLE, BE FREE FROM STONES >40mm AND CLAY LUMPS >100mm. COHESIVE SOILS SUCH AS CLAY ARE NOT SUITABLE. IMPORTED MATERIAL SHALL CONFORM TO CLASS 8 TO THE SPECIFICATION FOR HIGHWAY WORKS CLAUSE 503.3(d).
- SPECIFICATION FOR GENERAL BACK FILL
- 15.1. NORMALLY THE EXCAVATED MATERIAL FROM THE TRENCH WILL BE SUITABLE FOR BACKFILL ABOVE THE SELECTED MATERIAL. BOLLERS, LUMPS OF CONCRETE, TIMBER AND VEGETABLE MATTER SHOULD BE EXCLUDED.
- TYPE 'X' BEDDING TO BE USED WHERE COVER TO PIPE SLOTT < 1.20m.
- MANHOLE SIZES SHOWN IN THE TABLE ARE MINIMUM SIZES. WHERE MORE THAN ONE BRANCH CONNECTION OCCURS, THE CHAMBER SIZE SHALL BE INCREASED AS NECESSARY TO ACCOMMODATE ADEQUATE BEDDING.