

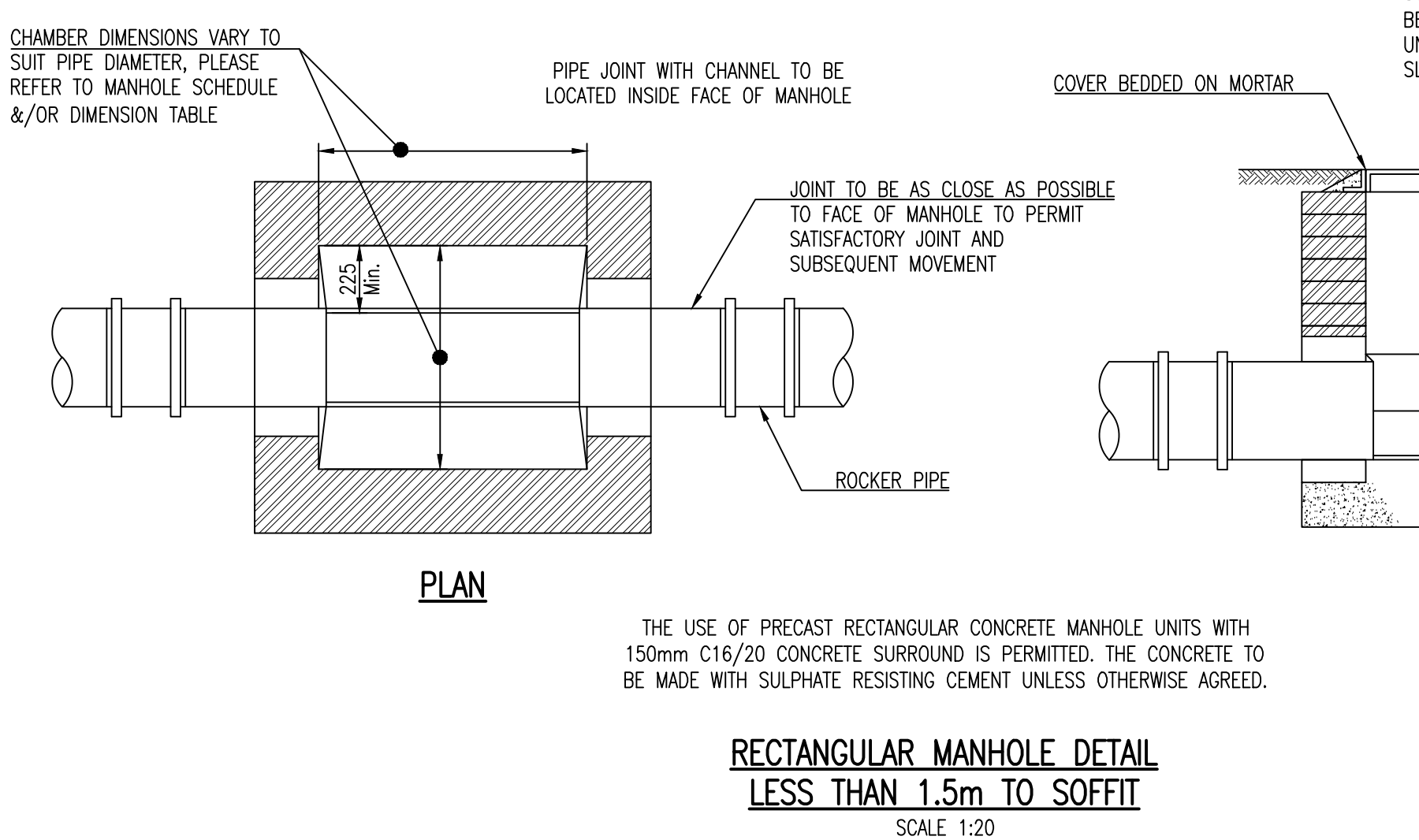
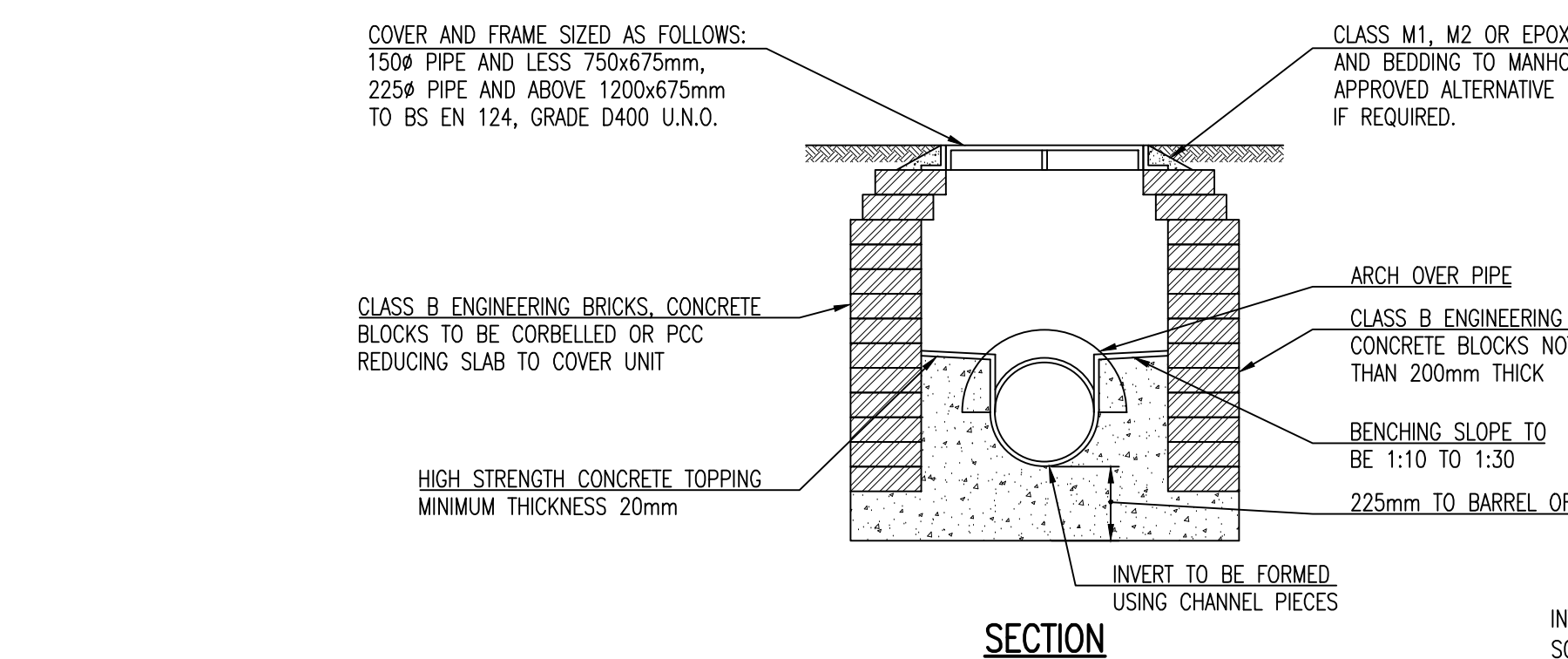
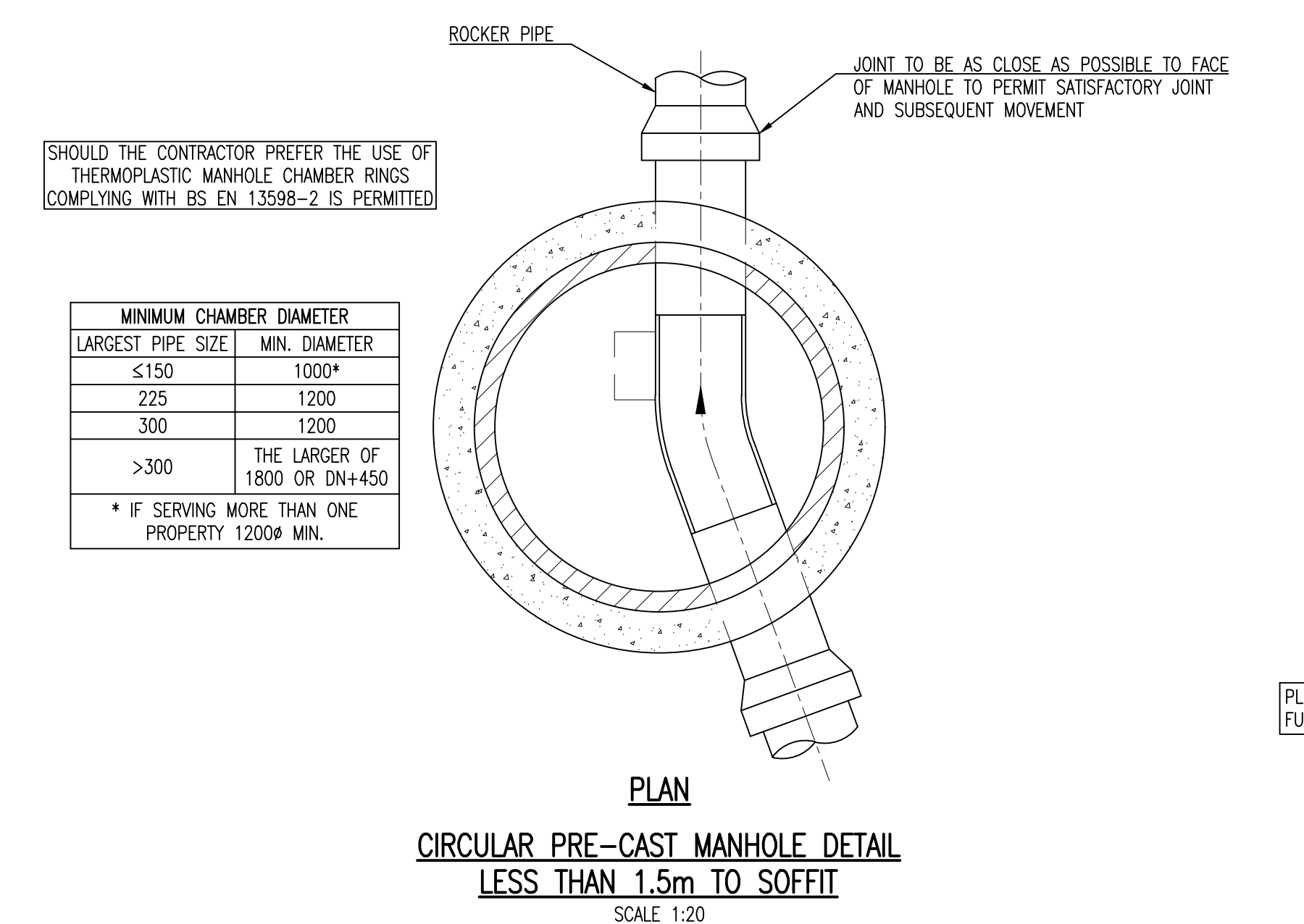
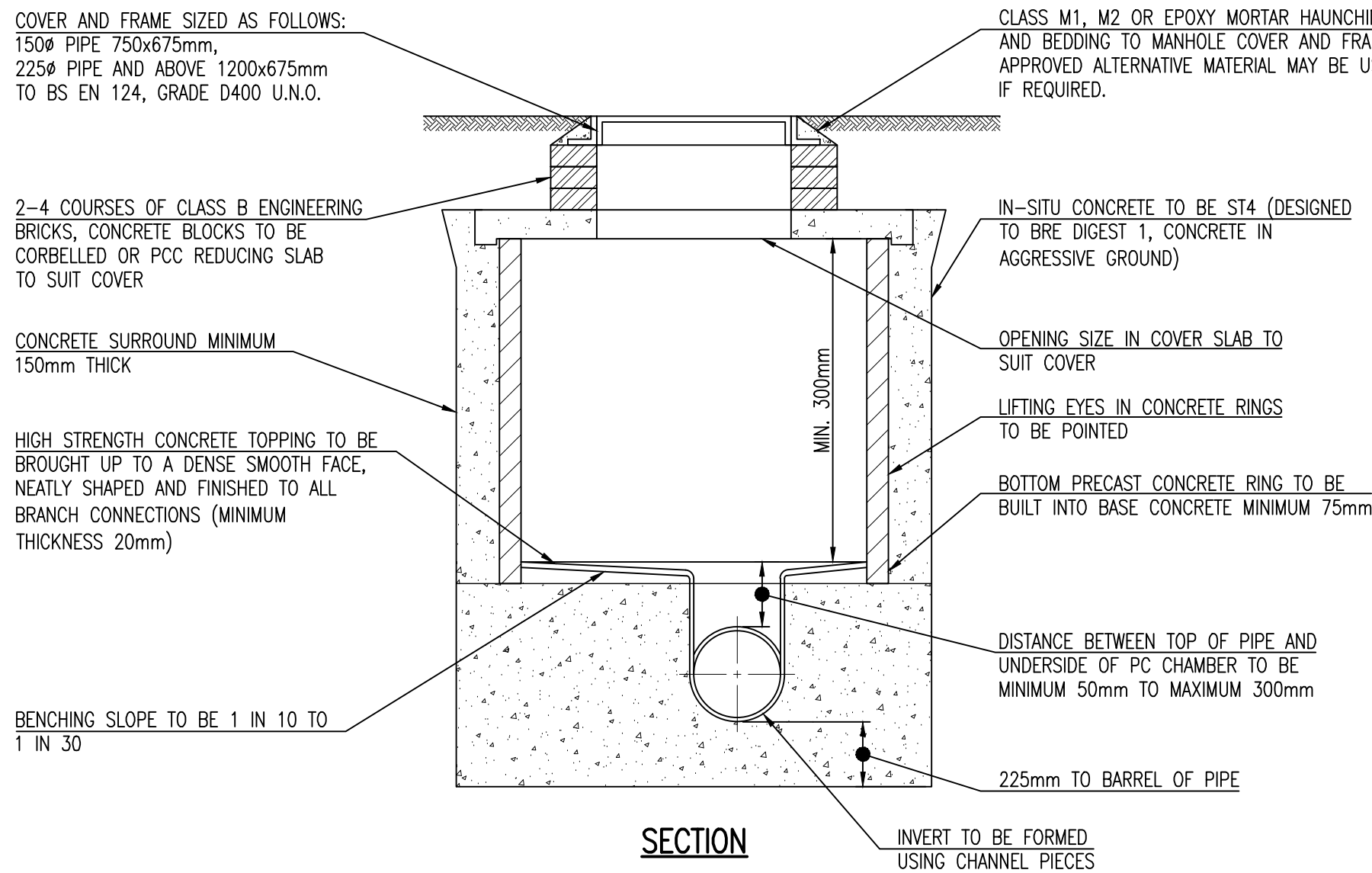
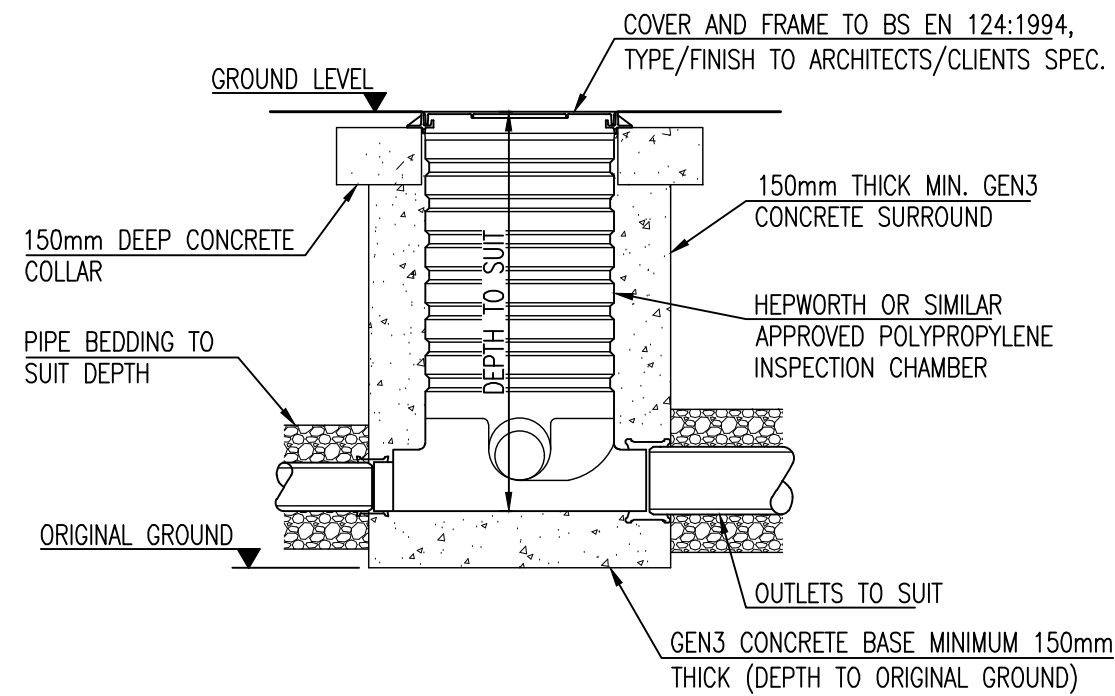


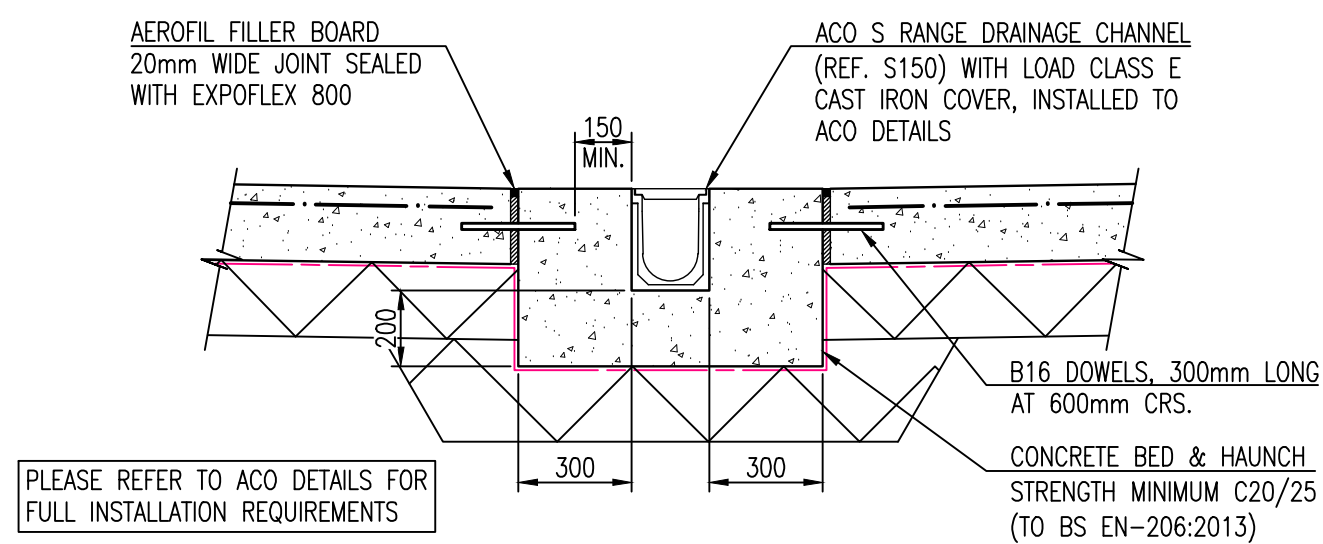
TABLE SHOWING PRIVATE MANHOLE/INSPECTION CHAMBER
COVER GRADES AND AREAS OF USE

COVER GRADE TO BS EN: 124	LOCATION
D400	FOR USE IN INDUSTRIAL ROADS AND PARKING AREAS ACCESSIBLE TO ALL TYPES OF ROAD VEHICLES INCLUDING HGV'S.
C250*	FOR USE IN PRIVATE ROADS OR PARKING AREAS eg. CAR PARKS AND MINOR PRIVATE ROADS ACCESSIBLE TO REFUSE VEHICLES, FIRE APPLIANCES ETC WITH POSSIBLE OCCASIONAL HGV USE.
B125	FOR USE IN FOOTWAYS, PEDESTRIAN AREAS, DRIVEWAYS AND CAR PARKS ACCESSIBLE BY LIGHT VEHICLES ONLY.
A15	FOR USE IN AREAS WHICH CAN ONLY BE USED BY PEDESTRIANS AND PEDAL CYCLISTS
* D400 MAY BE USED IN LIEU OF C250 IF PREFERRED.	



TYPICAL POLYPROPYLENE INSPECTION CHAMBER
IN AREAS SUBJECT TO VEHICLE LOADING

SCALE 1:20



ACO S RANGE DRAINAGE CHANNEL DETAIL

SCALE 1:20

MINIMUM DIMENSIONS FOR ACCESS FITTINGS AND INSPECTION CHAMBERS

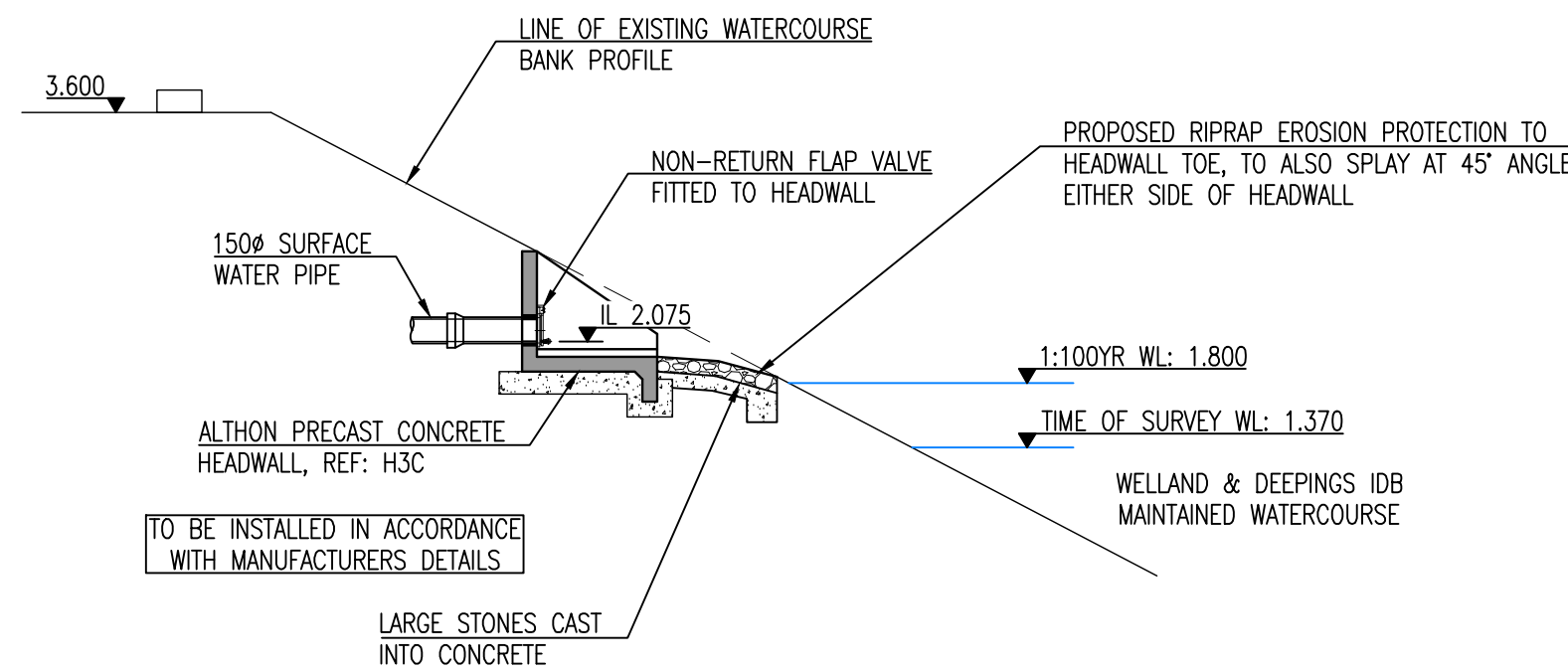
TYPE OF ACCESS	DEPTH TO INVERT FROM COVER LEVEL (m)	MINIMUM INTERNAL DIMENSIONS (ø)		MINIMUM CLEAR OPENING SIZE (ø)	
		LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)	LENGTH x WIDTH (mm x mm)	CIRCULAR (mm)
RODDING EYE	–	AS DRAIN BUT MINIMUM 100mm.	–	–	SAME SIZE AS PIPEWORK
ACCESS FITTING SMALL 150mm DIA. SMALL 150x100mm LARGE 225x100mm	0.6m OR LESS EXCEPT WHERE SITUATED IN A CHAMBER	150 x 100 225 x 100	150 225	150 x 100 (1) 225 x 100 (1)	SAME SIZE AS ACCESS FITTING
INSPECTION CHAMBER					
SHALLOW	0.6m OR LESS	225 x 100	190 (2)		190 (1)
MEDIUM	1.2m OR LESS	450 x 450	450	MIN 430 x 430	430
DEEP	GREATER THAN 1.2m	450 x 450	450	MAX 300 x 300 (3)	ACCESS RESTRICTED TO MAX. 350 (3)

NOTES:
(1) THE CLEAR OPENING MAY BE REDUCED BY 20mm IN ORDER TO PROVIDE PROPER SUPPORT FOR THE COVER AND FRAME.
(2) DRAINS UPTO 150mm DIAMETER.
(3) A LARGER CLEAR OPENING COVER MAY BE USED IN CONJUNCTION WITH A RESTRICTED ACCESS. THE SIZE IS RESTRICTED FOR HEALTH AND SAFETY REASONS TO
DETER ENTRY.

MINIMUM DIMENSIONS FOR MANHOLES

TYPE OF ACCESS	SIZE OF LARGEST PIPE (DN)	MINIMUM INTERNAL DIMENSIONS (ø)		MINIMUM CLEAR OPENING SIZE (ø)	
		RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR DIAMETER (mm)	RECTANGULAR LENGTH x WIDTH (mm x mm)	CIRCULAR DIAMETER (mm)
MANHOLE LESS THAN 1.5m DEEP TO SOFFIT	LESS THAN OR EQUAL TO 150	750 x 675 (7)	1000 (7)	750 x 675 (2)	N/A (3)
	225	1200 x 675	1200	1200 x 675 (2)	
	300	1200 x 750	1200		
	GREATER THAN 300	1800 x (DN+450)	THE LARGER OF 1800 or (DN+450)		
MANHOLE GREATER THAN 1.5m DEEP TO SOFFIT	LESS THAN OR EQUAL TO 225	1200 x 1000	1200	600 x 600	600
	300	1200 x 1075	1200		
	375-450	1350 x 1225	1200		
	GREATER THAN 450	1800 x (DN+775)	THE LARGER OF 1800 or (DN+775)		
MANHOLE SHAFT (4) GREATER THAN 3.0m DEEP TO SOFFIT OF PIPE	STEPS (5)	1050 x 800	1050	600 x 600	600
	LADDER (5)	1200 x 800	1200		
	WINCH (6)	900 x 800	900		

NOTES:
(1) LARGER SIZES MAY BE REQUIRED FOR MANHOLES ON BENDS OR WHERE THERE ARE JUNCTIONS.
(2) MAY BE REDUCED TO 600x600mm WHERE REQUIRED BY HIGHWAY LOADING CONSIDERATIONS, SUBJECT TO A SAFE SYSTEM OF WORK BEING SPECIFIED.
(3) NOT APPLICABLE DUE TO WORKING SPACE NEEDED.
(4) MINIMUM HEIGHT OF CHAMBER IN SHAFTED MANHOLE 2m FROM BENCHING TO UNDERSIDE OF REDUCING SLAB.
(5) MINIMUM CLEAR SPACE BETWEEN LADDER OR STEPS AND THE OPPOSITE FACE OF THE SHAFT SHOULD BE APPROXIMATELY 900mm.
(6) WINCH ONLY – NO STEPS OR LADDERS, PERMANENT OR REMOVABLE.
(7) THE MINIMUM SIZE OF ANY MANHOLE SERVING A SEWER (i.e. ANY DRAIN SERVING MORE THAN ONE PROPERTY) SHOULD BE 1200x750mm RECTANGULAR OR 1200mm
DIAMETER.



SURFACE WATER OUTFALL HEADWALL DETAIL

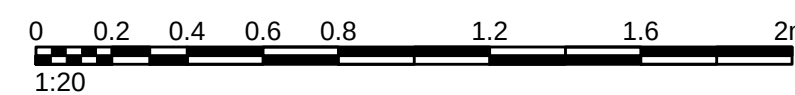
SCALE 1:50

PLEASE REFER TO ARCHITECTS DRAWINGS FOR
CONFIRMATION OF ALL WALL/SETTING OUT
DIMENSIONS PRIOR TO COMMENCING OF WORKS

THIS DRAWING MUST BE READ IN CONJUNCTION
WITH ALL RELEVANT DRAWINGS & STRUCTURAL
CALCULATIONS

GENERAL DRAINAGE NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER
RELEVANT ENGINEERS AND ARCHITECTS DETAILS.
- ALL MATERIAL & WORKMANSHIP TO BE IN ACCORDANCE WITH 'SEWERAGE
SECTOR GUIDANCE APPENDIX C: DESIGN AND CONSTRUCTION GUIDANCE'.
- ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT
BRITISH STANDARDS, B.S. CODES OF PRACTICE & BUILDING REGULATIONS.
- REFER TO SSG DCG SPECIFICATION FOR CONCRETE GRADES & SAND/
CEMENT MORTAR GRADES. ALL PRECAST & IN-SITU CONCRETE TO CONTAIN
A MINIMUM CLASS 3 SUPHATE RESISTING CEMENT.
- PRE-FORMED CHANNELS ARE TO BE USED AT MANHOLES.
- GRANULITHIC CONCRETE BENCHING TO BE STEEL TROWELLED TO A
DENSE SMOOTH FACE NEATLY SHAPED & FINISHED TO ALL BRANCH
CONNECTIONS & LAID IN ACCORDANCE WITH THE SPECIFICATION.
- ALL DIMENSIONS ARE IN MILLIMETRES U.N.O.
- PIPE BENDS TO SUIT DIRECTION OF FLOW.
- MANHOLE COVERS AND FRAMES TO BE TO EN 124. USE GRADE D400
COVERS IN VEHICULAR MOVEMENT AREAS AND GRADE A15 COVERS IN
NON-VEHICULAR AREAS.
- ALL TRENCHES UNDER CARRIAGEWAY TO BE BACKFILLED WITH TYPE 1
SUB-BASE, WELL COMPACTED IN LAYERS NOT EXCEEDING 150mm LOOSE
DEPTH.



REV.	DESCRIPTION	MP	APW	DATE
–	FIRST ISSUE – FOR INFORMATION.			31.10.24

**SHIELDS
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STRUCTURAL AND CIVIL ENGINEERING

STATUS
FOR INFORMATION

CLIENT
STAGECOACH SERVICES LTD. / VSA

PROJECT
PROPOSED SITE RE-DEVELOPMENTS AT
STAGECOACH – SPALDING DEPOT
WARDENTREE PARK, PINCHBECK, PE11 3UG

TITLE
PROPOSED DRAINAGE DETAILS
SHEET 1 OF 2

DATE	OCT. '24	SCALE	DRAWING NO.	REV.
DRAWN	MP	1:20 1:50	SW24-219-140	–