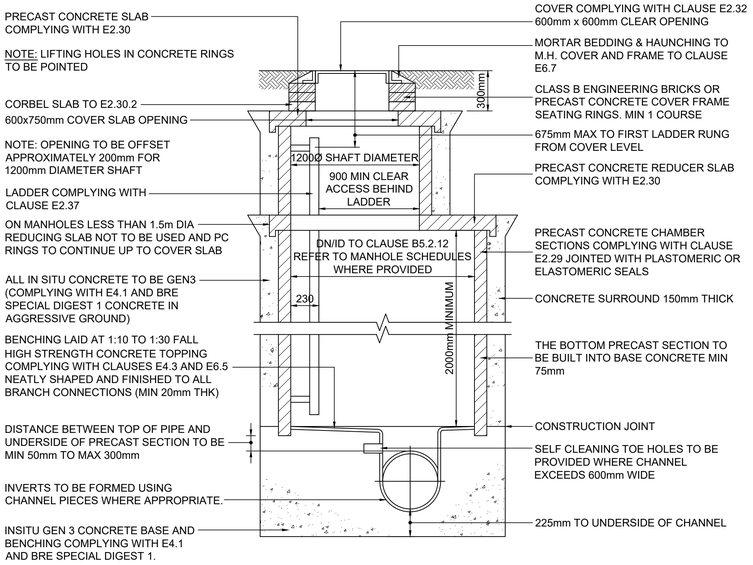
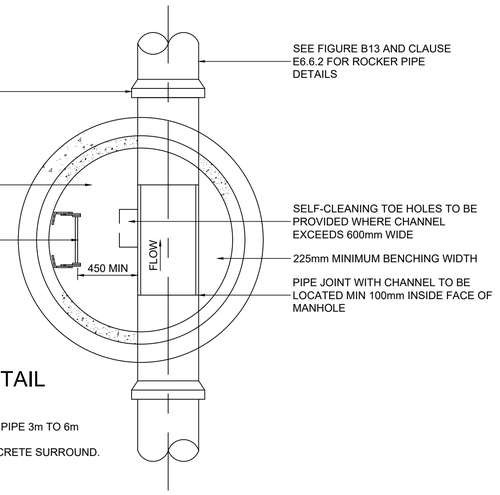
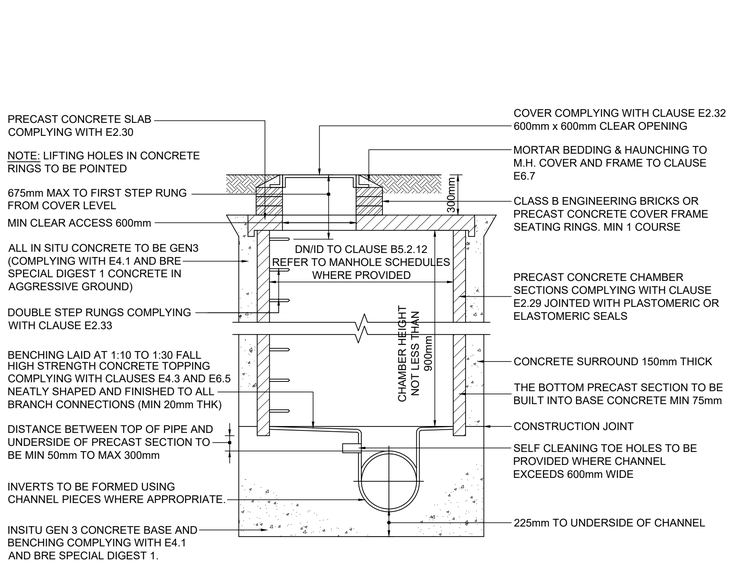
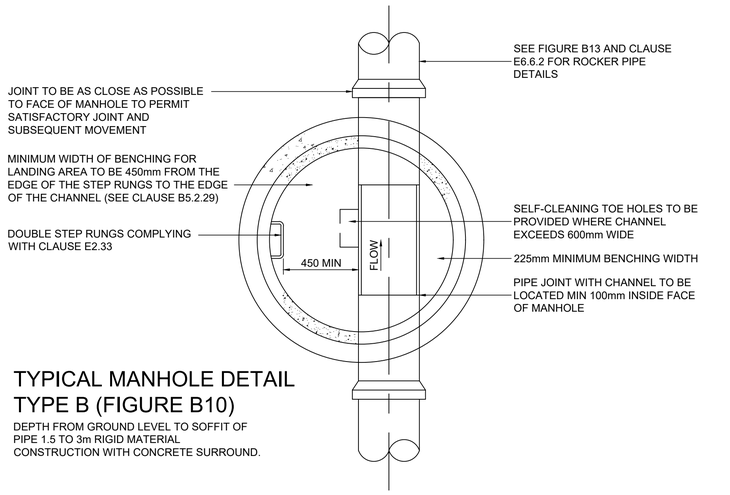




TYPICAL MANHOLE DETAIL TYPE A1 (FIGURE B5)

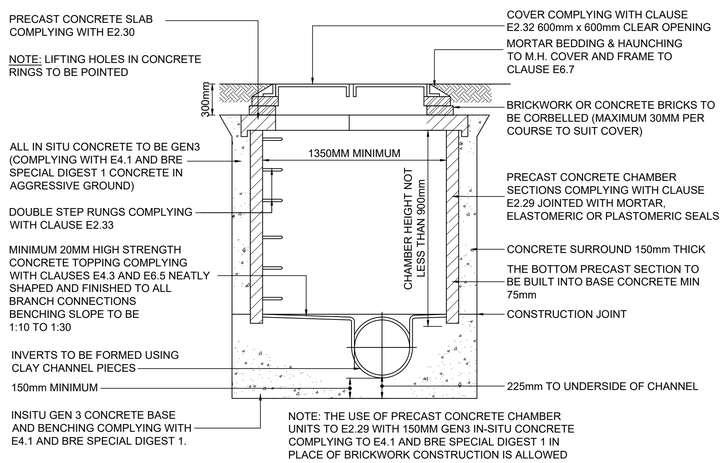
DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 3m TO 6m
WITH LADDER AND REDUCING SLAB.
RIGID MATERIAL CONSTRUCTION WITH CONCRETE SURROUND.

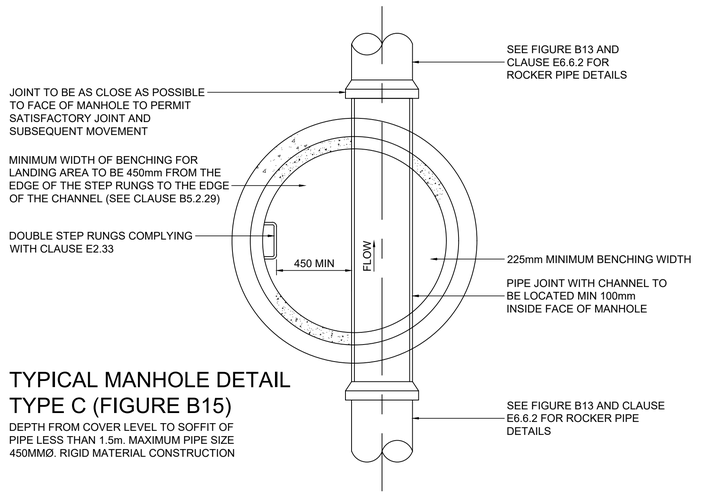




TYPICAL MANHOLE DETAIL TYPE B (FIGURE B10)

DEPTH FROM GROUND LEVEL TO SOFFIT OF
PIPE 1.5 TO 3m RIGID MATERIAL
CONSTRUCTION WITH CONCRETE SURROUND.





TYPICAL MANHOLE DETAIL TYPE C (FIGURE B15)

DEPTH FROM COVER LEVEL TO SOFFIT OF
PIPE LESS THAN 1.5m. MAXIMUM PIPE SIZE
450MMØ. RIGID MATERIAL CONSTRUCTION

THE PURPOSE OF THIS DRAWING IS FOR TYPICAL CONSTRUCTION DETAILS ONLY. MANHOLES / PIPE DIAMETERS / SUMP DEPTHS ETC WILL VARY ON PLAN.

REFER TO DRAINAGE LAYOUT DRAWING FOR ALL PIPE SIZES, MANHOLE SIZES, PIPE LENGTHS, SUMP DEPTHS, STORAGE TANK CONFIGURATIONS, COVER LEVELS AND INVERT LEVELS

NOTE:

PRECAST CONCRETE MANHOLE UNITS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1917 AND BS 5911-3 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4 UNLESS THE SEWERAGE COMPANY CAN BE SATISFIED THAT A LOWER CLASS WILL RESIST ATTACK FROM SOILS AND GROUNDWATER. UNITS WHICH BED INTO BASES SHALL BE MANUFACTURED SO THAT IMPOSED VERTICAL LOADS ARE TRANSMITTED DIRECTLY VIA THE FALL WALL THICKNESS OF THE UNIT. THE PROFILES OF JOINTS BETWEEN THE UNITS AND THE UNDERSIDE OF SLABS SHALL BE CAPABLE OF WITHSTANDING APPLIED LOADINGS FROM SUCH SLABS AND SPIGOT-ENDED SECTIONS SHALL ONLY BE USED
WHERE THE SOFFIT OF THE SLAB IS RECESSED TO RECEIVE THEM

PRECAST CONCRETE CHAMBER SECTIONS FOR VALVES AND METERS SHALL BE INTERLOCKING AND COMPLY WITH BS EN
1917 AND BS 5911-3

PRECAST CONCRETE CORBEL SLABS SHALL COMPLY BS 5911-3 TABLE 5 AND FIGURE 8

PRECAST CONCRETE MANHOLE UNITS AND THEIR COMPONENTS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1917 AND BS 5911-3 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4 UNLESS SATISFACTORY EVIDENCE THROUGH SOIL ANALYSIS CAN BE PROVIDED THAT A LOWER CLASS WILL RESIST ATTACK FROM SOILS AND GROUND WATER

TABLE B1
MANHOLE DIAMETERS

NOMINAL INT PIPE DIA	MINIMUM INTERNAL CHAMBER DIA
LESS THAN 375	1200
375 - 450	1350
500 - 700	1500
750 - 900	1800
GREATER THAN 900	PIPE DIA + 900

NOTE:

1 ALL DIMENSIONS IN MM

2 A CONCRETE SURROUND IS REQUIRED FOR MANHOLES INSTALLED IN AREAS OF UNSTABLE GROUND, UNDER CONDITIONS OF FLOATATION OR WHERE SUBJECTED TO EXCEPTIONAL OR ECCENTRIC LOADS, IN WHICH CASE A 150mm SURROUND OF AT LEAST 20N/CU. mm CONCRETE SHOULD BE PROVIDED. ANY JOINTS SHOULD BE STAGGERED WITH THE PRECAST CONCRETE JOINTS.

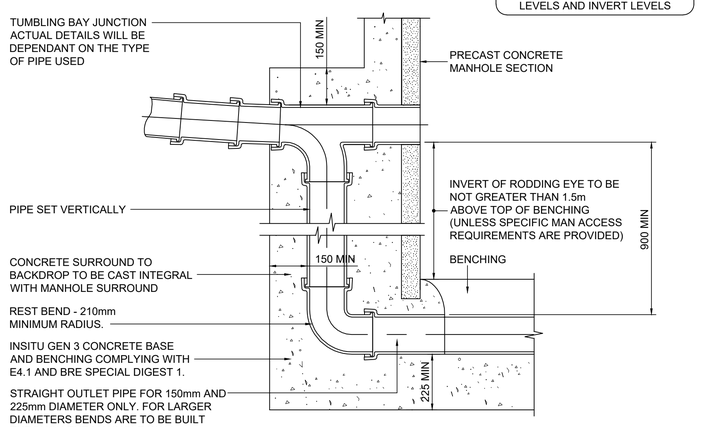
3 DOUBLE STEPS SHALL BE PLASTIC ENCAPSULATED CARBON TO BS EN 1247-2 MANHOLE STEPS. STEP IRONS AT 300 CENTRES HORIZONTALLY AND VERTICALLY MAY BE USED AS AN ALTERNATIVE TO DOUBLE STEPS.

ROCKER PIPES

NOMINAL DIAMETER (mm)	EFFECTIVE LENGTH (m)
150 to 600 675 to 750 825 and over	0.6 1.0 1.25

TYPICAL CONCRETE MIXES.

STANDARD MIX	GRADE OF CONCRETE	APPLICATIONS
ST1	C7.5	FILLINGS, BLINDINGS, SOFT SPOTS & DRAINAGE SUMPS
ST4	C20	ALL OTHER APPLICATIONS



TYPICAL VERTICAL BACKDROP DETAIL (FIGURE B16)

FOR USE IN MANHOLE TYPES A TO D.
NOTE: STEEPER GRADIENTS ARE PREFERRED TO THE USE OF BACKDROPS.

GENERAL NOTES

DO NOT SCALE OFF THIS DRAWING

THIS DRAWING TO READ IN CONJUNCTION WITH ALL RELEVANT STRUCTURAL AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR / FABRICATOR PRIOR TO COMMENCEMENT OF WORKS.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.

ALL WORKS TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE ENGINEER'S SPECIFICATIONS, RELEVANT BRITISH STANDARDS AND WHERE APPLICABLE LOCAL AUTHORITIES REQUIREMENTS.

ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS, SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY.

THE CONTRACTOR SHALL CONFIRM THE LOCATION AND LEVEL OF EXISTING DRAINAGE OUTFALLS PRIOR TO COMMENCEMENT OF THE DRAINAGE WORKS.

EXACT LOCATIONS OF PROPOSED MANHOLES AND INSPECTION CHAMBERS TO BE DETERMINED ON SITE

ALL PIPES BUILT INTO THE MANHOLE INVERTS SHALL BE INSTALLED WITH SOFFITS LEVELS UNO.

CONNECTIONS TO ROAD GULLEYS SHALL BE IN 150MM NOMINAL BORE. CONNECTIONS TO OTHER TERMINAL FITTINGS SHALL BE IN 100MM NOMINAL BORE PIPE UNO.

COVER LEVELS SHOWN ARE APPROXIMATE AND SHALL BE ADJUSTED AND CONFIRM ON SITE BY THE CONTRACTOR.

THE CONTRACTOR SHALL PROTECT THE PIPELINE FROM DAMAGE BY SITE TRAFFIC DURING CONSTRUCTION.

PIPEWORK AND FITTINGS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS EXCEPT WHERE NOTED OTHERWISE:

CLAYWARE PIPES TO BS 65

100 AND 150MM DIAMETER, MINIMUM CRUSHING STRENGTH 50KN/M ON CLASS F BEDDING.

TRENCHES IN HIGHWAYS AND CAR PARKING AREAS SHALL BE BACKFILLED WITH TYPE 1 GRANULAR SUB-BASE.

SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.

ROAD GULLEYS SHALL BE CONSTRUCTED USING A 900MM DEEP X 450MM DIAMETER GULLEY POT, SURROUNDED BY 150MM THICKNESS C20 CONCRETE, WITH RODDING EYE AND CHAINED STOPPER.

GULLEY COVERS SHALL BE GRADE B CAPTIVE HINGED DUCTILE IRON TO BS497 BLACK COATED.

UNLESS NOTED OTHERWISE MANHOLE COVERS SHALL BE DUCTILE IRON TO BS497 BLACK COATED WITH 600 X 600 GRADE A.

CONNECTIONS IN PIPES BETWEEN MANHOLES RUNS SHALL BE FORMED BY USING PURPOSE MADE CLAYWARE, 45° JUNCTION FITTINGS TO BS65. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO THE MAIN RUNS.

ALTERNATIVELY MAIN PIPES MAY BE DIAMOND CORED TO TAKE LATERAL CONNECTIONS WITH A SADDLE FITTING TO BS65 AND 150MM C20 CONCRETE SURROUND.

THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATUTORY UNDERTAKERS APPARATUS AND SERVICE CONNECTIONS BY TRIAL PITS PRIOR TO OPENING UP FOR THE WORKS.

DESIGN CONTINGENCY

FOR COST PURPOSES THE CONTRACTOR IS TO INCLUDE THE FOLLOWING CONTINGENCY (% OF PRIMARY CIVILS DESIGN COST) AT THE RELEVANT PROJECT STATUS INDICATED ON THE DRAWING.

S2 - CONCEPT DESIGN - 25%
S3 - SPATIAL COORDINATION - 15%
S4 - TECHNICAL DESIGN - 10%
A5 - PRODUCT INFORMATION - 5%

Rev	Description	Date	By	Chkd
P01	PRELIMINARY ISSUE	06.02.25	AJB	DS

Drawing Status
S4 TECHNICAL DESIGN

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MOSSCARE ST.VINCENTS HOUSING

Project
ALDERFORD PARADE
CHEETHAM HILL
MANCHESTER

Drawing Title
TYPICAL DRAINAGE DETAILS
SHEET 1

Date	Drawn By	Checked By
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Scale at A1	Project Number
AS SHOWN	33716

Sheet Number	Revision
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