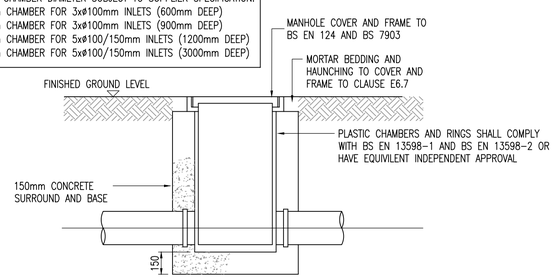
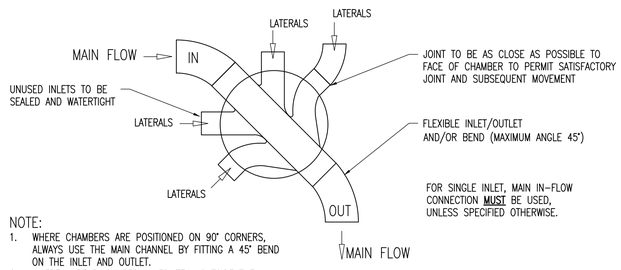
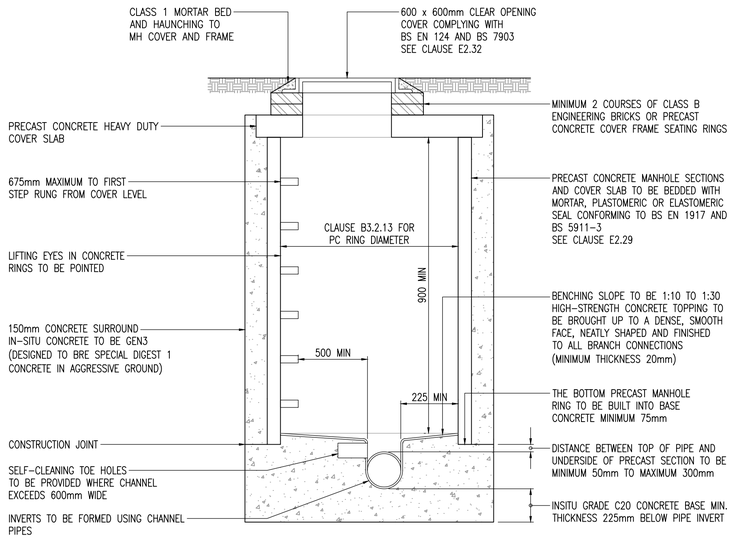
NOTE:
1. IN UNTRAFFICKED AREAS BASE AND SURROUND MAY BE SINGLE SIZED GRANULAR MATERIAL TO MATCH PIPE BEDDING.
2. MINIMUM RADIUS TO BE 500mm FOR A 100mm DIAMETER PIPE AND 600mm FOR A 150mm DIAMETER PIPE TO ALLOW ENTRY OF MAINTENANCE EQUIPMENT.
3. JOINTS BETWEEN BASE AND SHAFT AND SHAFT COMPONENTS TO BE FITTED WITH WATERTIGHT SEALS.
4. TYPICALLY CHAMBER DIAMETER SUBJECT TO SUPPLIER SPECIFICATION:
 ø250mm CHAMBER FOR 3xø100mm INLETS (600mm DEEP)
 ø300mm CHAMBER FOR 3xø100mm INLETS (900mm DEEP)
 ø450mm CHAMBER FOR 5xø100/150mm INLETS (1200mm DEEP)
 ø500mm CHAMBER FOR 5xø100/150mm INLETS (3000mm DEEP)



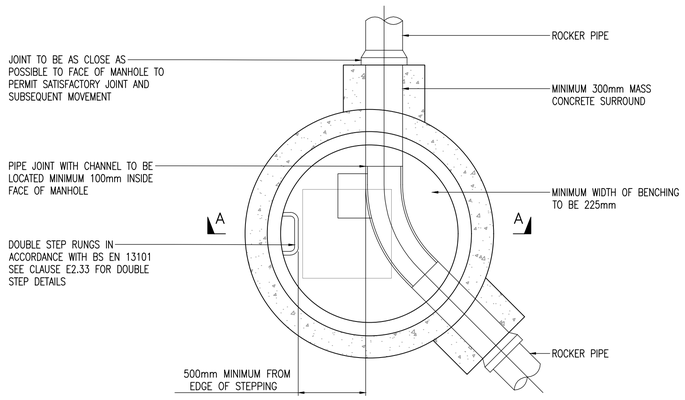


NOTE:
1. WHERE CHAMBERS ARE POSITIONED ON 90° CORNERS, ALWAYS USE THE MAIN CHANNEL BY FITTING A 45° BEND ON THE INLET AND OUTLET.
2. WHERE A BEND IS USED IMMEDIATELY OUTSIDE THE MANHOLE, THIS MAY BE USED AS THE ROCKER PIPE.
3. HALF CHANNEL UPSTAND PROVIDED FOR LATERAL INLETS AT DESIGN STAGE FOR PREFORMED BASES, CONTRACTOR MUST INFORM ENGINEER IF THIS DIFFERS.

INSPECTION CHAMBER TYPE E (FLEX)
MAX. DEPTH TO SOFFIT OF PIPE 2m NON ENTRY
(N.T.S.)

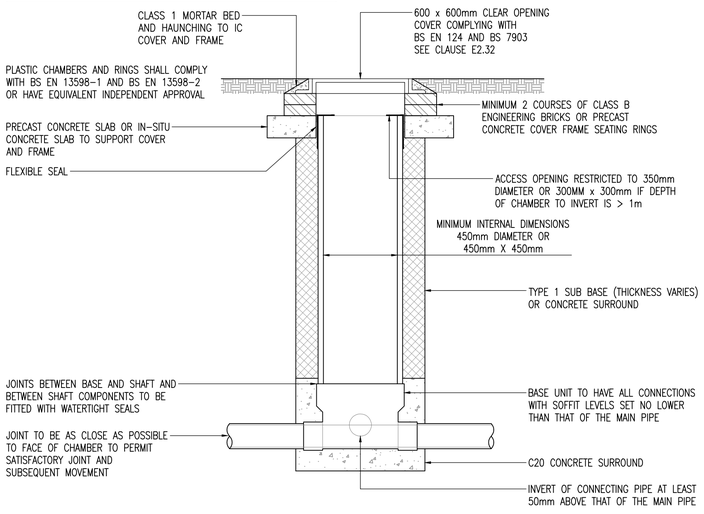


SECTION A-A



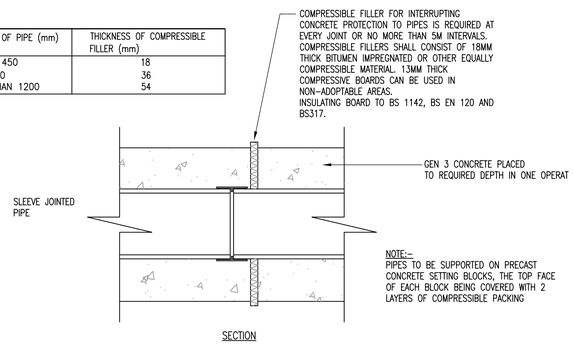
MANHOLE TYPE B
MAX. DEPTH TO SOFFIT OF PIPE 3m
(1:20)

NOTE:
1. IN TRAFFICKED AREAS, 150mm C20 CONCRETE SURROUND REQUIRED FULL HEIGHT OF CHAMBER SHAFT.
2. TYPICALLY CHAMBER DIAMETER SUBJECT TO SUPPLIER SPECIFICATION:
 ø450mm CHAMBER FOR 5xø100/150mm INLETS (3000mm DEEP)
 ø600mm CHAMBER FOR 3xø150-300mm INLETS (3000mm DEEP)



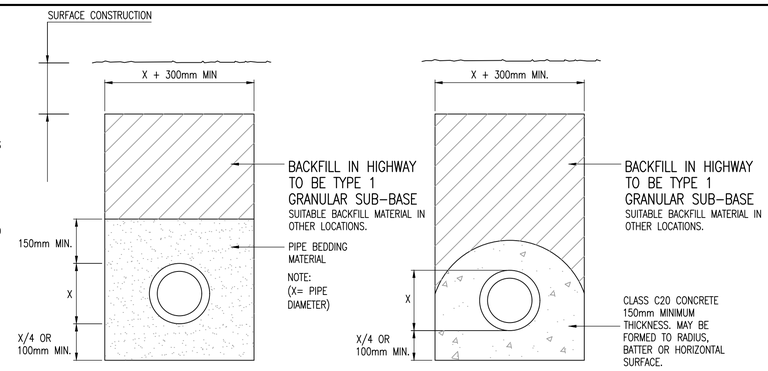
INSPECTION CHAMBER TYPE D (FLEX)
MAXIMUM DEPTH TO SOFFIT OF PIPE
IN AREAS SUBJECT TO VEHICLE LOADING 3m NON-ENTRY
(1:20)

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



SECTION

PROTECTION OF A SHALLOW PIPELINE USING CONCRETE SURROUND
(1:25)



GRANULAR PIPE SURROUND DETAIL CLASS 'S'
(1:10)

CONCRETE PIPE SURROUND DETAIL CLASS 'Z'
(1:10)

GRANULAR MATERIAL	
DIA OF DRAIN	AGGREGATE
100	6mm SINGLE SIZE
150	10 OR 14mm SINGLE SIZE OR 14-5mm GRADED *
150-500	10, 14 OR 20mm SINGLE SIZE OR 20-5mm GRADED *
OVER 500	10, 14, 20 OR 40mm SINGLE SIZE OR 40-5mm GRADED *

* NON PREFERRED

TRENCH WIDTHS	
DIA OF DRAIN	WIDTH
100	550
150	600
225	700
300	750
375	1050
450	1150
525	1200
600	1350
675	1450
750	1500
825	1600
900	1900
975	2000
1050	2300
1200	2300
OVER 1200	DIA + 1000

NOTE
1. NO MECHANICAL COMPACTION WITHIN 300mm OF CROWN OF PIPE.
2. DRAINAGE TRENCHES IN ROADS TO HAVE HIGHWAYS AGENCY SPECIFICATION FOR ROADS AND BRIDGE WORKS TYPE 1 GRANULAR MATERIAL.

LOCATION	COVER TO SOFFIT	BEDDING
ROADS.	>1.2m	CLASS 'S' GRANULAR BED AND SURROUND.
	<1.2m	CLASS 'Z' CONCRETE SURROUND.
NON- ADOPTABLE SEWERS BELOW CAR PARKING.	>0.9m	CLASS 'S' GRANULAR BED AND SURROUND.
	<0.9m	CLASS 'Z' CONCRETE SURROUND.
HARD AND SOFT LANDSCAPING.	>0.6m	CLASS 'S' GRANULAR BED AND SURROUND.
	<0.6m	CLASS 'Z' CONCRETE SURROUND.

NOTE
PROTECTION FROM SETTLEMENT
TAKEN FROM BUILDING REGULATIONS PART H

- WHERE THE TRENCH IS WITHIN 1m OF THE FOUNDATION THE TRENCH IS FILLED WITH CONCRETE UP TO THE LOWEST LEVEL OF THE FOUNDATION; OR
- WHERE THE TRENCH IS FURTHER THAN 1m FROM THE BUILDING, THE TRENCH IS FILLED WITH CONCRETE TO A LEVEL BELOW THE LOWEST LEVEL FOR THE BUILDING EQUAL TO THE DISTANCE FROM THE BUILDING, LESS 150mm.

TYPICAL PIPE BEDDING AND TRENCH DETAILS
NOTE: NO MECHANICAL COMPACTION WITHIN 300mm OF CROWN PIPE.

PLASTIC GRAVITY SEWER PIPE SPECIFICATION

THERMOPLASTIC PIPE, JOINTS AND FITTINGS FOR GRAVITY SEWERS MUST COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1401-1, BS EN 1852 AND BS EN 12666-1. BS EN 1295-1 GIVES GUIDANCE ON THE STRUCTURAL DESIGN OF UNDERGROUND NON-PRESSURE PVC-U PIPES.

STRUCTURED WALL PIPES AS FOLLOWS:
- OSMA ULTRARIB SYSTEM BY WAVIN PLASTICS LIMITED IN STIFFNESS CLASS SN8 BETWEEN 150mm AND 300mm DIAMETER.
- MARLEY TWINWALL SYSTEM BY MARLEY PLUMBING AND DRAINAGE IN STIFFNESS CLASS SN8 BETWEEN 150mm AND 300mm DIAMETER.
- UPONOR ULTRARIB SYSTEM BY UPONOR LIMITED IN STIFFNESS CLASS SN8 BETWEEN 150mm AND 300mm DIAMETER.
- POLYSEWER TWINWALL SYSTEM BY POLYPIPE BUILDING PRODUCTS LIMITED IN STIFFNESS CLASS SN8 BETWEEN 150mm AND 300mm DIAMETER.
- RIDGISEWER TWINWALL SYSTEM BY POLYPIPE CIVILS LIMITED IN STIFFNESS CLASS SN4 AND 8 BETWEEN 400mm AND 600mm DIAMETER AND IN STIFFNESS CLASS SN4 BETWEEN 750mm AND 900mm DIAMETER.

MAXIMUM ALLOWABLE PIPE LENGTH IS 3.0m

GENERAL NOTES
1. CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ENGINEER.
2. ANY DISCREPANCY TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SUBCONTRACTORS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.

Rev.	Detail	By	Date
B	UPDATED TO DESIGN & CONSTRUCTION GUIDANCE STANDARD	AJ	31.10.22
A	REMOVED 'DO NOT SCALE' NOTE	TE	07.07.22

Revisions

Reinforcement schedules nos.

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Client: Enzo's homes

Project: PROPOSED RESIDENTIAL DEVELOPMENT AT UTTOXETER ROAD, UPPER TEAN

Drawing Title: DRAINAGE SHEET 1 OF 4

PRELIMINARY

Project No.	Drawing No.	
C1941	C-SK04	
Scales: AS SHOWN	Date: 29.04.22	Revision: B
Drawn: DH / Checked: DP	Sheet Size: A1	

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