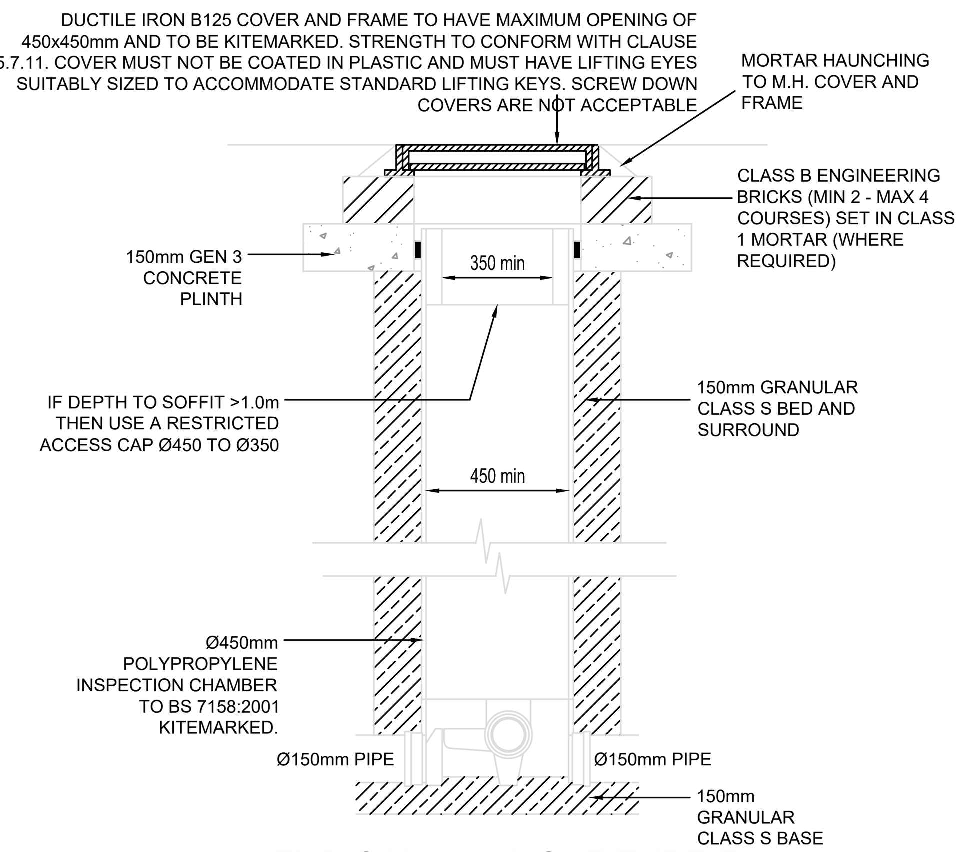
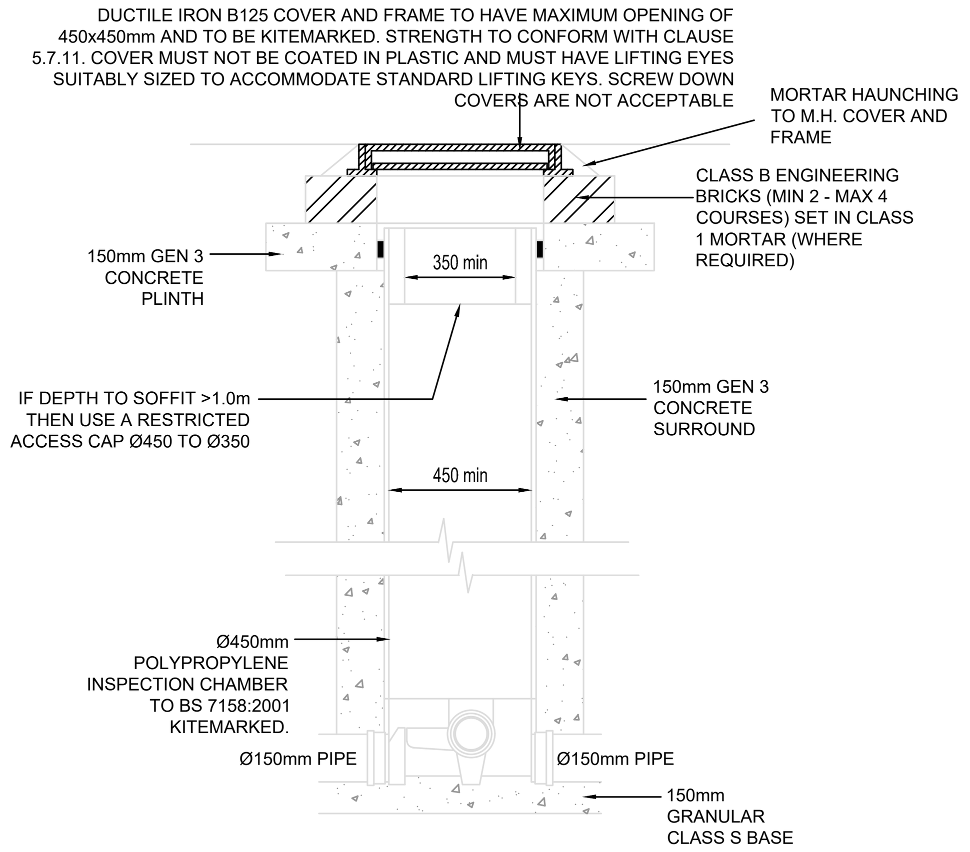
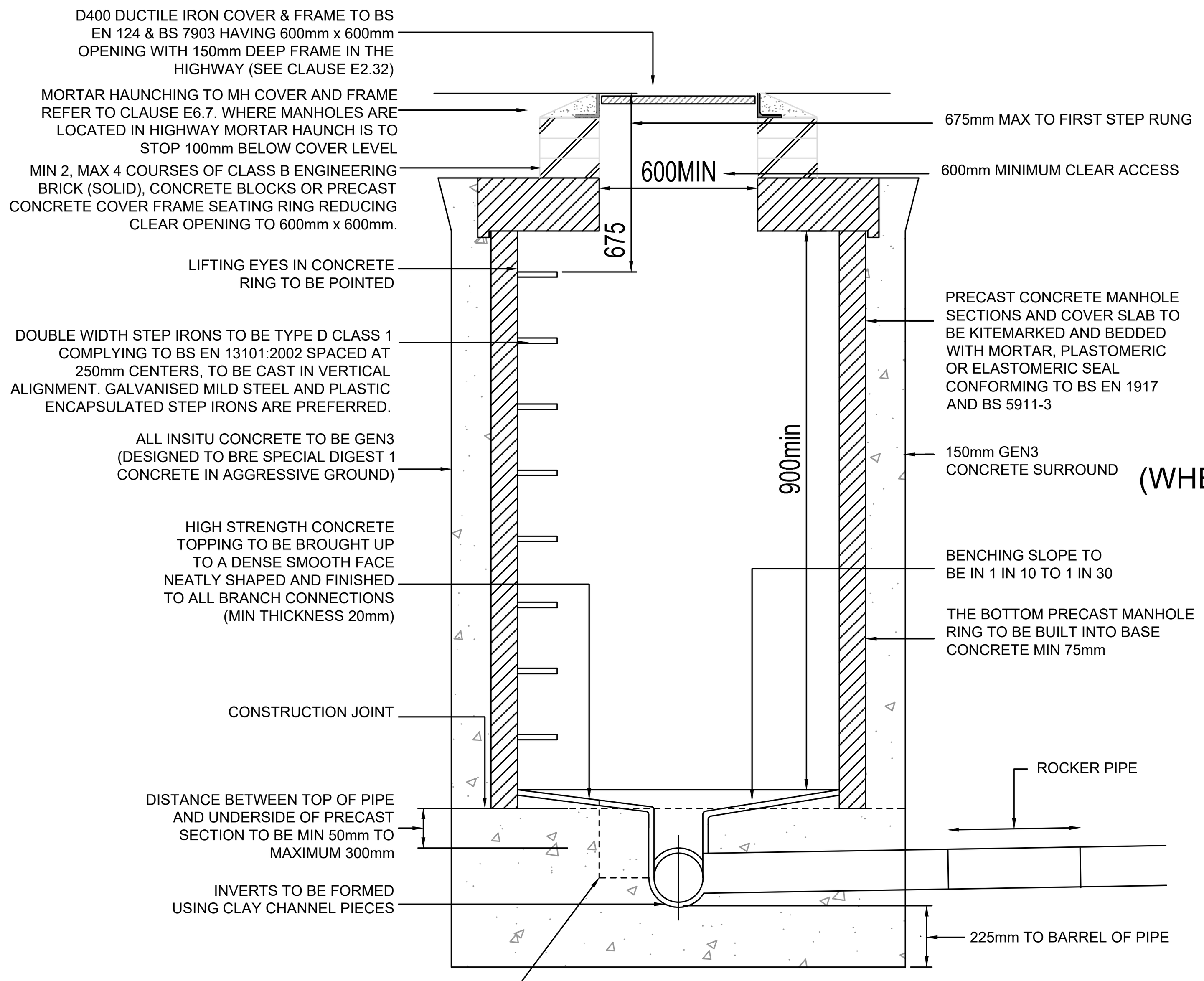
YW REFERENCE:	YW REFERENCE:
S104-2024-042	S185-2024-031

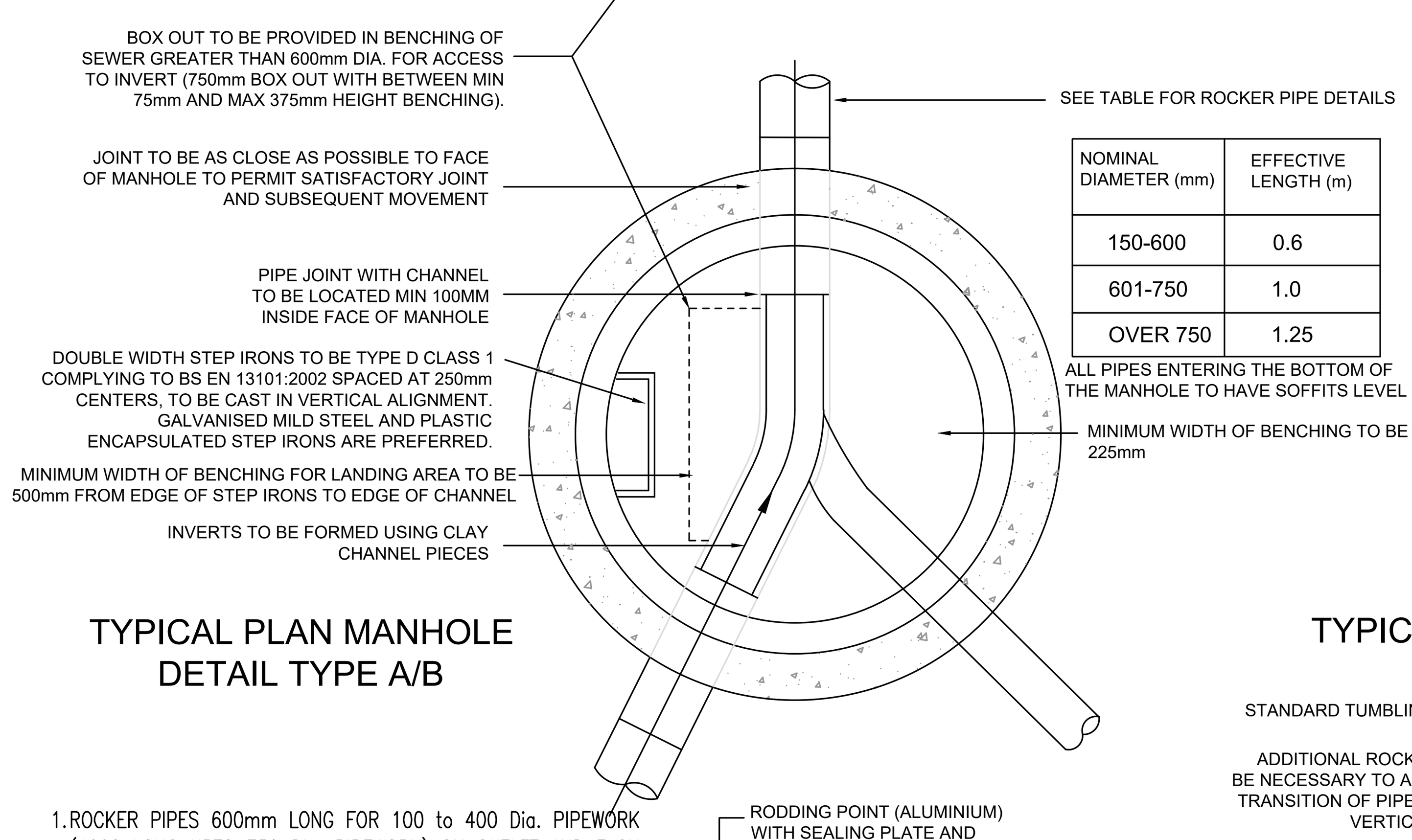


TYPICAL MANHOLE TYPE E
DEMARCATION CHAMBER LOCATED IN GARDENS
(FOR DEPTH OF CHAMBER GREATER THAN 1200mm, MAXIMUM DEPTH 3000mm)



TYPICAL MANHOLE TYPE E
DEMARCATION CHAMBER LOCATED IN DRIVEWAY
(FOR DEPTH OF CHAMBER GREATER THAN 1200mm, MAXIMUM DEPTH 3000mm)

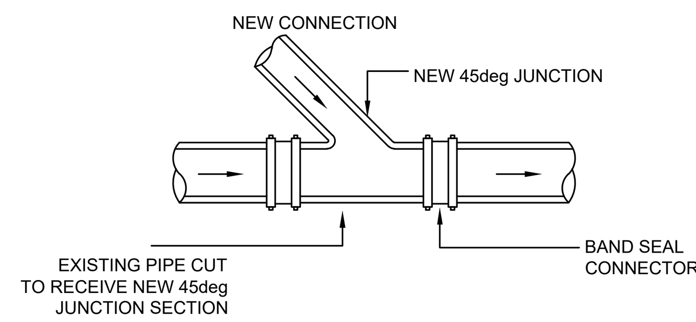




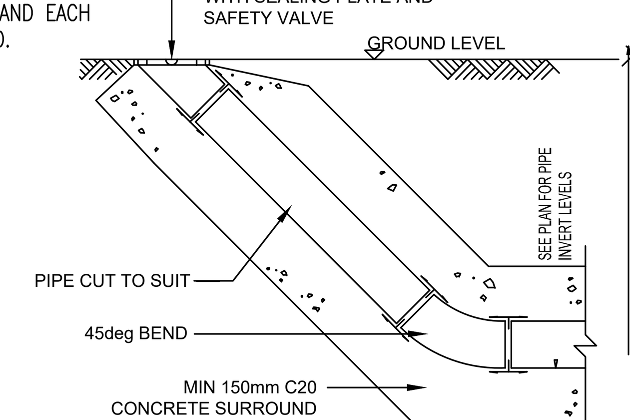
NOMINAL DIAMETER (mm)	EFFECTIVE LENGTH (m)
150-600	0.6
601-750	1.0
OVER 750	1.25

TYPICAL PLAN MANHOLE
DETAIL TYPE A/B

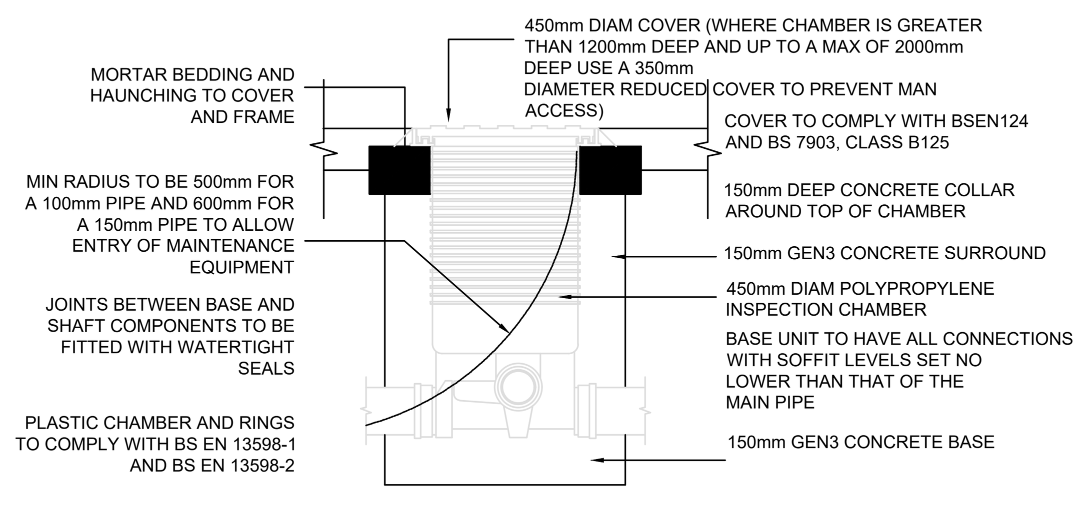
1.ROCKER PIPES 600mm LONG FOR 100 to 400 Dia. PIPEWORK (1000 LONG UPTO 750 Dia. PIPEWORK) ON OUTLET AND EACH ENTRY STARTING 150mm FROM CONCRETE SURROUND.



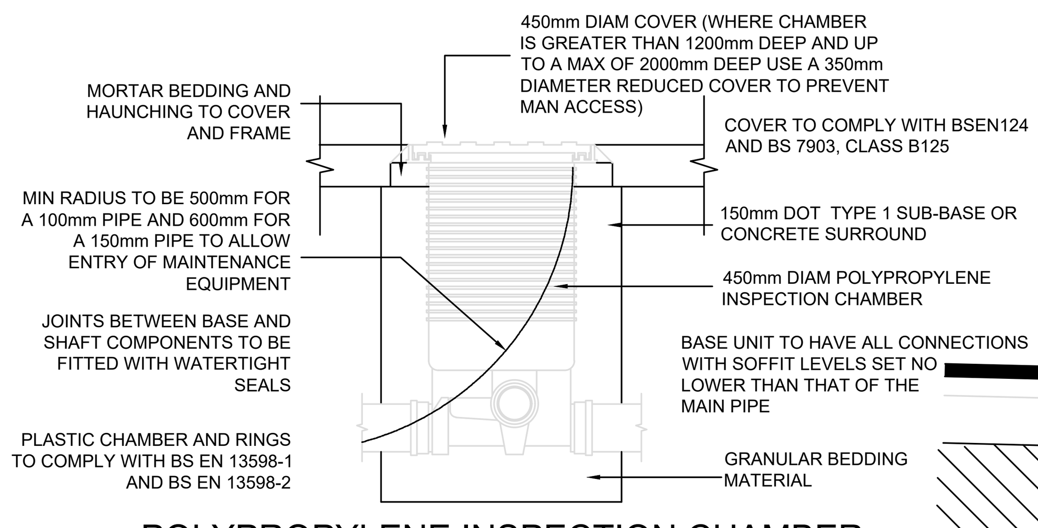
PRIVATE BRANCH INSERTION DETAIL



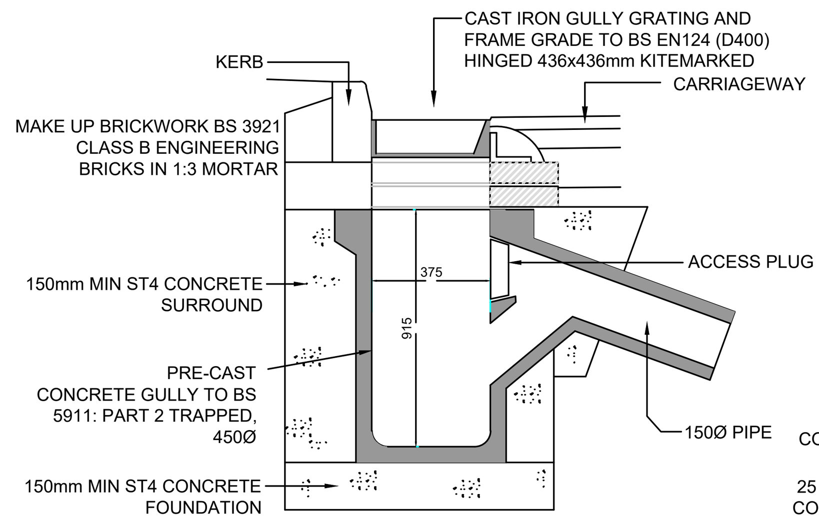
PRIVATE RODDING EYE DETAIL



POLYPROPYLENE INSPECTION CHAMBER
(WHERE SITED IN DRIVEWAYS/PAVED AREAS) - MAX 2000 DEPTH

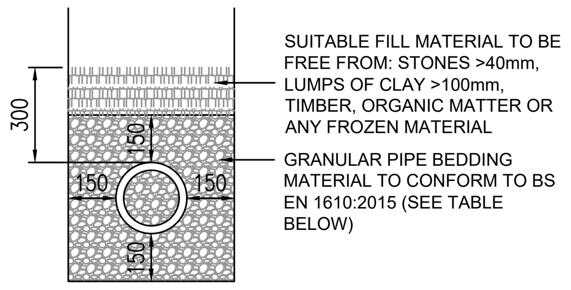


POLYPROPYLENE INSPECTION CHAMBER
(WHERE SITED IN GARDENS) - MAX 2000 DEPTH

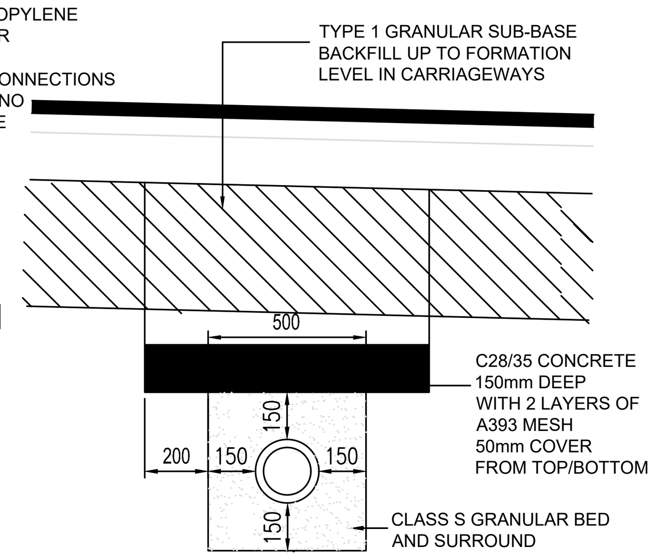


TYPICAL PRIVATE PRECAST CONCRETE ROAD GULLY DETAIL

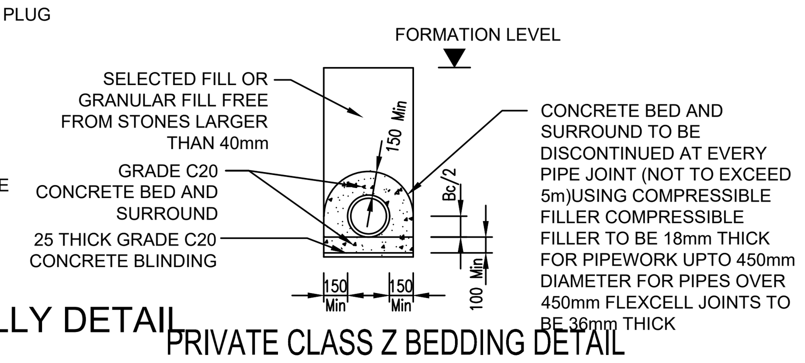
FOR FLEXIBLE PIPES
eg THERMOPLASTIC



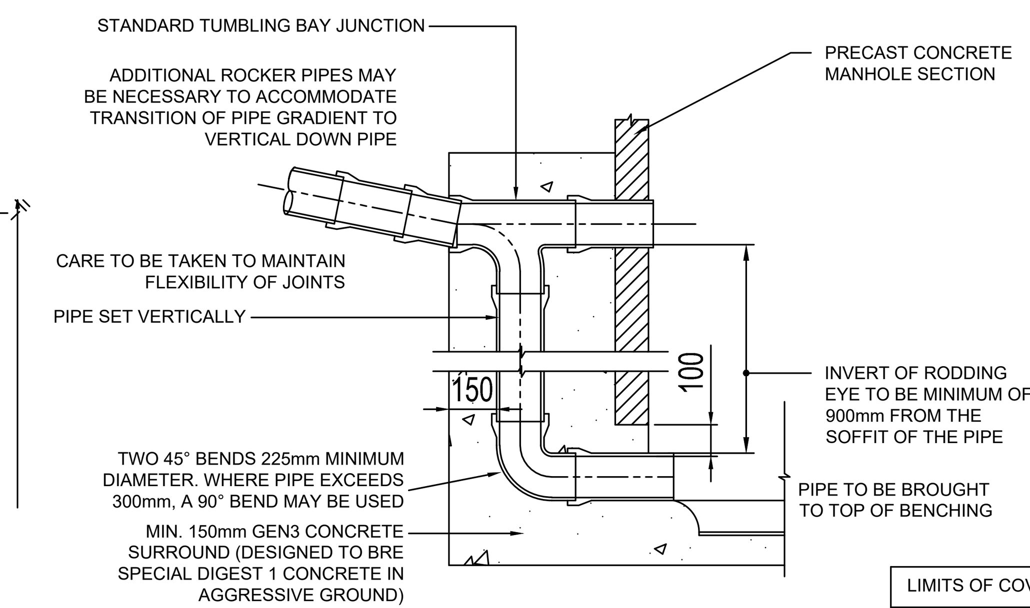
CLASS S BEDDING DETAIL



CONCRETE SLAB PROTECTION DETAIL



PRIVATE CLASS Z BEDDING DETAIL



TYPICAL EXTERNAL
VERTICAL BACKDROP
DETAIL

SUITABLE FILL:- THE SUITABLE FILL SHALL BE SUITABLE FOR THE LOCATION AND SHALL BE CAREFULLY COMPACTED TO PROVIDE STABILITY WITHOUT DAMAGING THE PIPE. FILL UNDER CAR PARKING AREAS AND PRIVATE ROADS TO BE WELL COMPACTED GRADED MATERIAL. FILL UNDER ADOPTED ROADS TO BE TYPE 1 GRANULAR SUB-BASE.

WHERE THE PIPES ARE TO BE ADOPTED CLASS S BEDDING TO BE USED FOR EITHER RIGID OR FLEXIBLE PIPES

SIZE OF BEDDING MATERIAL - ALL GRANULAR MATERIAL TO BE SINGLE SIZED OR GRADED		
PIPE DIAMETER	NOMINAL SINGLE SIZED	GRADED
UP TO 100mm	10mm	5mm to 10mm
OVER 100mm TO 150mm	10mm or 14mm	5mm to 14mm
OVER 150mm TO 300mm	10mm,14mm or 20mm	5mm to 14mm or 5mm to 20mm
OVER 300mm TO 550mm	14mm or 20mm	5mm to 14mm or 5mm to 20mm
OVER 550mm	14mm, 20mm or 40mm	5mm to 14mm or 5mm to 20mm or 5mm to 40mm

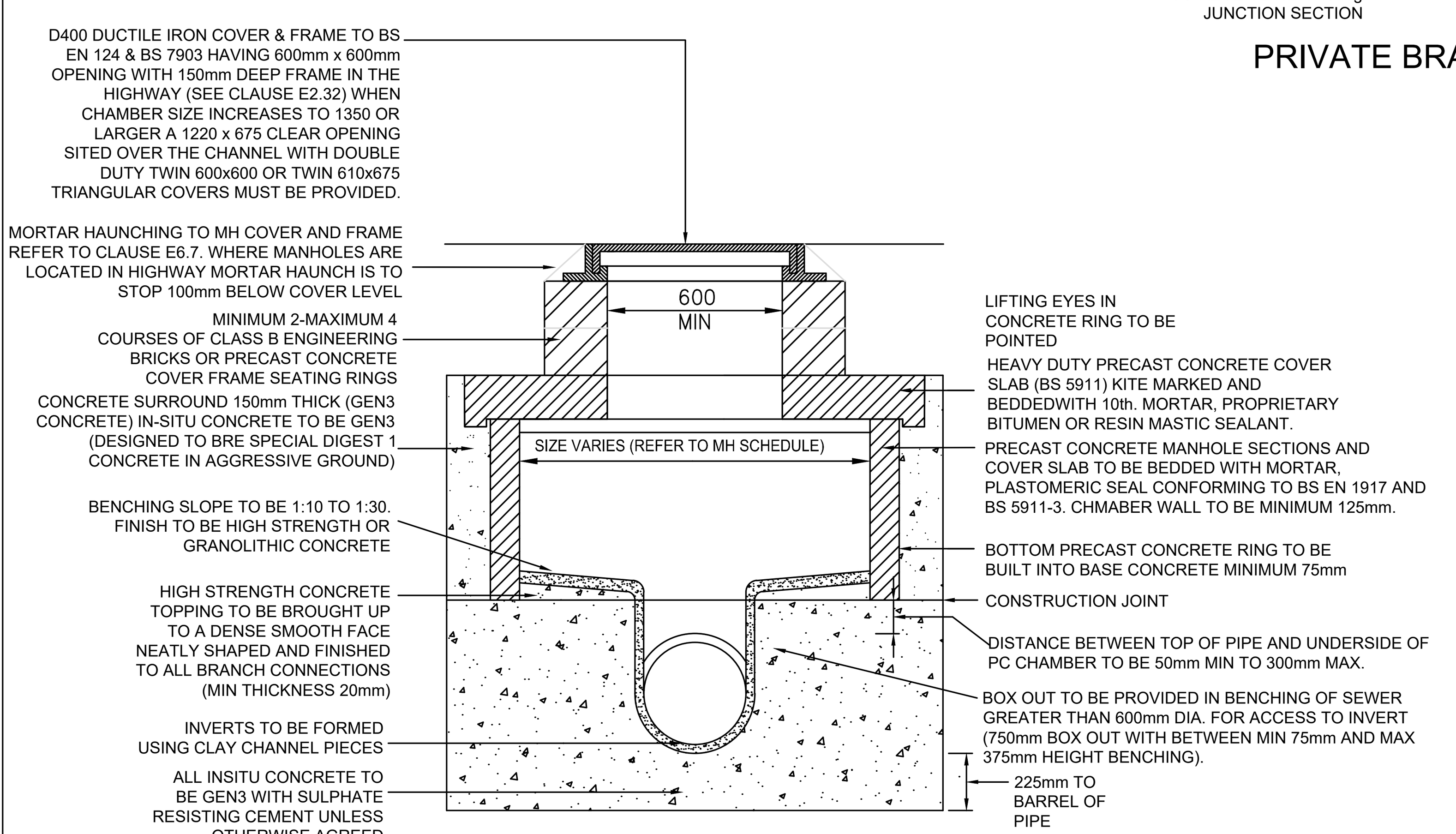
LIMITS OF COVER IN ANY WIDTH OF TRENCH			
NOMINAL SIZE	LAID IN FIELDS	LAID IN LIGHT ROADS	LAID IN MAIN ROADS
CLASS 120 CLAYWARE PIPES (CLASS B BEDDING)			
100-150mm	0.6m - 8.0m	1.2m - 8.0m	1.2m - 8.0m
225mm	0.6m - 5.0m	1.2m - 5.0m	1.2m - 4.5m
400mm	0.6m - 4.5m	1.2m - 4.5m	1.2m - 4.0m
600mm	0.6m - 4.5m	1.2m - 4.5m	1.2m - 4.0m
CLASS M CONCRETE PIPES (CLASS B BEDDING)			
300mm	0.6m - 3.0m	1.2m - 3.0m	1.2m - 2.5m
450mm	0.6m - 3.5m	1.2m - 3.5m	1.2m - 2.5m
600mm	0.6m - 3.5m	1.2m - 3.5m	1.2m - 3.0m
THERMOPLASTIC PIPES (CLASS S BEDDING)			
100 - 300mm	0.6m - 7.0m	0.9m - 7.0m	0.9m - 7.0m

WHERE COVER IS LESS THAN THE ALLOWABLE DEPTH PIPES TO HAVE A CLASS Z CONCRETE SURROUND OR CONCRETE COVER SLAB PROTECTION

PRODUCT NAME	DIAMETER (mm)	MANUFACTURER	MATERIAL
Supersleve	100&150 (I.D)	Hepworth	Vitrified Clay
Superseal	100&225 (I.D)	Hepworth	Vitrified Clay
Densleeve	100,150&225 (I.D)	Naylor	Vitrified Clay
Denseal	100,150&225 (I.D)	Naylor	Vitrified Clay
Ultra-Drain	110&160 (O.D)	Uponor	uPVC
Plastidrain	110&160 (O.D)	Hepworth	uPVC
Osmadrain	110&160 (O.D)	Wavin	uPVC
Osma Ultrarib	150&225 (I.D)	Wavin	uPVC
Solid Wall	110&160 (O.D)	Marley	uPVC
Quantum	150&225 (I.D)	Marley	uPVC
Underground Drain	110&160 (O.D)	Polypipe	uPVC
Ridgisewer	150&225 (I.D)	Polypipe	uPVC

MANUFACTURER	PRODUCT NAME	MATERIAL	MAX DEPTH
Naylor	Plastic Inspection Chamber	Polypropylene	Up to 1200mm
Hepworth	PPIC	Polypropylene	Up to 1200mm
Uponor	Inspection Chamber (450mmØ)	Polypropylene	Up to 1200mm
Marshalls	Inspection Chamber To BS5911 pt2	Precast concrete	Up to 1000mm
Wavin	Osma Ultrarib Inspection Chamber	Polypropylene	Up to 1200mm
Wavin	OsmaDrain Universal Inspection Chamber	Polypropylene	Up to 1200mm
Wavin	Non Entry Inspection Chamber	Polypropylene	Up to 2000mm
Marley	Inspection Chamber (450mmØ)	Polypropylene	Up to 1200mm
Polypipe	110mm Inspection Chamber (460mmØ)	Polypropylene	Up to 1200mm

CONCRETE PROTECTION	
CLASS 1 SULPHATE CONDITIONS	
ADOPTABLE STANDARDS AND AREAS SUBJECT TO HEAVY LOADING	GEN3 OR GEN 3
AREAS SUBJECT TO LIGHT LOADING eg. PRIVATE DRIVES, SMALL CAR PARKS	GEN1 OR ST2
FOR BURIED CONCRETE EXPOSED TO SULPHATE CONDITIONS	
CLASS 2	FND 2
CLASS 3	FND 3
CLASS 4A	FND 4A
CLASS 4B	FND 4B



TYPICAL MANHOLE DETAIL TYPE C
MAXIMUM DEPTH FROM COVER LEVEL
TO SOFFIT OF PIPE <1500

NOTE
MANHOLES LESS THAN 1.5m TO SOFFIT WITH 1500Ø CHAMBER SIZE OR LARGER SHOULD HAVE A 1200x675mm OPENING (CENTRAL OR ECCENTRIC) SITED OVER CHANNEL WITH DOUBLE TWIN 600x600mm COVERS

NOTES

1. THIS DRAWING IS PRODUCED FOR USE IN THIS PROJECT ONLY AND MAY NOT BE USED FOR ANY OTHER PURPOSE. THE CONSULTING ENGINEERS ACCEPT NO LIABILITY FOR THE USE OF THIS DRAWING OTHER THAN THE PURPOSE FOR WHICH IT WAS INTENDED IN CONNECTION WITH THIS PROJECT AS RECORDED ON THE TITLE BLOCK FIELDS 'PURPOSE FOR ISSUE' AND 'FILE STATUS CODE'.
2. THIS DRAWING MAY NOT BE REPRODUCED IN ANY FORM WITHOUT PRIOR WRITTEN AGREEMENT FROM ADVANT ENGINEERS.
3. DO NOT SCALE FROM THE DRAWING, USE WRITTEN DIMENSIONS ONLY.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
5. DISCREPANCIES MUST BE REPORTED BACK TO THE ENGINEER PRIOR TO CONSTRUCTION.
6. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ADVANT ENGINEERS DRAWINGS AND SPECIFICATIONS.

YORKSHIRE WATER NOTES

1. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE DESIGN AND CONSTRUCTION GUIDANCE **[CODE FOR ADOPTION]**. THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATERS STANDARDS / REQUIREMENTS / LOCAL PRACTISE FOR THE ADOPTION OF SMALL SUBMERSIBLE FOUL AND SURFACE WATER PUMPING STATIONS AND KITEMARKED.
2. MANHOLE COVERS SHALL/MUST HAVE A CLEAR OPENING OF 600mm AND SHALL BE CLASS D400 TO BS EN 124 WITH 150mm DEEP FRAMES IN HIGHWAYS.
3. FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
4. YORKSHIRE WATER IS **NOT** OBLIGED TO ACCEPT FILER DRAIN/LAND DRAINAGE RUN-OFF INTO THE PUBLIC SEWER NETORK OR ADOPTABLE DRAINAGE SYSEM **(DIRECTLY OR IN-DIRECTLY)**. AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE RUN-OFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WTH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUN-OFF.
5. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1.0m AND MANHOLES 0.5m FROM KERB FACES AND SERVICES MARGINS.
6. SEWERS MUST HAVE A 5.0m CLEARANCE FROM TREES AND HEDGES OR THE WIDTH OF THE CANOPY AT MATURE HEIGHT.
7. SEWERS TO BE LAID IN CLASS "S" BEDDING **(150mm GRANULAR BED AND SURROUND)**. WHERE THE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHAYS AND VERGES **(OR LESS THAN 900mm IN NON-VEHICULAR ACCESS AREAS)** THEN A CONCRETE SLAB SHOULD BE PROVIDED ABOVE GRANULAR BED AND SURROUND.
8. THERE MUST BE ENOUGH CLEARANCE AT CROSSOVERS TO ACCOMMODATE BEDDING TO BOTH PIPES, APPROX 300mm : IF CROSSOVER IS ER THE ROCKER THEN CLEARANCE MAY NEED TO BE INCREASED.
9. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF ATER INDUSTRY SPECIFICATION 4-08-02 **(TABLE A2)**.
10. ADOPTABLE PLASTIC SEWE PIPES TO BE BSI KITEMARKED **(CERTIFIED TO WIS 4-35-01AND BS EN 13476)**. ADOPTABLE PLASTIC SEWER PIPES TO BE LAID IN MAXIMUM 3.0m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD PREFER CLAYWARE CHANNELS IN MANHOLES.
11. THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS:
    100mm DIA 40kN/m
    150mm DIA 40kN/m
    225mm DIA 45kN/m
    300mm DIA 72kN/m
    THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE IN ACCORDANCE WITH - **(CLASS 120 TO EN 1916/BS5911-12002)**. PLASTIC PIPES SHOULD CONFORM TO WIS 4-35-01 AND BS EN 13476.
12. YORKSHIRE WATER POLCY IS THAT BRICK MANHOLES AND 1050mm DIA MANHOLE RINGS ARE NOT PREFERRED. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200mm DIA, 1350mm DIA OR 1500mm DIA RINGS, WITH THE OPENING SITED OVER THE CHANNEL WHERE DEPTH OF THE COVER TO PIPE SOFFIT IS 1.0m - 1.5m.
13. WHERE A B125 COVER AND FRAME HAS BEEN APPROVED, THIS **MUST NOT** BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.

REV	AMENDMENTS	BY	DATE
C	UPDATED TO YW COMMENTS	MJM	08.10.24
B	UPDATED TO YW COMMENTS	MJM	01.10.24
A	INITIAL ISSUE	MJM	13.07.24

FOR APPROVAL

STATUS		CHK'D
PRELIMINARY	/	MJM
FOR COMMENT	/	MJM
FOR APPROVAL	/	MJM
FOR CONSTRUCTION		
AS BUILT		

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CONTRACT
DENBY LANE
GRANGE MOOR

TITLE
STANDARD DRAINAGE
CONSTRUCTION DETAILS

DRAWN	MJM	CHK'D	MJM
SCALE	SEE DETAIL	DATE	13.07.24

JOB No	DRG No	REV
24017	105	C