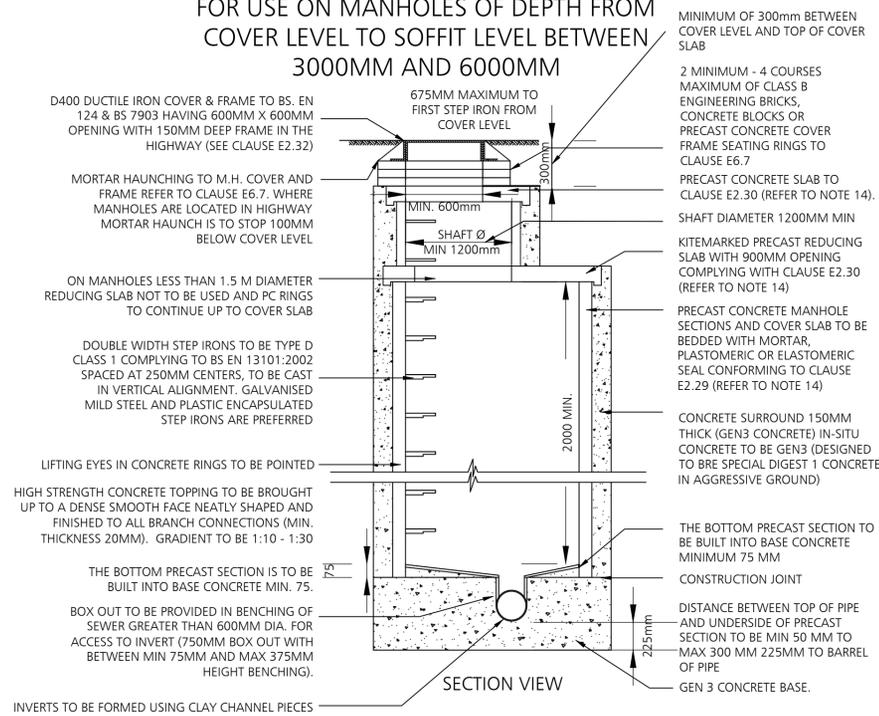


TYPICAL MANHOLE CONSTRUCTION

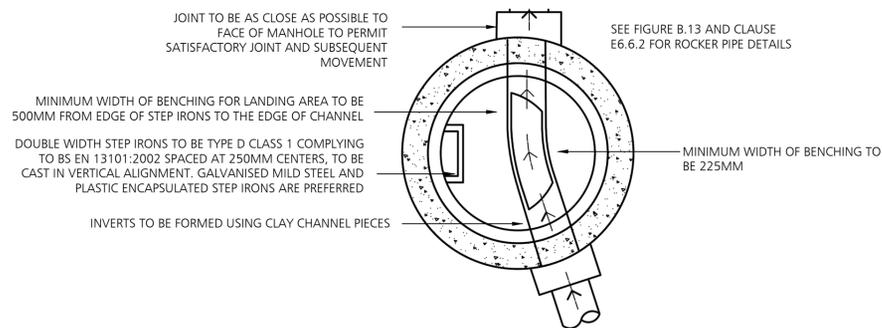
TYPE A1 (DESIGN AND CONSTRUCTION GUIDANCE)

FOR USE ON MANHOLES OF DEPTH FROM COVER LEVEL TO SOFFIT LEVEL BETWEEN 3000MM AND 6000MM



TYPICAL MANHOLE PLAN VIEW

TYPE A & B (DESIGN AND CONSTRUCTION GUIDANCE)

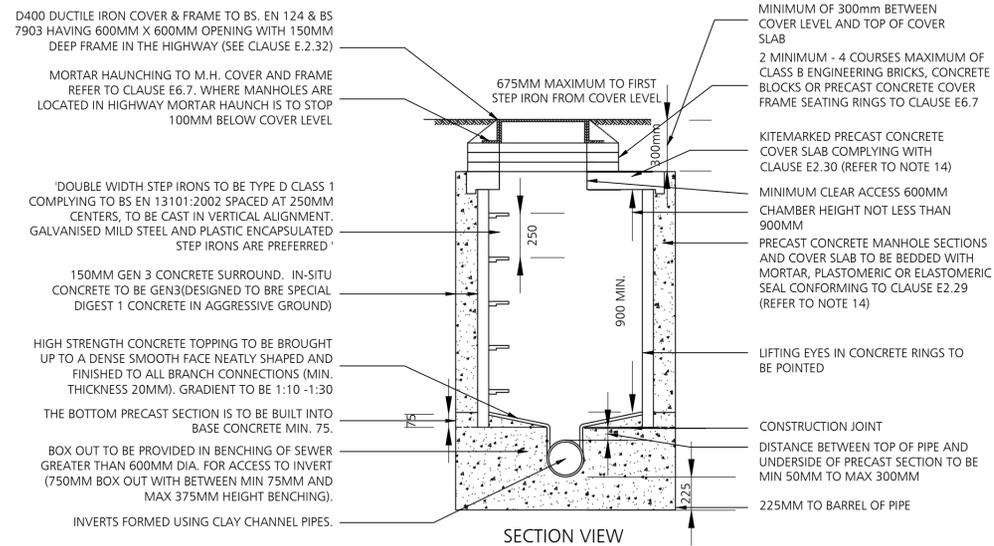


MANHOLE DIAMETER	
NOMINAL INTERNAL DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	MINIMUM NOMINAL INTERNAL DIMENSION OF MANHOLE (mm)
UP TO 300	1200
375-450	1350
500-700	1500
750-900	1800
GREATER THAN 900	SPECIFIC DETAILED DRAWING REQUIRED

TYPICAL MANHOLE CONSTRUCTION

TYPE B (DESIGN AND CONSTRUCTION GUIDANCE)

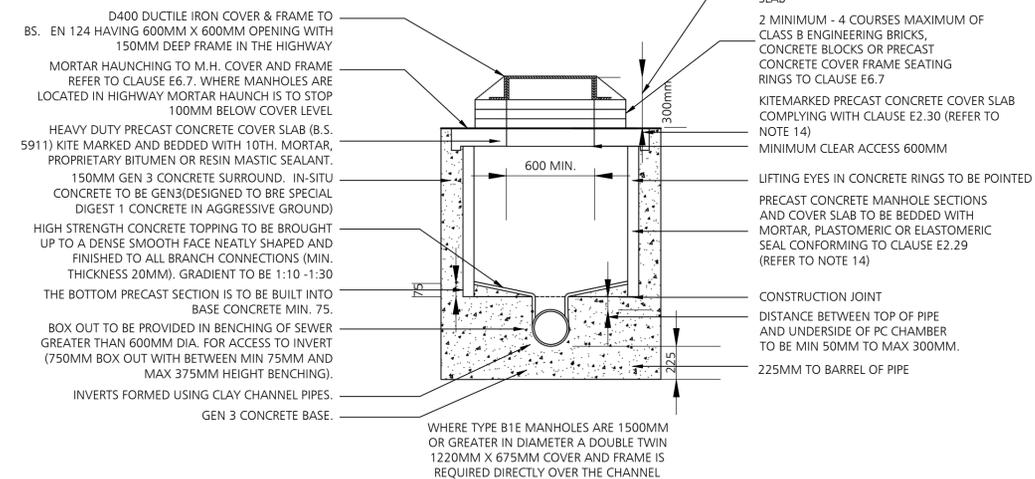
MAXIMUM DEPTH FROM COVER LEVEL TO SOFIT OF PIPE 3000MM



SHALLOW MANHOLE CONSTRUCTION

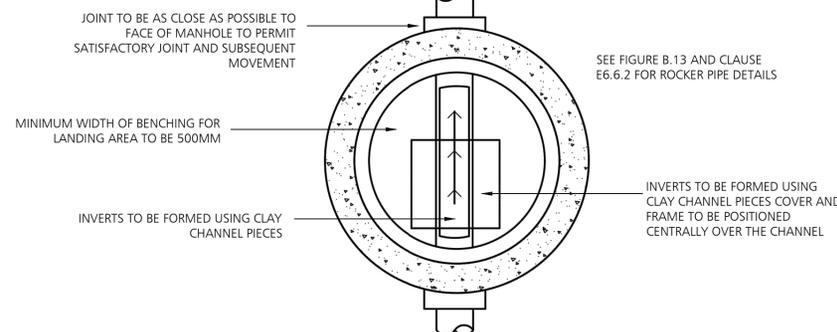
TYPE C (DESIGN AND CONSTRUCTION GUIDANCE)

CONSTRUCTION OF MANHOLE WHERE DEPTH FROM SOFIT TO COVER LEVEL LESS THAN 1.5M



SHALLOW MANHOLE PLAN VIEW

TYPE C (DESIGN AND CONSTRUCTION GUIDANCE)



DESIGNERS HAZARD IDENTIFICATION

IT IS ASSUMED THAT ALL WORKS WILL BE UNDERTAKEN BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT. IN ADDITION TO THE HAZARDS TYPICALLY ASSOCIATED WITH THE TYPES OF CONSTRUCTION DETAILED ON THIS DRAWING, ANY KNOWN ABNORMAL HAZARDS SPECIFIC TO THIS DRAWING HAVE BEEN IDENTIFIED.



YORKSHIRE WATER GENERAL NOTES

- 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 PRACTICE FOR THE ADOPTION OF SMALL SUBMERSIBLE FOUL AND SURFACE WATER PUMPING STATIONS AND KITEMARKED.
- 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.
- FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
- YORKSHIRE WATER IS NOT OBLIGED TO ACCEPT FILTER DRAIN/LAND DRAINAGE RUN-OFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM (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 WITH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUN-OFF.
- THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1M AND MANHOLES 0.5M FROM KERB FACES AND SERVICE MARGINS.
- SEWERS MUST HAVE 5 METRES CLEARANCE FROM TREES AND HEDGES OR THE WIDTH OF THE CANOPY AT MATURE HEIGHT.
- SEWERS TO BE LAID IN CLASS "S" BEDDING (150MM GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2M IN HIGHWAYS AND VERGES (OR LESS THAN 900MM IN NONE VEHICULAR ACCESS AREAS) THEN A CONCRETE SLAB SHOULD BE PROVIDED ABOVE GRANULAR BED AND SURROUND.
- BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2).
- YORKSHIRE WATER POLICY IS THAT TYPE "C" BRICK MANHOLES AND 1050MM DIA. MANHOLE RINGS ARE NOT PREFERRED. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE "B" MANHOLE WITH 1200MM DIA OR 1500MM DIA RINGS, WITH THE OPENING SITED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFIT IS 1 - 1.5M.
- ADOPTABLE PLASTIC SEWER PIPES TO BE BSI KITEMARKED (CERTIFIED TO WIS 4-35-01 AND BS EN 13476). ADOPTABLE PLASTIC SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE 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 CHANNEL IN MANHOLES.
- THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100MM DIA. 40KN/M, 150MM DIA. 40KN/M, 225MM DIA. 45KN/M AND 300MM DIA. 72KN/M. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE - (CLASS 120 TO EN 191 685591 1-1 2002). PLASTIC PIPES SHOULD CONFORM TO WIS 4-35-01 AND BS EN 13476.
- WHERE A B125 COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
- THERE MUST BE ENOUGH CLEARANCE AT CROSSOVERS TO ACCOMMODATE BEDDING TO BOTH PIPES, APPROX. 300MM. IF CROSSOVER IS NEAR THE ROCKER THEN THE CLEARANCE NEEDED MAY NEED TO BE INCREASED.
- ALL PRECAST CONCRETE ELEMENTS, INCLUDING COVER SLABS, TO BE IN ACCORDANCE WITH THE SEWERAGE SECTOR GUIDANCE APPENDIX C CLAUSES E2.29 AND E2.30 AND TO HAVE A CONCRETE DESIGN CHEMICAL CLASS OF DC-4.
- PCC COVER SLABS TO HAVE A MINIMUM OF 300MM COVER.

14.03.24	CONSTRUCTION ISSUE	MDJ	PD	A
Date	Revision	By	Chkd	Ref

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Title  
DRAINAGE CONSTRUCTION  
DETAILS SHEET 1

Scale	AS STATED	Drawn	SM	Checked	MJ
Date	JAN'23	Status	CONSTRUCTION		
Job No.	21374	Drg. No.	125	Rev.	A