

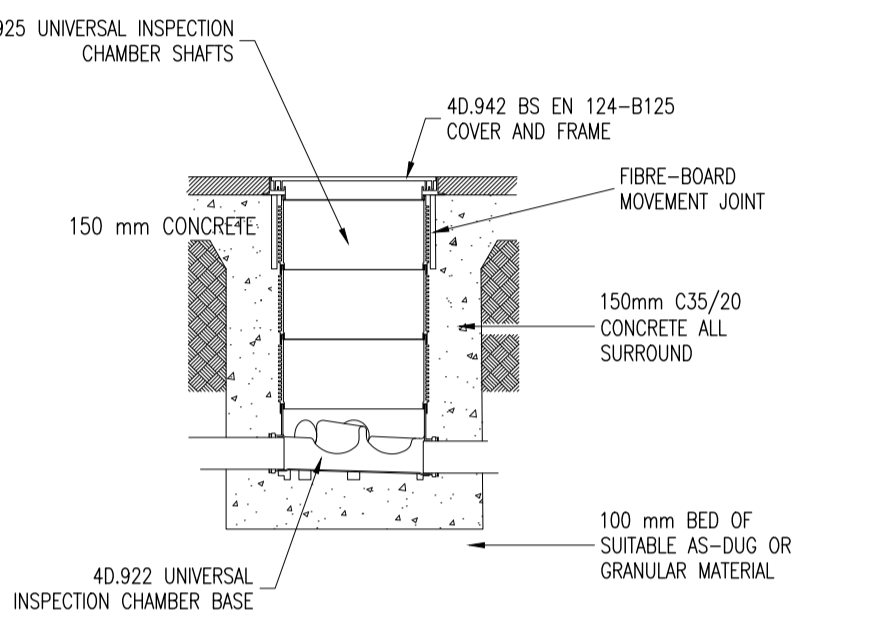
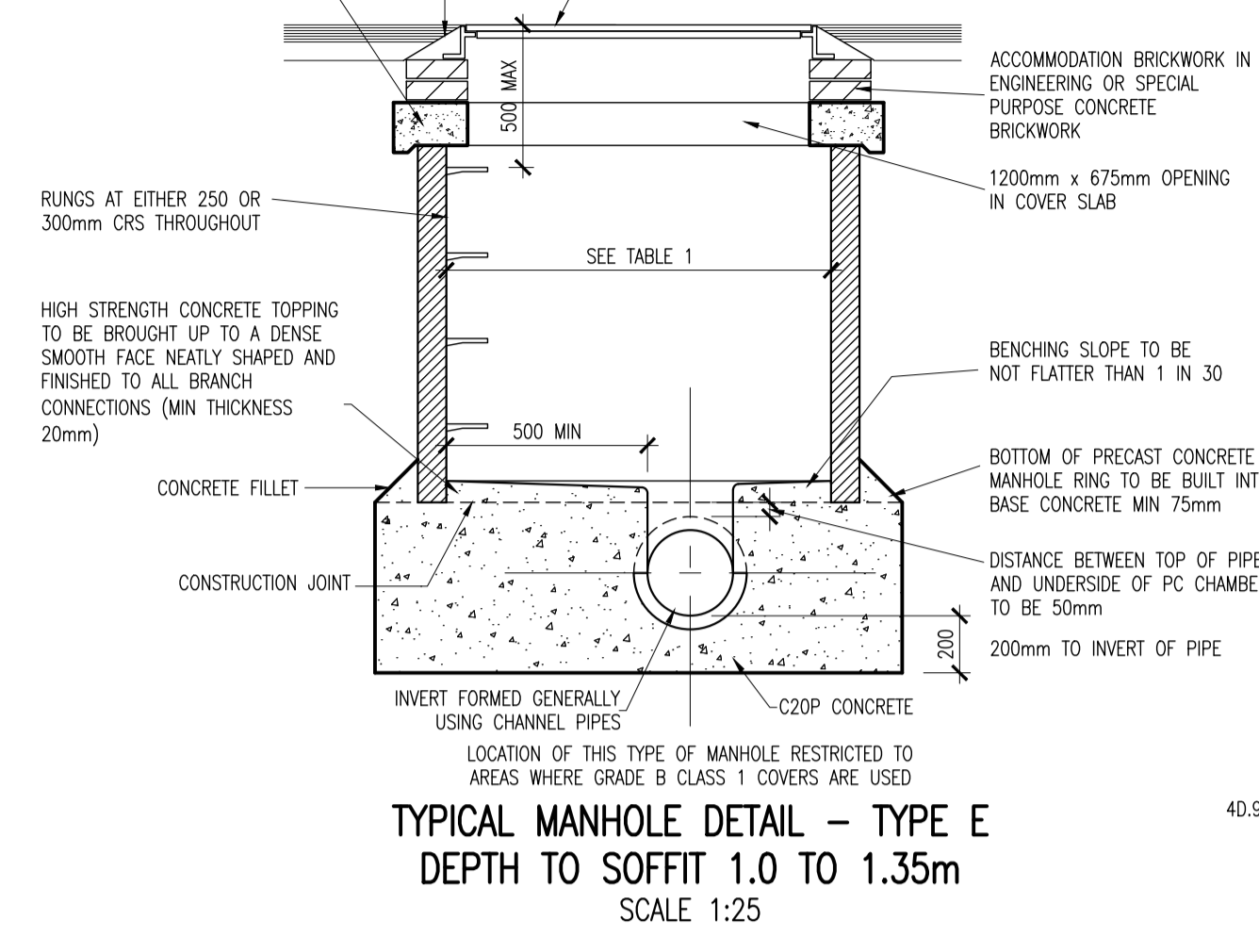
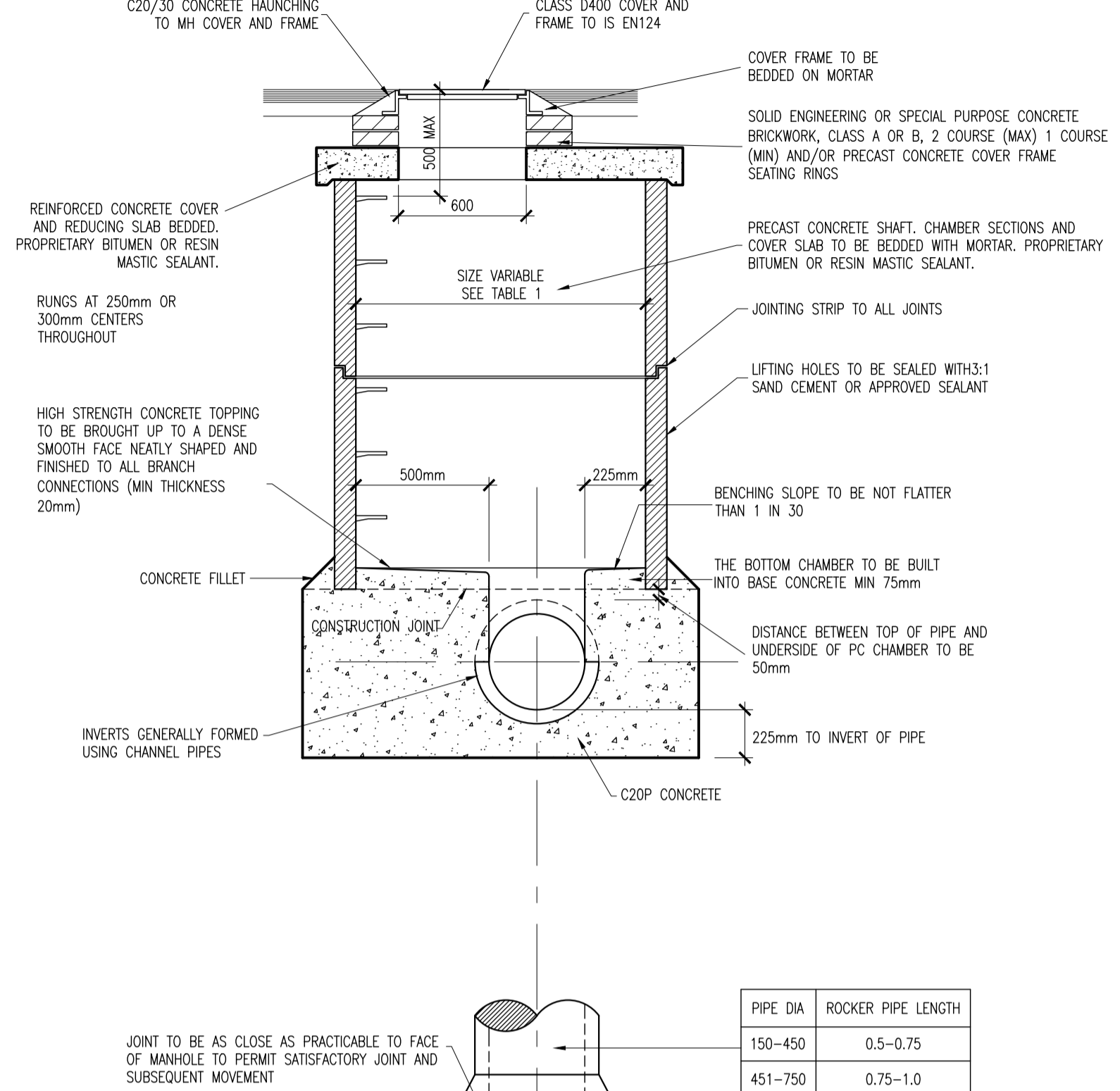
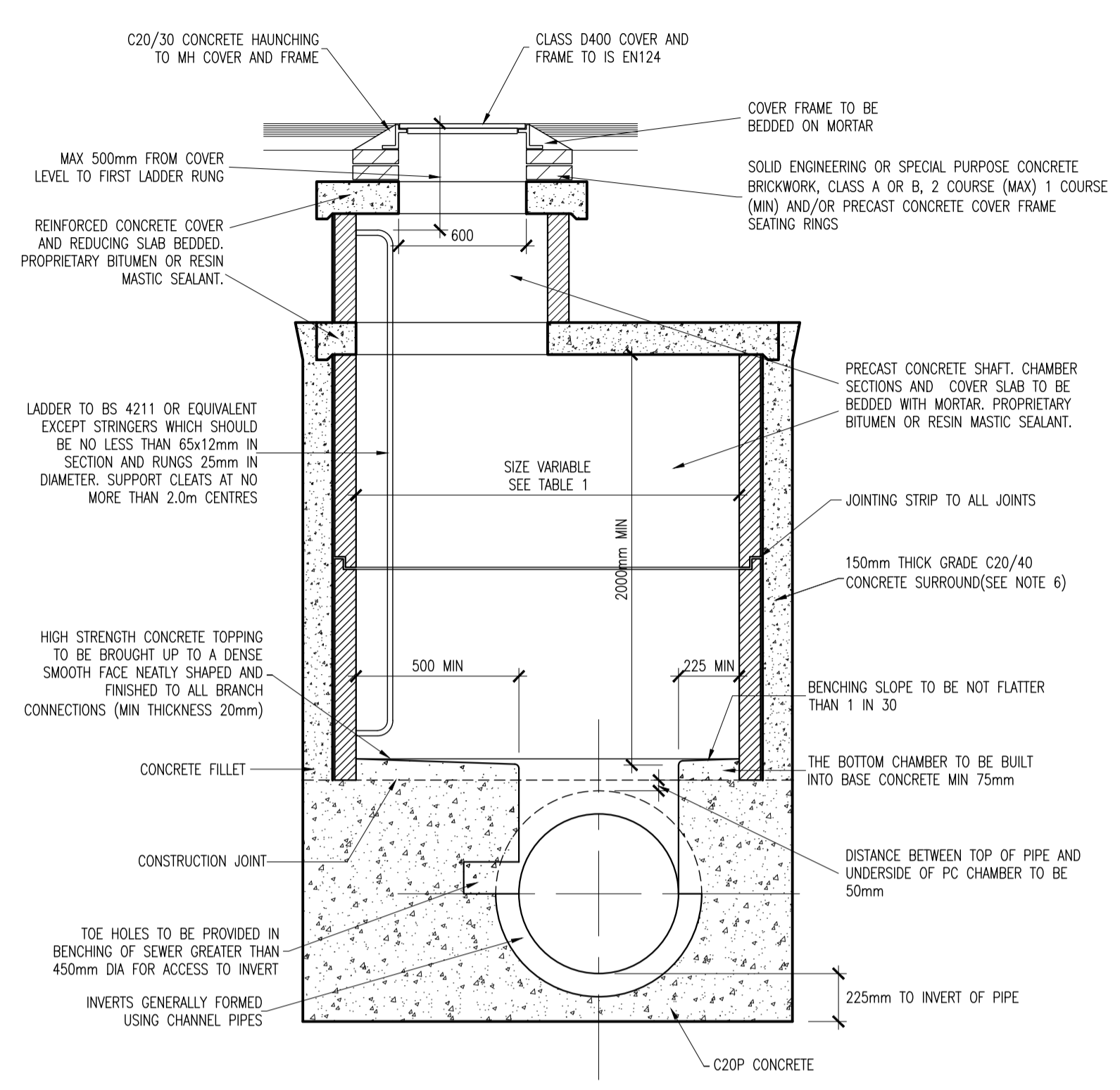


NOTES:  
SOURCE = GREATER DUBLIN REGIONAL CODE OF PRACTICE V6.0

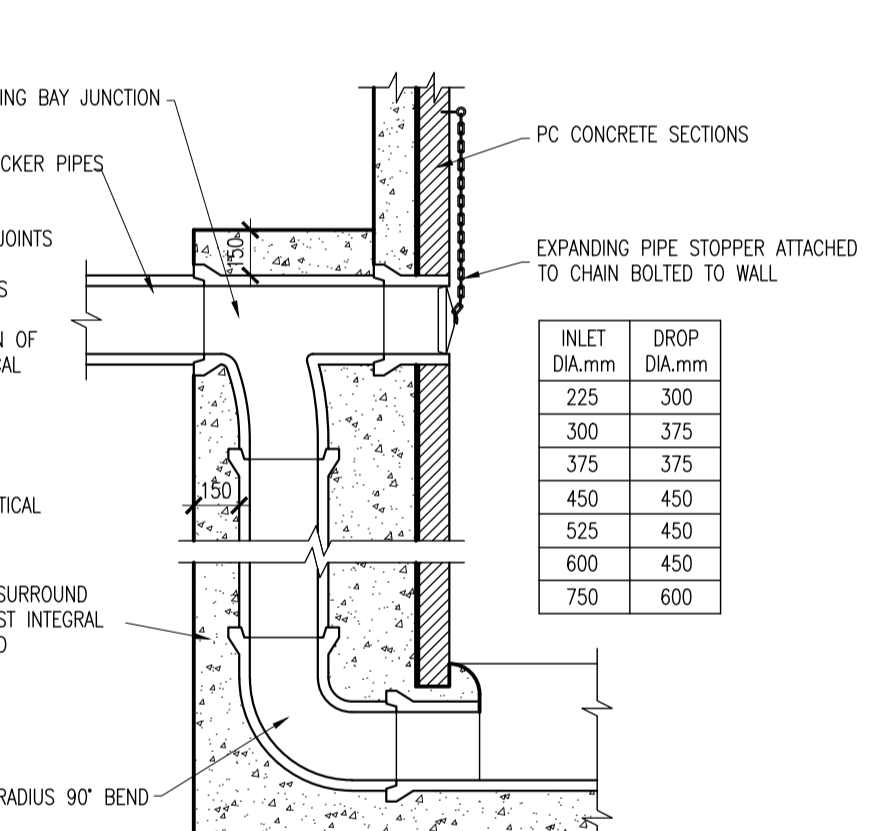
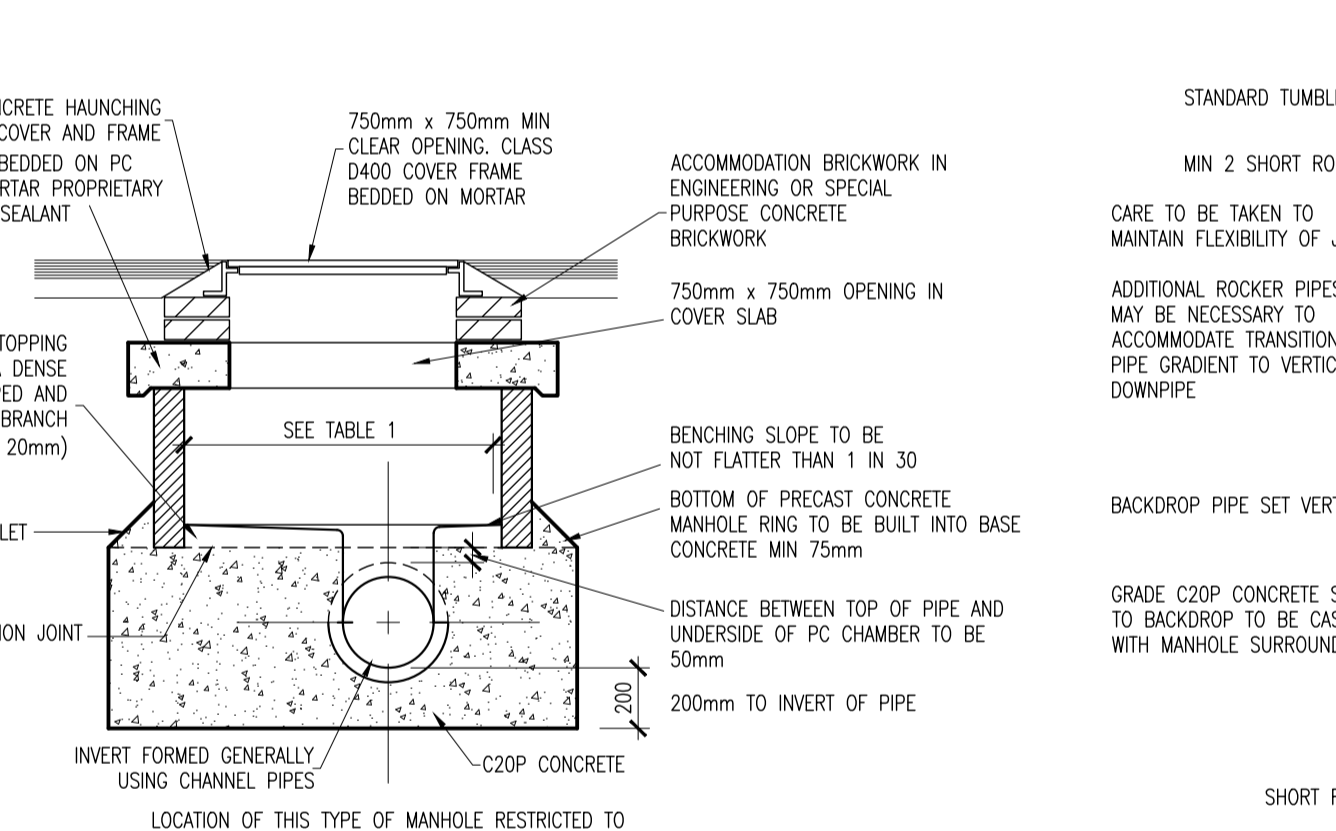
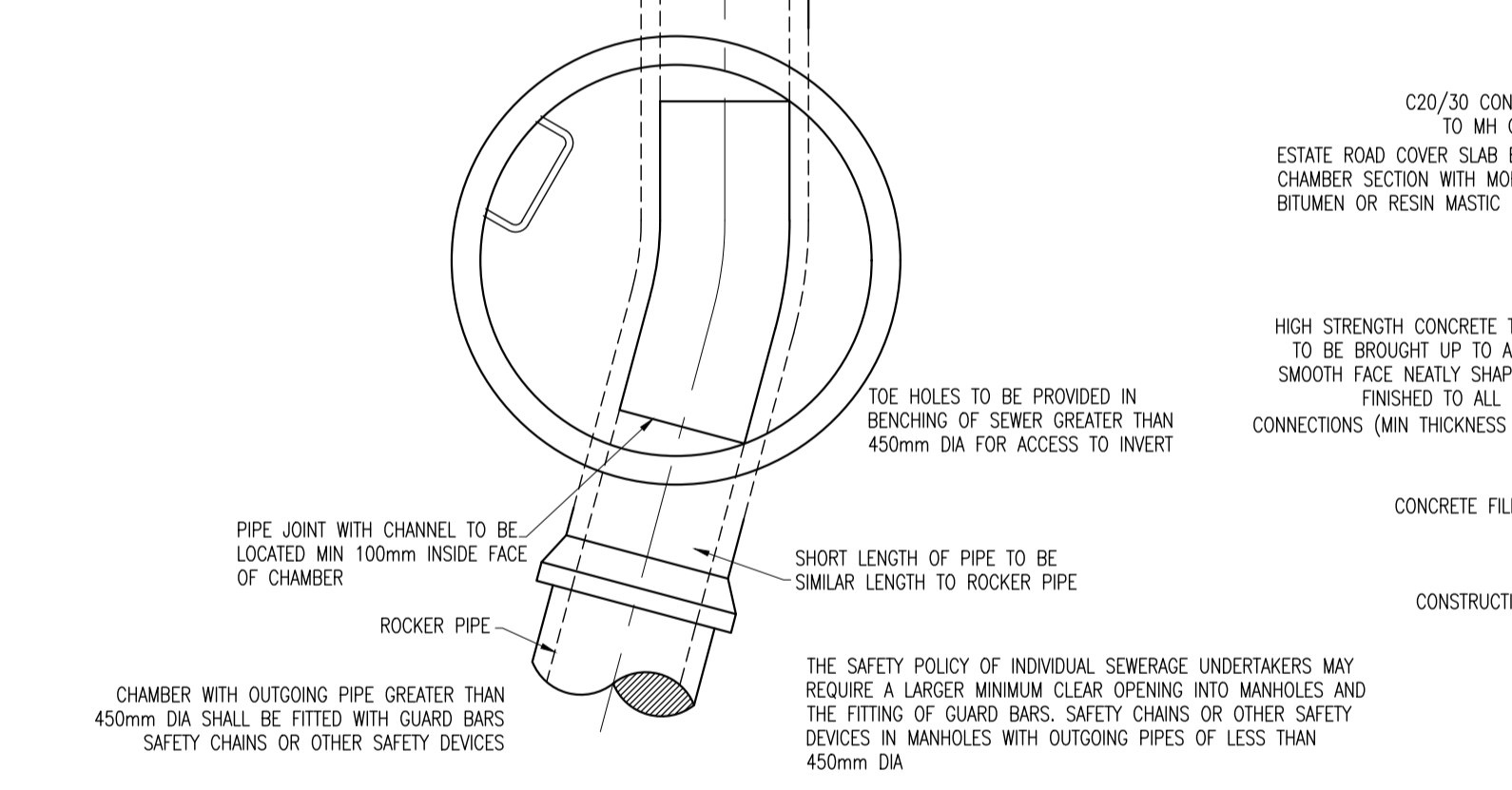
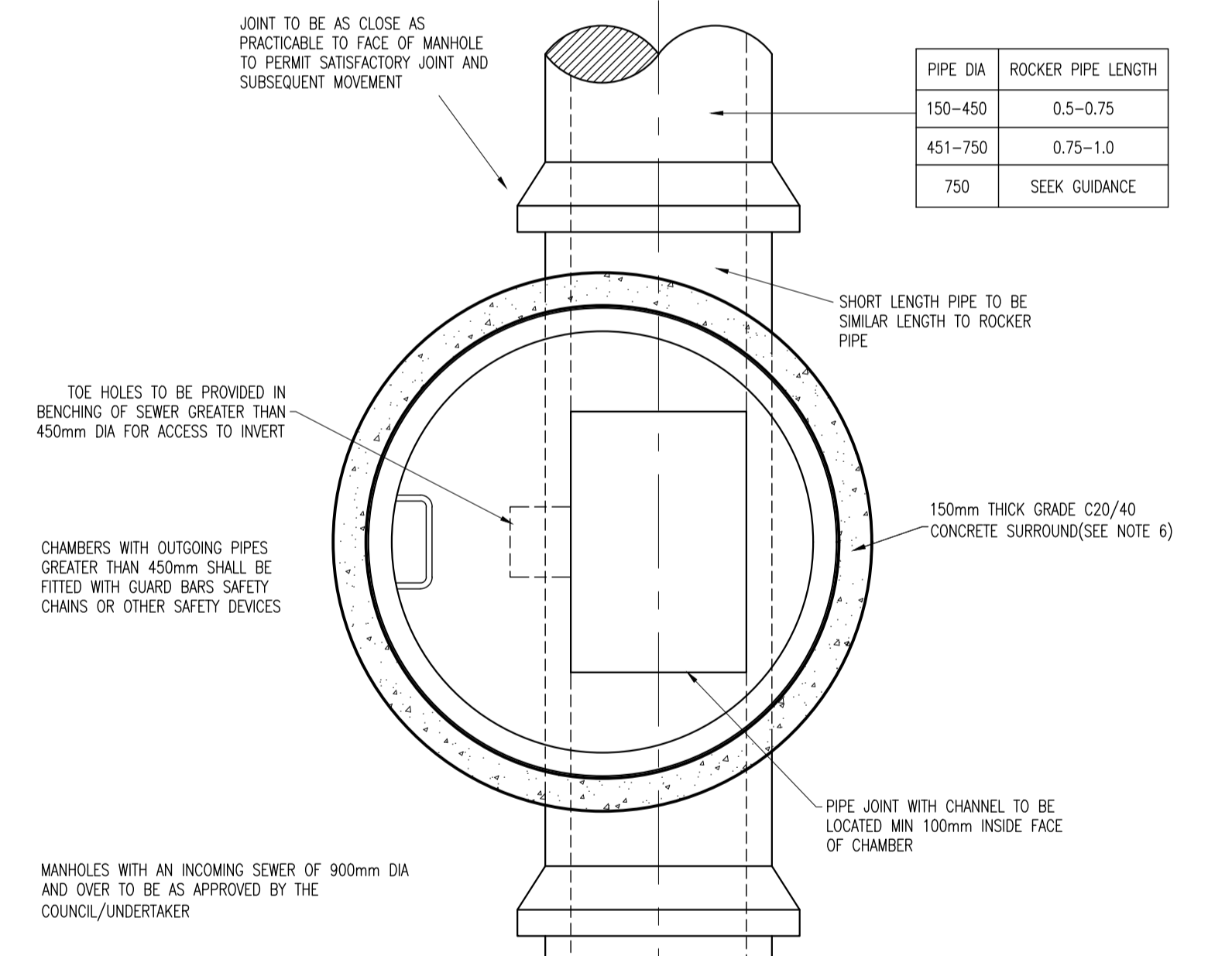
- 225mm THK CL. 20N/20mm MASS CONCRETE
  - PREFORMED HALF CIRCLE CHANNEL PIPES. THE PIPELINE MAY WHERE PRACTICABLE, BE LAD THROUGH THE MANHOLE AND THE COVER UP TO HALF DIAMETER PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM THE INNER FACE OF THE MANHOLE WALL
  - MANHOLE CONSTRUCTION
    - FOR SURFACE WATER MANHOLES HIGH-DENSITY BLOCKS TO CL 510 OF IS 20 PART 1:1987 OR CL. 30N/20mm INSITU CONCRETE
    - BLOCK WORK SHALL BE BEDDED AND JOINTED USING MORTAR TO IS 90. BEDS AND VERTICAL JOINTS SHALL BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID
    - JOINTS SHALL BE FLUSH POINTED AS THE WORK PROCEEDS
    - ALL FOUR MANHOLES MUST BE FACED IN SOLID ENGINEERING BRICK (MIN. CLASS A OR B) OR INSITU CONCRETE BRICKWORK TO EN 124
    - BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN
    - RELIEF ARCH FORMED BY 215x103x65 SOLID ENGINEERING BRICK CLASS A OR B AS PER DRAWING. RELIEF ARCHES TO BE PROVIDED IN GREEN AREAS NON-ROCK DESIGN. CLOSED KEYWAYS, MANUFACTURED FROM SPHEROIDAL GRAPHITE CAST IRON (DUCTILE CAST IRON), 600 x 600 (600 DIA) CLEAR OPENING COVER AND FRAME TO BE LOCATED IN BITUMEN OR OTHER COVERED MATERIAL. COVER TO HAVE A MINIMUM MASS OF 140kg/m<sup>2</sup> FRAME BEARING AREA SHALL BE 80,000mm<sup>2</sup> MIN. FRAMES SHALL BE DESIGNED TO PREVENT FALLING INTO MANHOLE. FRAMES SHALL BE BEDDED ON APPROVED MORTAR (SEE NOTE 6)
    - SHORT LENGTH PIPE AND PIPE JOINT EXTERNAL TO MANHOLE SHALL NOT EXCEED 600mm FROM THE INNER FACE OF MANHOLE
    - TOP HOLES OF 200mm MINIMUM DEPTH AND GALVANISED STEEL SAFETY RAILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 625mm DIA. AND DEPTH TO INVERT > 3m FOR ACCESS TO MANHOLES
    - A SAFETY CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEED 450mm IN DIAMETER. SIZE OF CHAIN SHALL BE 10mm NOMINAL SIZE (GRADE M/H) NON-CALIBRATED CHAIN, TYPE 1, COMPLYING WITH B.S.442 PART 2 OR EQUIVALENT
    - WHEN DEPTH OF MANHOLES TO INVERT IS GREATER THAN 3.0m LADDERS SHALL BE USED INSTEAD OF RUNGS TO B.S.4211 OR EQUIVALENT EXCEPT THAT STRINGERS SHOULD BE NOT LESS THAN 25mm x 12mm IN SECTION AND RUNGS 200mm IN DIAMETER
    - FIXED LADDERS SHOULD MEET THE DIMENSIONAL REQUIREMENTS OF B.S.4211
    - LADDER STRINGERS SHOULD BE ADEQUATELY SUPPORTED FROM THE MANHOLE WALL AT INTERVALS OF NOT MORE THAN 2.0m. STRINGERS SHOULD BE BOLTED TO CLEATS TO FACILITATE REMOVAL
    - ALL LADDERS, RUNGS, HANDRAILS, SAFETY CHAINS ETC SHOULD BE HOT DIP GALVANISED TO B.S.729 OR EQUIVALENT
    - PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALL SO THAT THE CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE (EXCEPT FOR POSITION 912 SQUARE OPE IN INTERMEDIATE ROOF SLAB)
    - MANHOLES SHALL BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER
    - FOR MORTAR TO REINFORCED CONCRETE AND MASS CONCRETE SHALL COMPLY WITH CLASS 2, SECTION 6.2.7 B.S.6110 PART 1: 1987
    - FINISH TO THE TOP OF THE SLABS SHALL COMPLY WITH SECTION 6.2.7 B.S.6110 PART 1: 1987
    - PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCK WORK HAVING A CO-ORDINATING SIZE OF 450 x 225 x 100
    - MANHOLES ARE DESIGNED TO B.S.8005 AND WALL THICKNESS TO BS 5262 BLOCK WORK DESIGN CODE TAKING GRANULAR FILL PRESSURE AND H.B. CONSIDERATION
    - REINFORCEMENT TO SLABS TO ENGINEERS DETAILS
    - FOR MANHOLES > 3m DEPTH TO INVERT USE 30N/20mm INSITU CONCRETE TO CL 510 OF IS 20 PART 1: 1987 AND IS 420 Z004
    - ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN
    - FOR PRE CAST MANHOLES, CHAMBER WALLS AND COVER SLAB TO BE CONSTRUCTED TO EN 1917 AND IS 420 Z004
    - MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST CARBONWAY. MANHOLE STEPS / ACCESS TO BE PROVIDED BELOW INVERTING POINT
    - FOR BEDDING AND SEALING OF CHAMBER RINGS, THE TOP RING (TO PRE CAST COVER SLAB) AND BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS, JOINTS TO BE SEALED WITH APPROVED PRE-FORMED JOINTING STRIP
    - PRE CAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE C20/40 CONCRETE.
- GENERAL NOTES:  
i) ALL BRICK TO BE SOLID ENGINEERING BRICK CLASS A OR B.  
ii) FOR PIPE DIAMETER > 750mm USE MANHOLE WITH INTERNAL DIAMETER SIZE = PIPE SIZE + 1 METRE + 300mm.  
iii) DISTANCE FROM THE TOP RING OF THE LADDER TO GROUND LEVEL MUST BE MAXIMUM OF 500mm.

TYPE 2 GRANULAR MATERIAL :

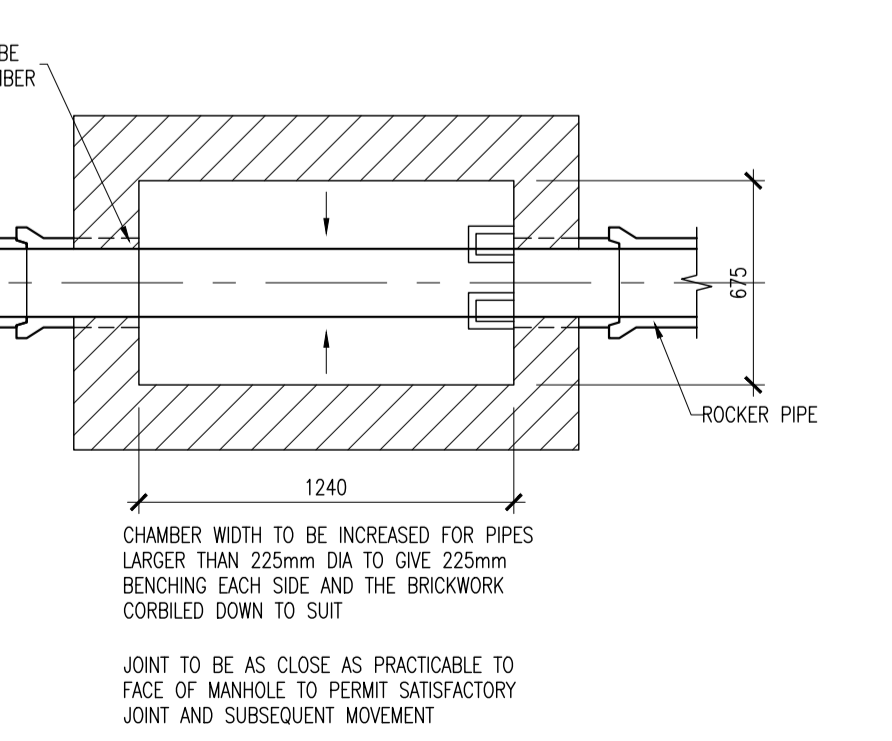
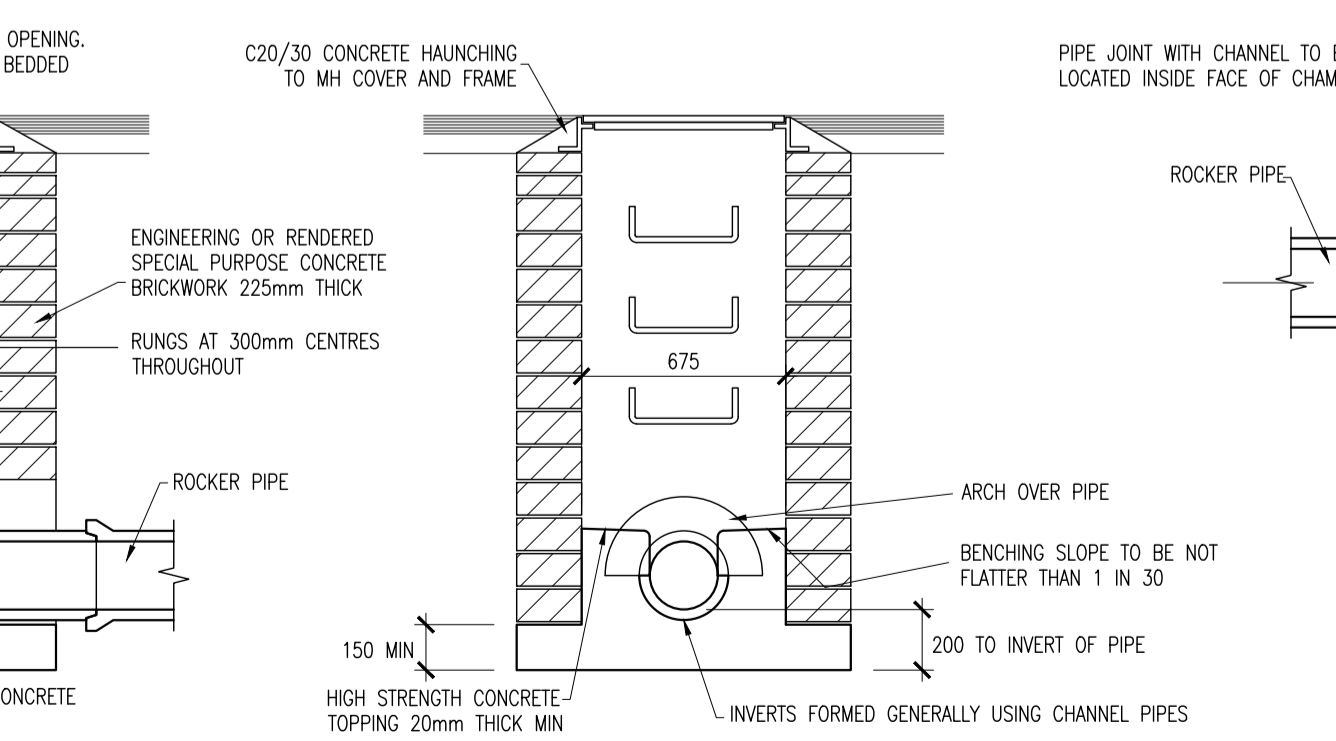
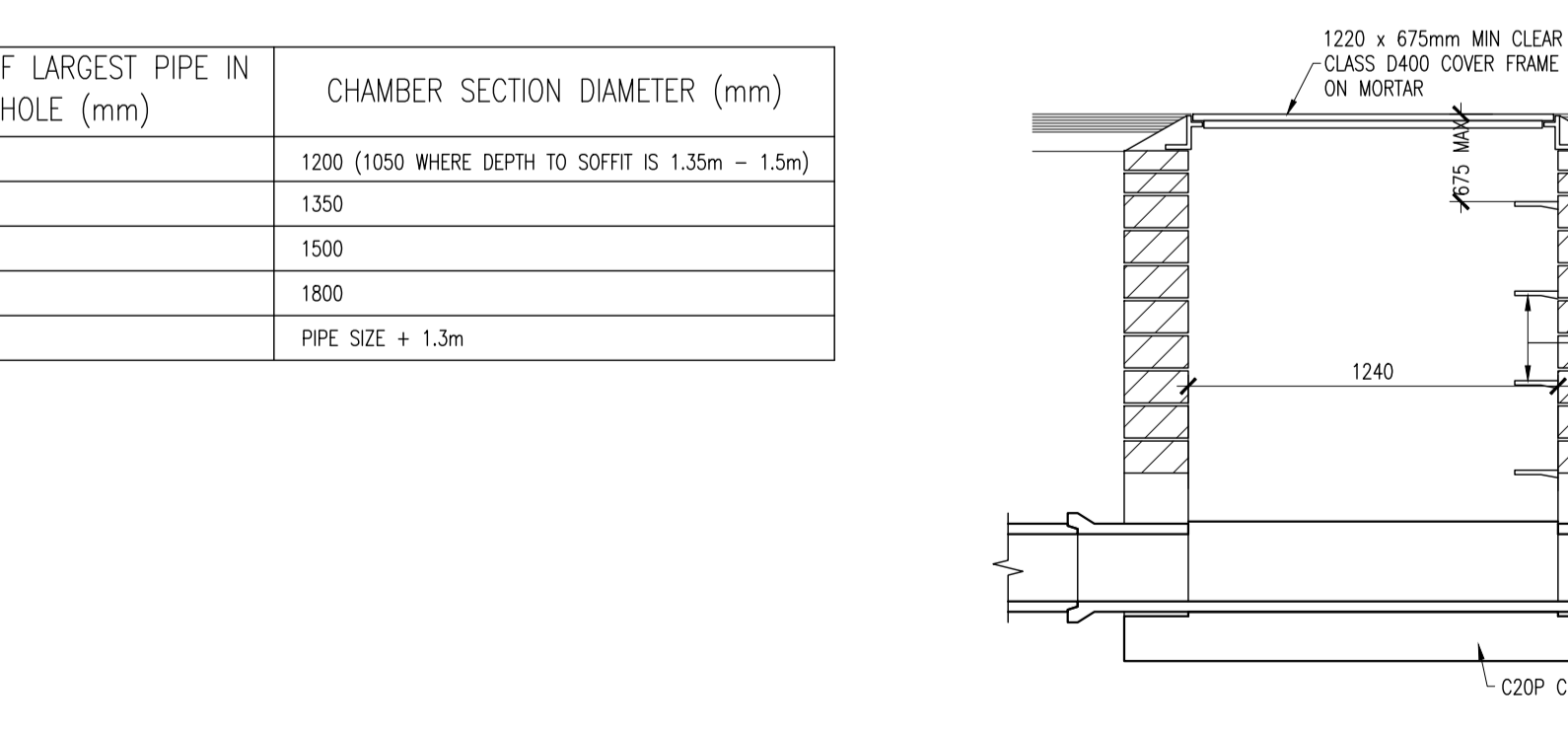
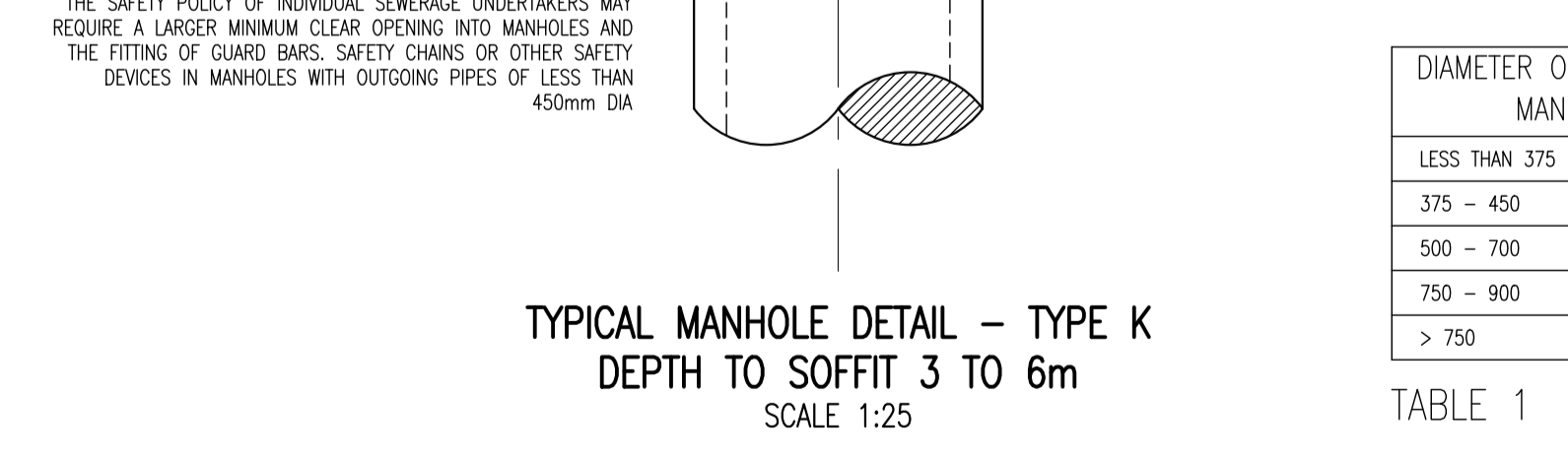
PIPE SIZE	100% PASSING
UP TO 225mm	10mm SIEVE
225 TO 450mm	20mm SIEVE
ABOVE 450mm	25mm SIEVE



UNIVERSAL INSPECTION CHAMBER, B125 MANHOLE DETAIL  
DEPTH TO SOFFIT UP TO 1m  
NTS



TYPICAL VERTICAL BACKDROP DETAIL  
SCALE 1:25



TYPICAL MANHOLE DETAIL - TYPE D  
DEPTH TO SOFFIT 1.0m TO 1.35m  
SCALE 1:25

DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	CHAMBER SECTION DIAMETER (mm)
LESS THAN 375	1200 (1050 WHERE DEPTH TO SOFFIT IS 1.35m - 1.5m)
375 - 450	1350
500 - 700	1500
750 - 900	1800
> 750	PIPE SIZE + 1.3m

TABLE 1

MANHOLES WITH AN INCOMING SEWER OF 900mm DIA AND OVER TO BE AS APPROVED BY THE COUNCIL/UNDERTAKER

THE SAFETY POLICY OF INDIVIDUAL SEWERAGE UNDERTAKERS MAY REQUIRE A LARGER MINIMUM CLEAR OPENING INTO MANHOLES AND THE FITTING OF GUARD BARS, SAFETY CHAINS OR OTHER SAFETY DEVICES IN MANHOLES WITH OUTGOING PIPES OF LESS THAN 450mm DIA

TYPICAL MANHOLE DETAIL - TYPE D  
DEPTH TO SOFFIT 1.0m TO 1.35m  
SCALE 1:25

A	09-10-19	PLANNING SHD STAGE 3	DJG	DCS
REV.	DATE	DESCRIPTION	BY	CHKD.
<b>PLANNING SHD STAGE 3</b>				
DESIGNED	DMW	PREPARED	DJG	
DATE	DEC 2018	CHECKED	DJR	

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PROJECT  
**STRATEGIC HOUSING DEVELOPMENT AT COLPE WEST, DROGHEDA, CO. MEATH**

DRG. TITLE  
**DRAINAGE DETAILS SHEET 1**

CLIENT <b>SHANNON HOMES DROGHEDA LTD.</b>	
SCALE	AS SHOWN @A1 FILE REF: 170092-3061
DRG. NO.	170092-3061
	<b>A</b>