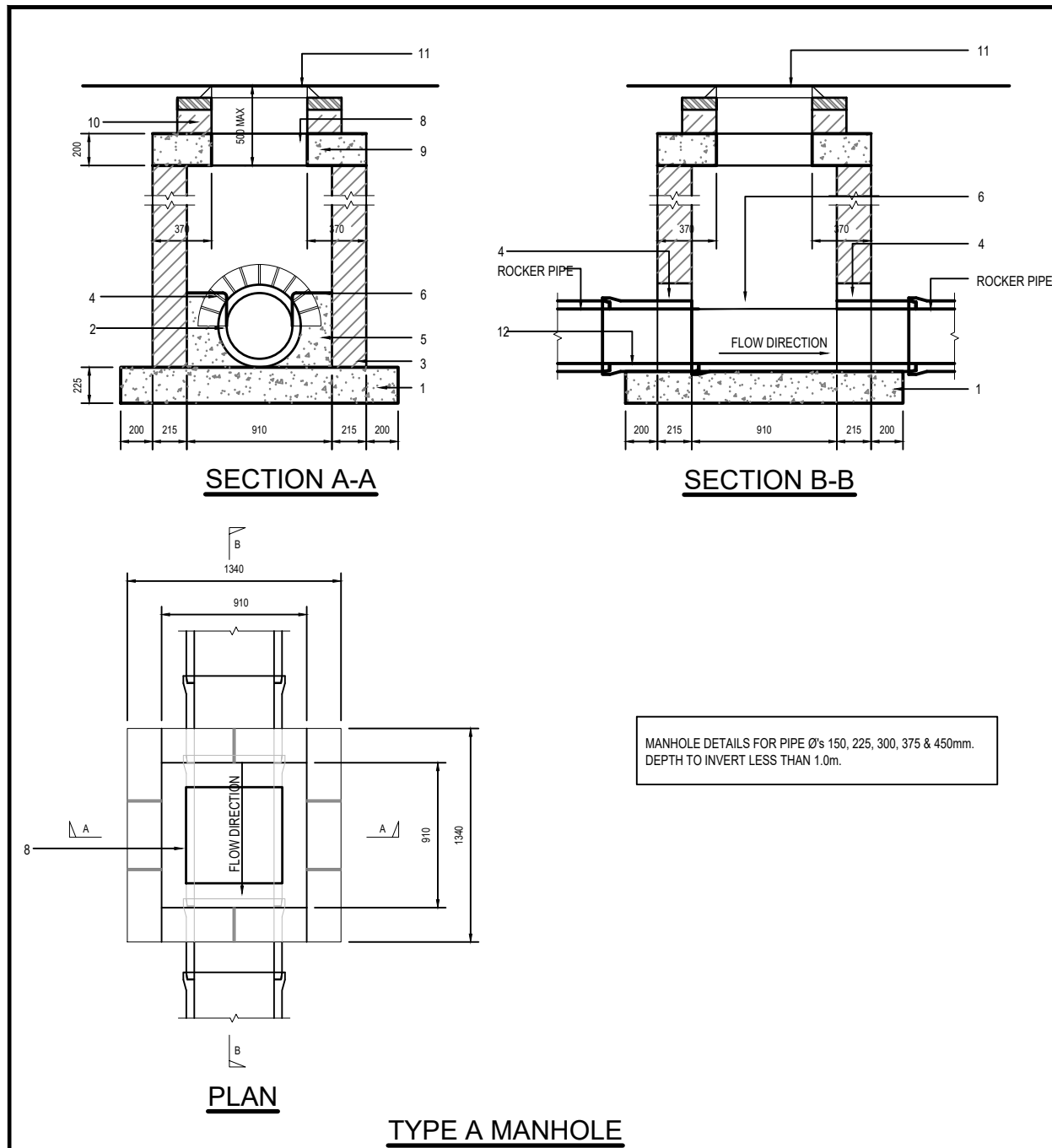


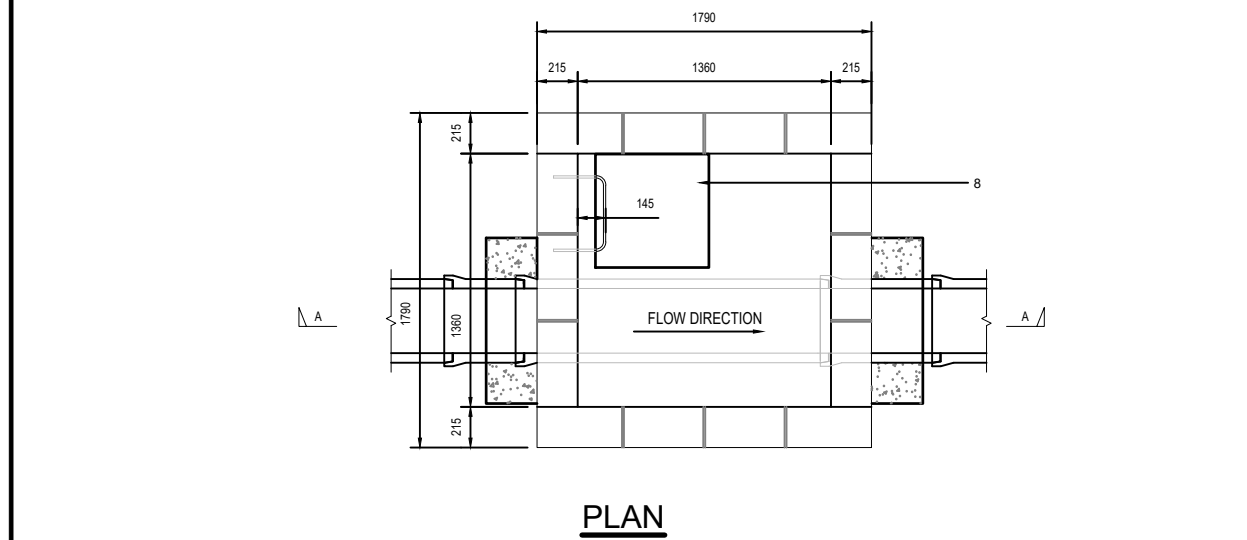
100
10
0
A1

DO NOT SCALE

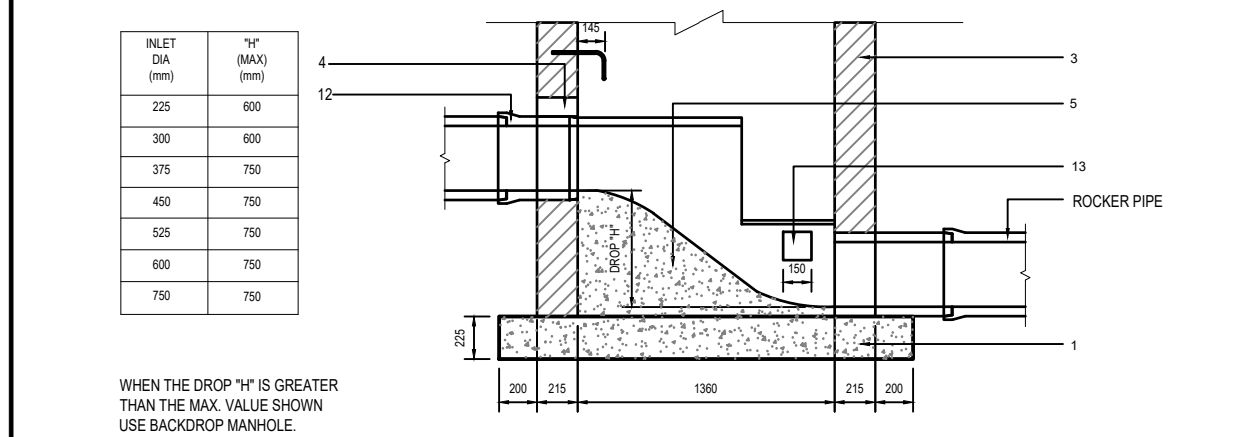
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Date: Sep 15, 2026 - 7:14pm
Plotted by: MURR7315



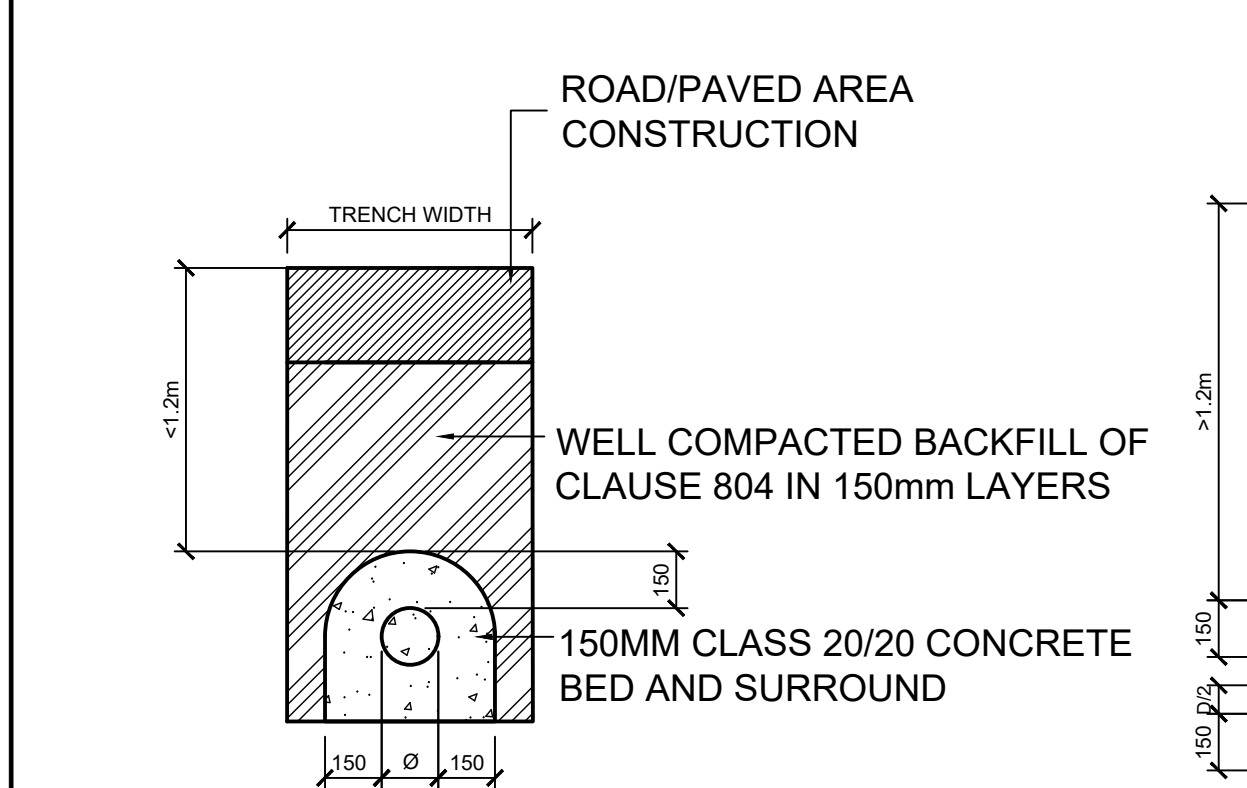
TYPE A MANHOLE



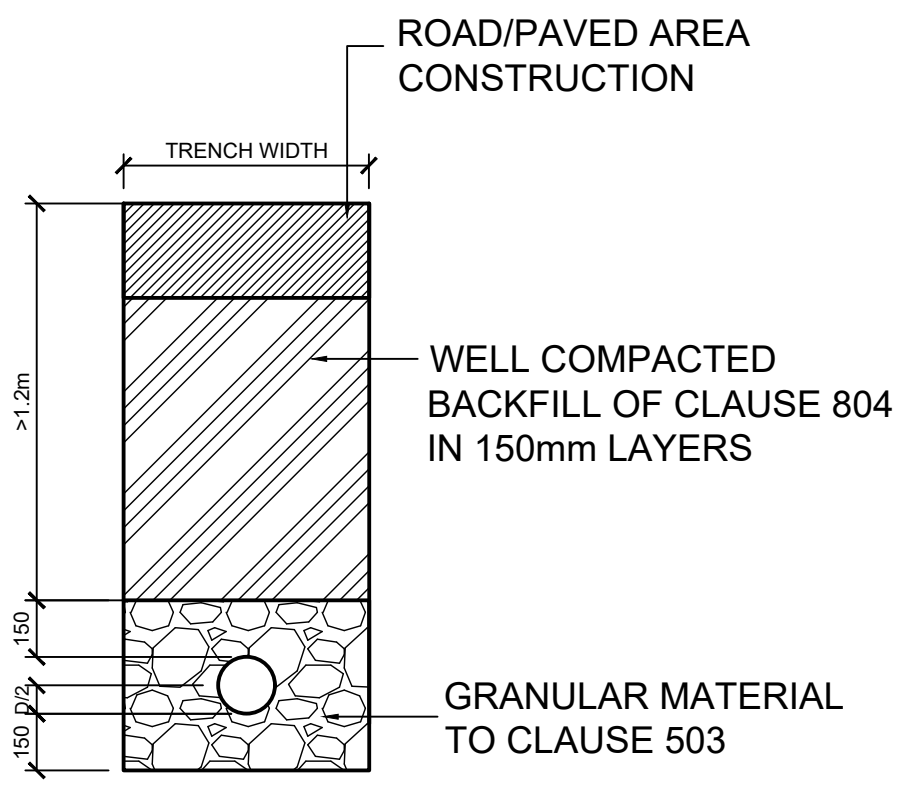
TYPE B MANHOLE



TYPE F MANHOLE (RAMP)

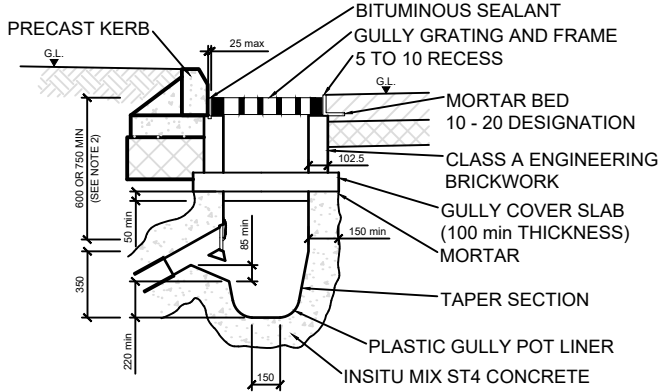


PIPE BEDDING TYPE 2
IF DEPTH OF COVER <1.2M

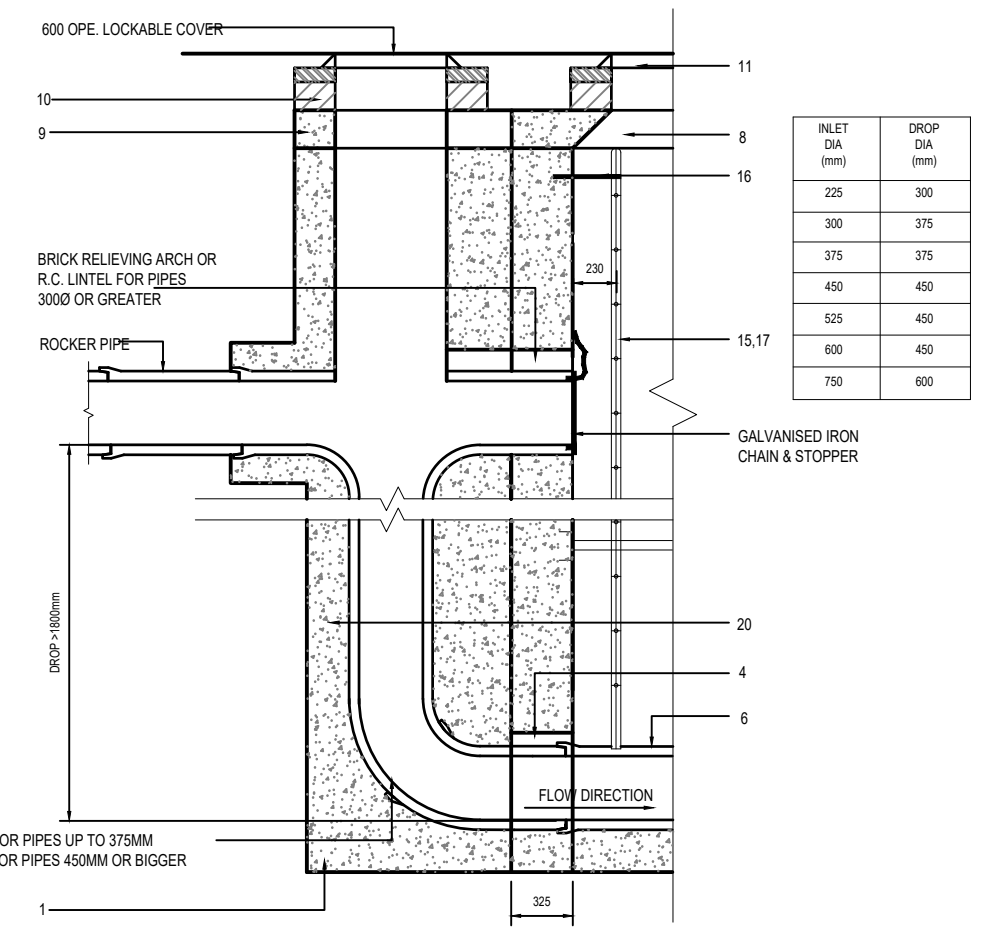


PIPE BEDDING TYPE 1
IF DEPTH OF COVER >1.2M

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - THE MINIMUM DEPTH FROM THE TOP OF THE GRATING TO THE TOP OF THE GULLY OUTLET IS TO BE 750mm WHEN THE CONNECTING PIPE IS UNDER A CARRIAGE WAY OR A HARD SHOULDER AND 600 ELSEWHERE.
 - PRE CAST CONCRETE GULLIES AND COVER SLABS SHALL BE TO BS 5911-6.
 - WHEN AN IN-SITU CAST GULLY HAS A TRAP, THE STOPPERS SHALL COMPLY WITH THE REQUIREMENTS OF BS 5911-4 AND BS EN 1917.
 - ALL ST CONCRETE SHALL BE TO SHW, CLAUSE 2602

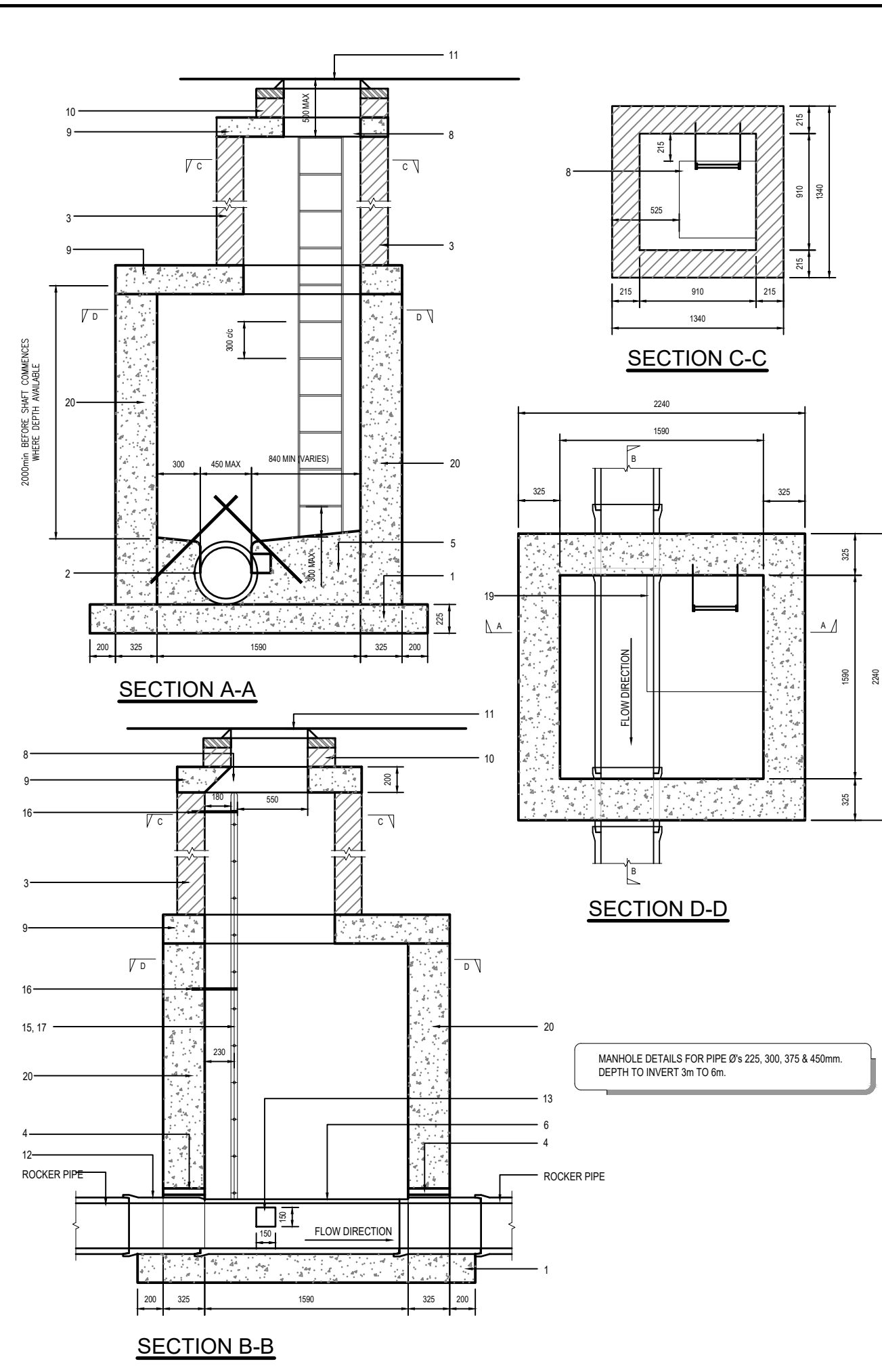


TYPICAL PRECAST GULLY

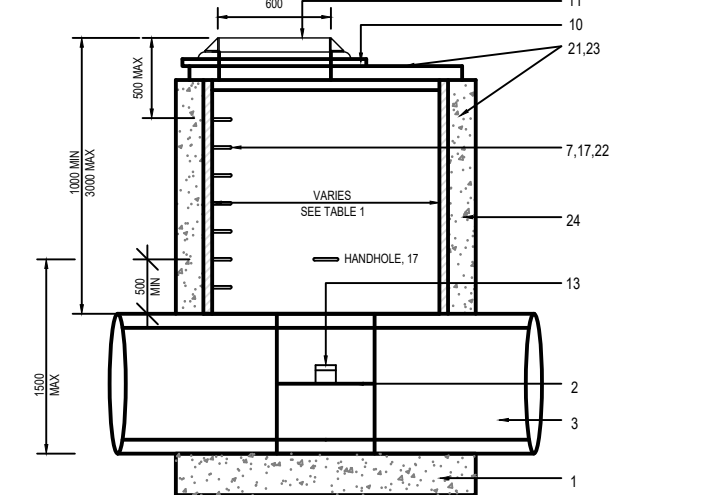


SECTION A-A

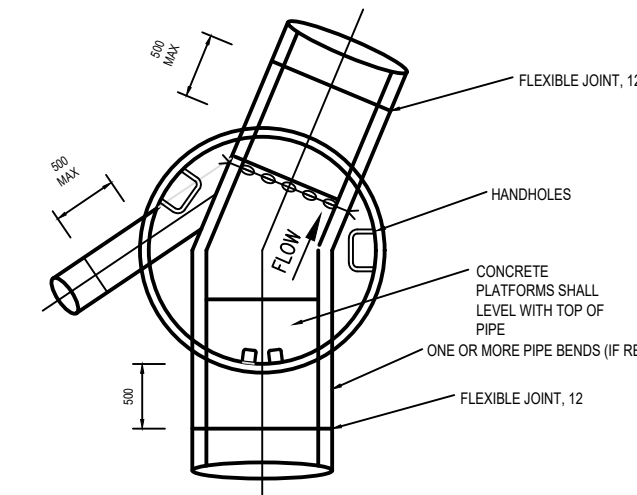
PLAN
TYPE G MANHOLE (BACKDROP)



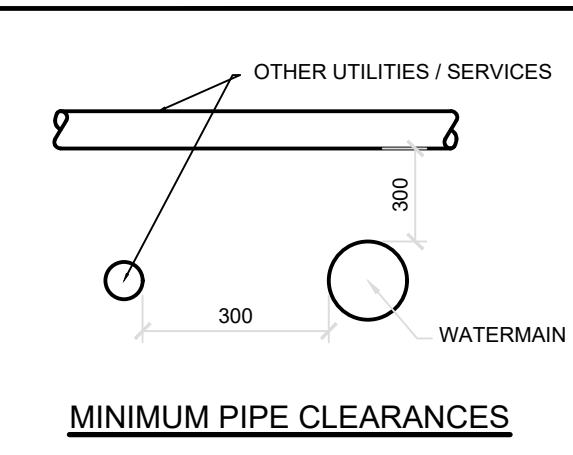
TYPE C MANHOLE



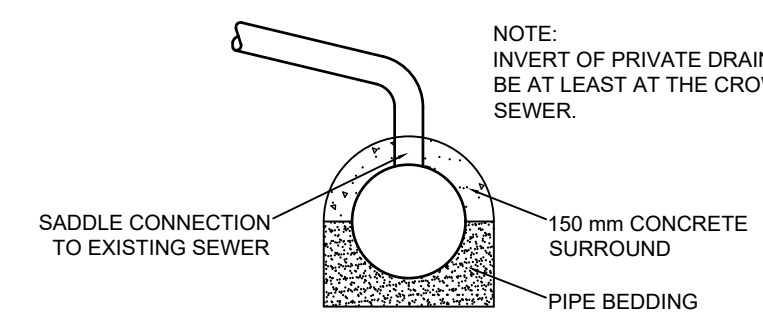
SECTION X-X



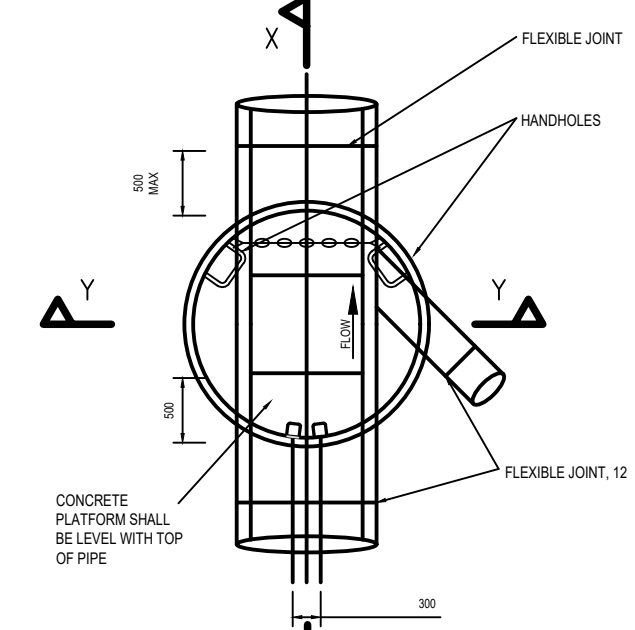
PLAN ON CURVED INVERT
(WITHOUT COVER SLAB)



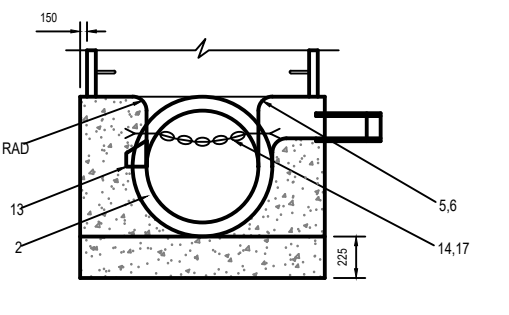
MINIMUM PIPE CLEARANCES



SADDLE CONNECTION



PLAN ON STRAIGHT INVERT
(WITHOUT COVER SLAB)



SECTION Y-Y

- GENERAL NOTES
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
 - ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
 - ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
 - ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
 - DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

- MANHOLE GENERAL NOTES:
- ALL BRICK TO BE SOLID ENGINEERING BRICK CLASS A OR B
 - FOR PIPE DIAMETER >750MM USE MANHOLE WITH INTERNAL DIAMETER SIZE = SIZE + 1 METRE + 300MM
 - DISTANCE FROM TOP RUNG OF THE LADDER TO GROUND LEVEL MUST BE A MAXIMUM OF 500MM

- MANHOLE DRAWING NOTES:
- 225mm THICK CL20/20 MASS CONCRETE FOUNDATIONS.
 - PREFORMED HALF CIRCLE CHANNEL PIPES. THE PIPELINE MAY WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE AND THE CROWN CUT OUT 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 S10 OF IS 20 PART 1: 1987 OR CL 30/20 IN-SITU CONCRETE
 - BLOCKWORK SHALL BE BEDDED AND JOINTED USING MORTAR DESIGNATION THREE TO IS 406. 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 FOUL MANHOLES MUST BE FACED IN SOLID ENGINEERING BRICK (MIN CLASS A OR B), OR IN-SITU CONCRETE FOR 1m ABOVE BENCHING LEVEL
 - BRICK TO BE BONDED TO BLOCKWORK USING ENGLISH GARDEN WALL BOND.

- RELIEVING ARCH FORMED BY 215x103x65 BRICK CLASS A OR B AS PER DRAWING. RELIEVING ARCHES USED IN BRICK OR BLOCKWORK MANHOLES TO EXTEND OVER FULL THICKNESS OF WALL. A DOUBLE ARCH IS TO BE FORMED FOR PIPE DIAMETERS GREATER THAN 600mm.
- BENCHING AND PIPE CHANNEL PIPE SURROUND - CL 20/20 CONCRETE.
- BENCHING FINISHED IN 2:1 SAND-CEMENT MORTAR WITH SMOOTH TROWEL FINISH, AT 1 IN 30 SLOPE TOWARDS CHANNEL.
- STANDARD RUNGS AT 300mm VERTICALLY AND GALVANISED TO LATEST VERSION OF BS729 OR EQUIVALENT.
- 600mm SQUARE OPE. IN ROOF SLAB.
- PRECAST R.C. ROOF SLAB SHALL BE 200MM THICK IN CL 30N/20MM CONCRETE, WITH 40MM COVER TO STEEL.
- 1 TO 2 COURSES OF SOLID ENGINEERING BRICKS CLASS B TO I.S.91:1983 SET IN 1:3 (CEMENT AND MORTAR)
- CLASS D400 OR E600 MANHOLE COVER AND FRAME TO IS/EN 124. 150mm DEEP FRAME FOR ROADS, 100mm DEEP FOR FOOTPATHS AND GREEN AREAS. NON-ROCK DESIGN. CLOSED KEYWAYS. MANUFACTURED FROM SPHEROIDAL GRAPHITE CAST IRON (DUCTILE CAST IRON), 600x600 (OR 600 DIAM) CLEAR OPENING, COVER & FRAME COATED IN BITUMEN OR OTHER APPROVED MATERIAL. COVER TO HAVE A MINIMUM MASS OF 140kg/m². FRAME BEARING AREA SHALL BE 80,000mm² MIN. FRAMES SHALL BE DESIGNED TO PREVENT COVERS FALLING INTO MANHOLE. FRAMES SHALL BE BEDDED ON APPROVED MORTAR TO MANUFACTURER'S CONSTRUCTIONS.

- SHORT LENGTH PIPE. PIPE JOINT EXTERNAL TO MANHOLE SHALL NOT EXCEED 600mm FROM THE INNER FACE OF MANHOLE WALL.
- TOE HOLES OF 230mm MIN. DEPTH AND GALVANISED STEEL SAFETY RAILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525 DIAMETER, AND DEPTH TO INVERT >3m FOR ACCESS TO INVERT.
- SAFETY CHAIN TO BE PROVIDED ON PIPES THAT EXCEED 450mm IN DIAMETER. MILD STEEL SAFETY CHAIN SHALL BE 10mm NOMINAL SIZE GRADE M16 NON CALIBRATED CHAIN TYPE 1, COMPLYING WITH BS: 4942 Part 2 OR EQUIVALENT.

- WHEN DEPTH OF MANHOLES TO INVERT IS GREATER THAN 3.0m LADDERS SHALL BE USED, INSTEAD OF RUNGS, TO BS4211 EXCEPT THAT STRINGERS SHOULD BE NOT LESS THAN 65x12mm IN SECTION AND RUNGS 25mm IN DIAMETER. FIXED LADDERS SHOULD MEET THE DIMENSIONAL REQUIREMENTS OF BS 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 RENEWAL.
- ALL LADDERS, RUNGS, HANDRAILS, SAFETY CHAINS ETC. SHALL BE HOT DIP GALVANISED TO BS729.
- SOCKET OF PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALL SO THAT THE CHANNEL EXTENDS FULL LENGTH OF THE MANHOLE (EXCEPT FOR PRECAST MANHOLES).
- POSITION OF 919 SQUARE OPENING IN INTERMEDIATE ROOF SLAB. ALL MANHOLES SHALL BE WATER TIGHT TO THE SATISFACTION OF THE ENGINEER.
 - FORMWORK TO REINFORCEMENT CONCRETE AND MASS CONCRETE SHALL COMPLY TO CLASS 2, SECTION 6.2.7, BS8110: PART 1: 1997
 - FINISH TO THE TOP OF SLABS SHALL COMPLY TO TYPE A, SECTION 6.2.7, BS8110: PART 1: 1997
 - PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCKWORK HAVING A CO-ORDINATING SIZE OF 450x225x100.
 - MANHOLES ARE DESIGNED TO BS8005 AND WALL THICKNESSES TO IS325 BLOCKWORK DESIGN CODE TAKING GRANULAR FILL PRESSURE AND H.B. SURCHARGE.
 - REINFORCEMENT TO SLABS TO ENGINEERS DETAILS.

- FOR MANHOLES >3.0m DEPTH TO INVERT USE 30N/20 IN-SITU CONCRETE REINFORCING MESH REF: A335 @80 180g/m² TO BE FIXED AT MID POINT OF WALL. ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
- FOR PRECAST MANHOLES, CHAMBER WALLS AND COVER SLAB TO BE CONSTRUCTED TO IS EN 1917 AND IS 420:2004.
- MANHOLE OPENING TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS/ACCESS TO BE POSITIONED TO ALLOW VIEWING OF ONCOMING TRAFFIC.
- FOR BEDDING AND SEALING OF CHAMBER RINGS, THE TOP RING (TO PRECAST COVER SLAB) AND BOTTOM TING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS, JOINTS TO BE SEALED WITH APPROVED PRE-FORMED JOINTING STRIP.
- PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE C20/40 CONCRETE.

- NOTES:
- DETAILS INDICATED IN ACCORDANCE WITH GDSOS REQUIREMENTS FOR STORM DRAINAGE
- FOUL DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS AND CODE OF PRACTICE

Risk Level	- Atkins Base Line - Low Risk
	Atkins Sensitive - Medium Risk
	Atkins Private - High Risk
	Client Critical - Already Marked

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Rev	Description	By	Date	Chk'd	Rev'd	Auth
P02	ISSUED FOR PLANNING		PM 21.07.26	IPR	GH	GH
P01	ISSUED FOR PLANNING		PM 09.07.26	IPR	GH	GH

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Client	CASTLETHORN OLD CONNAUGHT UCL
Project	OLD CONNAUGHT PHASE A1 LRD

Purpose	FOR PLANNING
Title	STANDARD CONSTRUCTION DETAILS SHEET 1
Original Scale	AS SHOWN
Drawn	PM
Checked	IPR
Reviewed	GH
Authorised	GH
Date	24.11.25
Date	24.11.25
Date	24.11.25
Date	24.11.25
Status	S4
Drawing Number	ATK-ZZ-ZZ-DR-CE-909001
Rev	P02