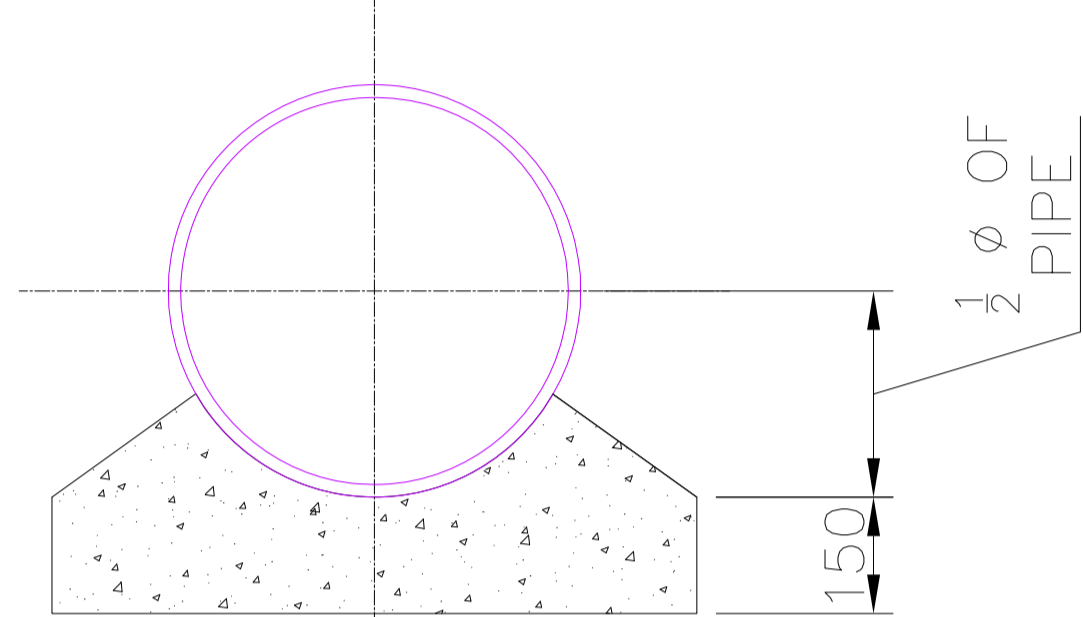
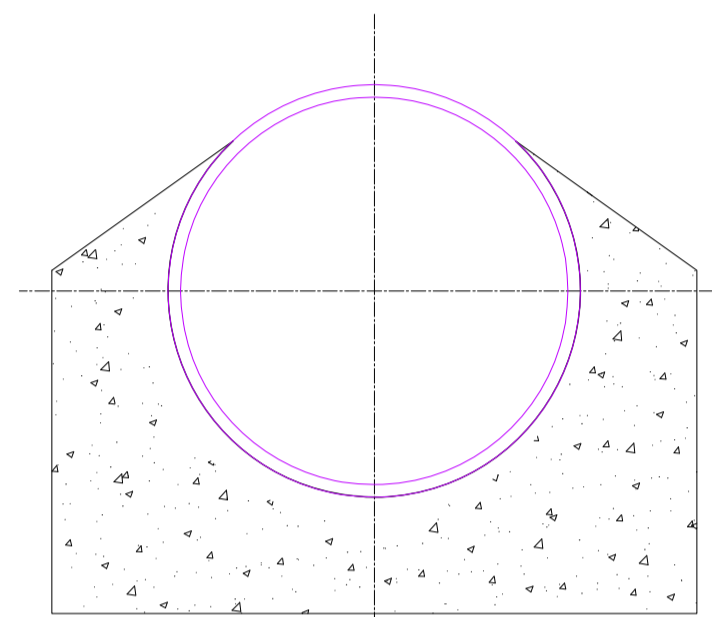


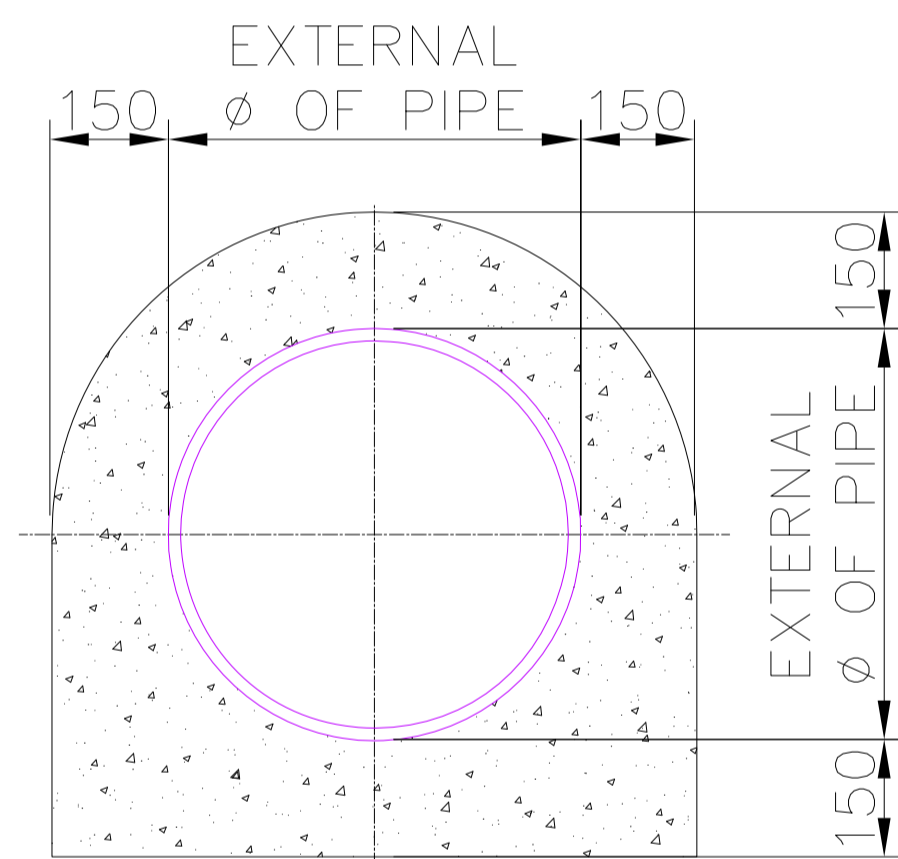
- ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- CONCRETE PIPE BEDS AND HAUNCHES MAY BE REQUIRED TO ADDRESS MINIMUM COVER SITUATIONS, AND SHALL BE SUBJECT TO SUBMISSION AND ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORKS.
- CONCRETE BEDS AND HAUNCHES SHALL HAVE A MINIMUM THICKNESS OF 150MM WITH AN ABSOLUTE MINIMUM DEPTH OF COVER ABOVE THE EXTERNAL CROWN OF THE PIPE OF 750MM
- CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013 AND TO BE CLASS C16/20.
- THE HAUNCHES AND SURROUNDS TO BE FORMED USING FORMWORK TO PROVIDE ROUGH CAST FINISH.
- EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY, COMPRESSIBLE FILLER BOARD TO BE USED IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4
- POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COM POSITION IN ACCORDANCE WITH BS 6067 BEFORE BEING CAST INTO CONCRETE.
- BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPE.



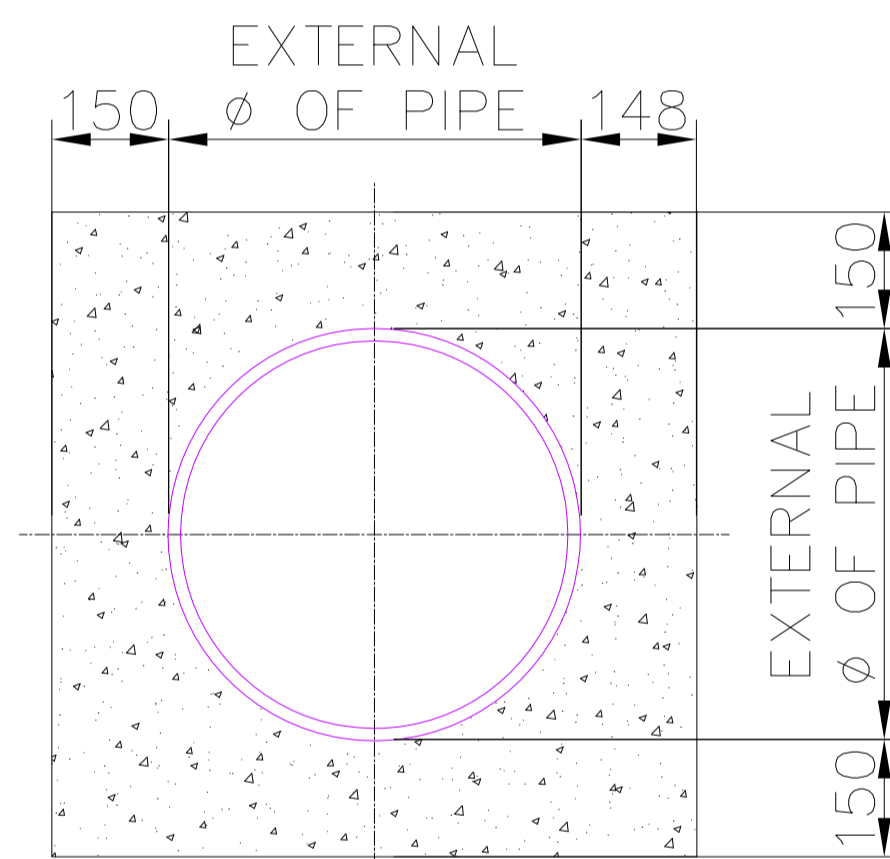
**TYPE 'A'**



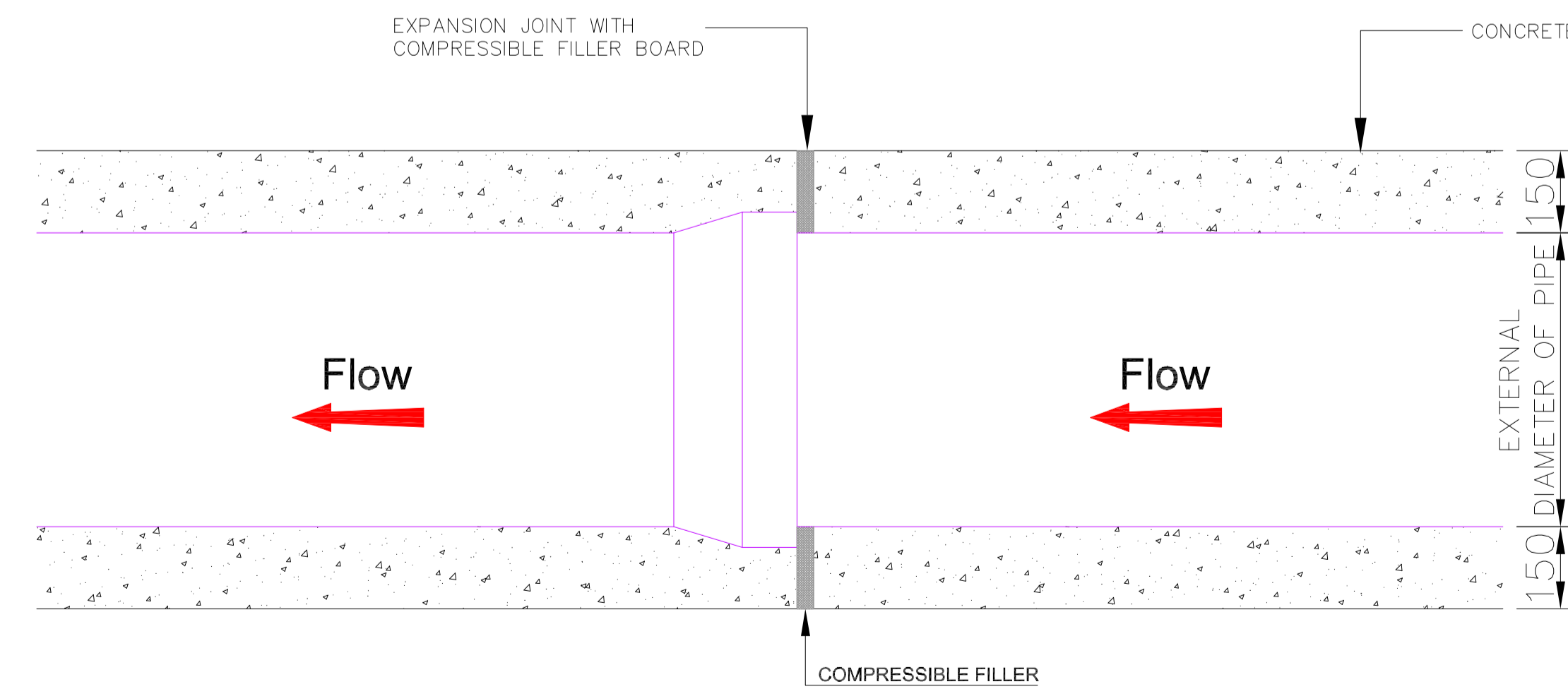
**TYPE 'B'**



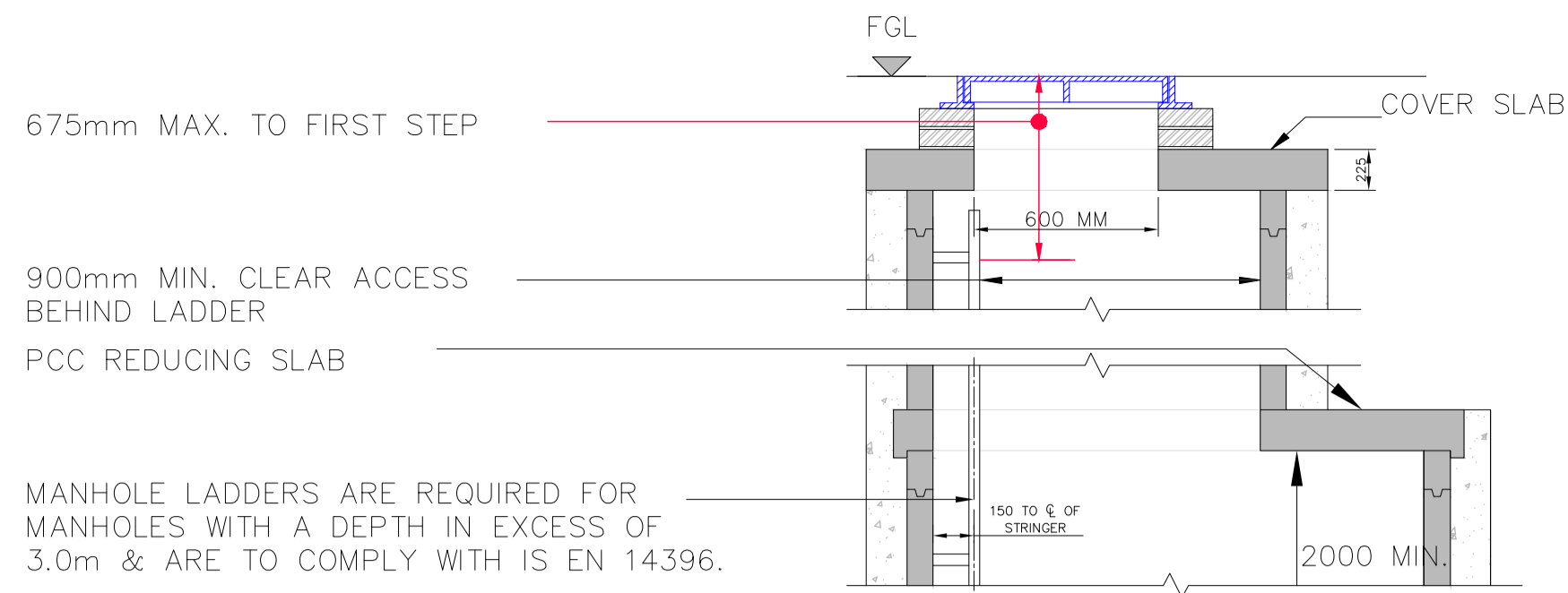
**TYPE 'C'**



**TYPE 'D'**



**SPIGOT AND SOCKET JOINT**



**MANHOLE DETAIL > 3m & < 6m  
GROUND TO SOFFIT DEPTH**

(NOTE: ON MANHOLES < 1.5m# REDUCING SLAB NOT TO BE USED & PCC RINGS TO CONTINUE UP TO COVER SLAB)

MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100 OR 150mm) MIN. OPE. 600 x 600mm. COVER TO BE SET IN C50/60 MORTAR.

1 No. COURSE MIN.  
3 No. COURSES MAX OF CLASS B ENGINEERING BRICKS SET IN C50/60 MORTAR

PRECAST CONCRETE MANHOLE RINGS TO IS 420 IN CONJUNCTION WITH IS EN 1917 : 2004

ELASTOMETRIC JOINT SEAL TO EN 681

MANHOLE STEPS TO COMPLY WITH IS EN 13101, TYPE D, CLASS 1, GALVANISED MILD STEEL & PLASTIC ENCAPSULATED. STEPS ARE REQUIRED IN MANHOLES UP TO A GROUND TO PIPE SOFFIT DEPTH OF LESS THAN 3.0m. MANHOLE LADDERS ARE REQUIRED FOR MANHOLES WITH A DEPTH IN EXCESS OF 3.0m & ARE TO COMPLY WITH IS EN 14396.

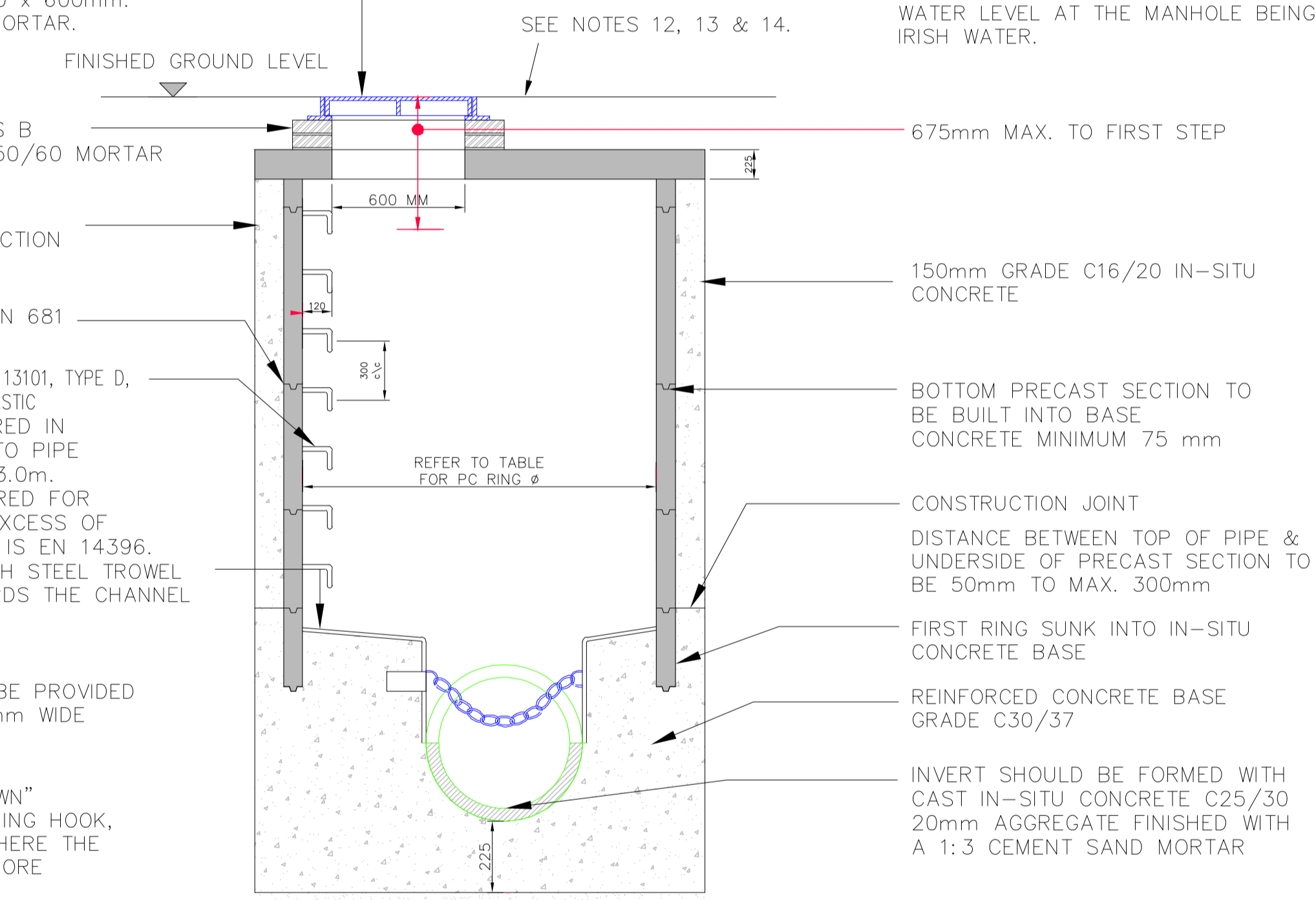
1: 3 CEMENT:SAND MORTAR WITH STEEL TROWEL FINISH AT A 1:30 SLOPE TOWARDS THE CHANNEL

SELF CLEANING TOE HOLES TO BE PROVIDED WHERE CHANNEL EXCEEDS 600mm WIDE

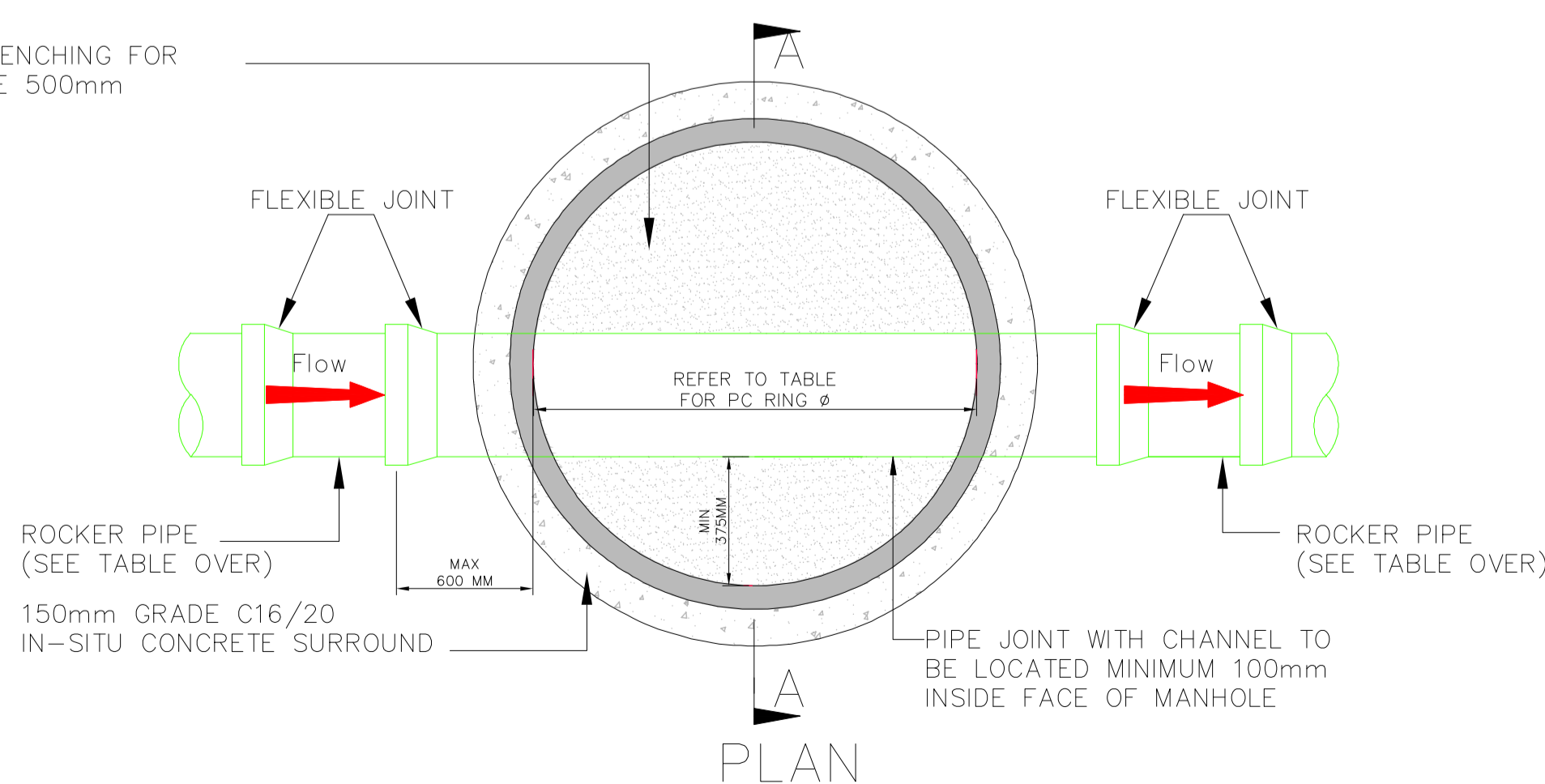
STAINLESS STEEL CHAIN IN "DOWN" POSITION SECURED TO RESTRAINING HOOK, WHEN CHAMBER IS OCCUPIED WHERE THE PIPE DIAMETER IS 450mm OR MORE

75mm GRADE C12/15 BLINDING CONCRETE TO BARREL OF PIPE

MINIMUM WIDTH OF BENCHING FOR LANDING AREA TO BE 500mm



**SECTION A-A**



**PLAN**

**NOTES**

- ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- PRE-CAST MANHOLES UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND BS 5911-PART 3.
- THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
- APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH BS 5911-PART 4 2002.
- STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
- MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.
- MANHOLE ROOFS SHALL CONSIST OF A RE-INFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS. ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH BS 5911 PART 4: 2002.
- COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.
- 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.
- ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
- ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
- NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
- EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
- IF DEPTH FROM GROUND TO PIPE SOFFIT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
- PROPRIETARY WATERTIGHT PCC MANHOLE RING SYSTEMS WITH A WALL THICKNESS > 125mm, & A WATER TIGHT JOINT SEALING SYSTEM, MAY BE USED WITHOUT CONCRETE SURROUND, SUBJECT TO THE GROUND WATER LEVEL AT THE MANHOLE BEING LOW, & SUBJECT TO REVIEW BY IRISH WATER.

MINIMUM MANHOLE DIAMETERS	
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
LESS THAN 375	1200
375 TO 450	1350
500 TO 750	1500

ROCKER PIPE LENGTH	
PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (mm)
150 TO 600	600
GREATER THAN 600 TO 750	1000
GREATER THAN 750	1250

A	Issued For Planning	May 2019	T.Finn
REV. NO.	DESCRIPTION	DATE	INITIALS

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DRAWING NO: **144** REV. NO: **A**

**GENE**

**144 A**

TITLE: **Foul Drainage Details (Sheet 2 of 3)**

PROJECT: **Residential Development @ Haggardstown Blackrock, Dundalk Co Louth.**

CLIENT: **Kingsbridge Consultancy Ltd  
1st Floor, Block 1, Quayside Business Park, Dundalk Co Louth**

SCALE: **As Shown** DRAWN: **T.Finn**

DATE: **November 2018** CHECKED: **Details**

STATUS: **Planning Permission**

JOB NO: **1703**

NOTES  
 1. Copyright Reserved 2018 ©  
 2. Work is for specific dimensions only. Do not scale drawings.  
 3. The contractor is responsible for checking all levels and dimensions on site and shall refer all discrepancies to the Architect.  
 4. Where responsible for details of civil, structure or mechanical and electrical details, see Engineers drawings.  
 5. Proprietary items shall be fixed in strict accordance with manufacturers instructions.  
 6. Sizes of proprietary items shall be checked with manufacturers.  
 7. The contractor shall be responsible for the coordination of structure frames and services.