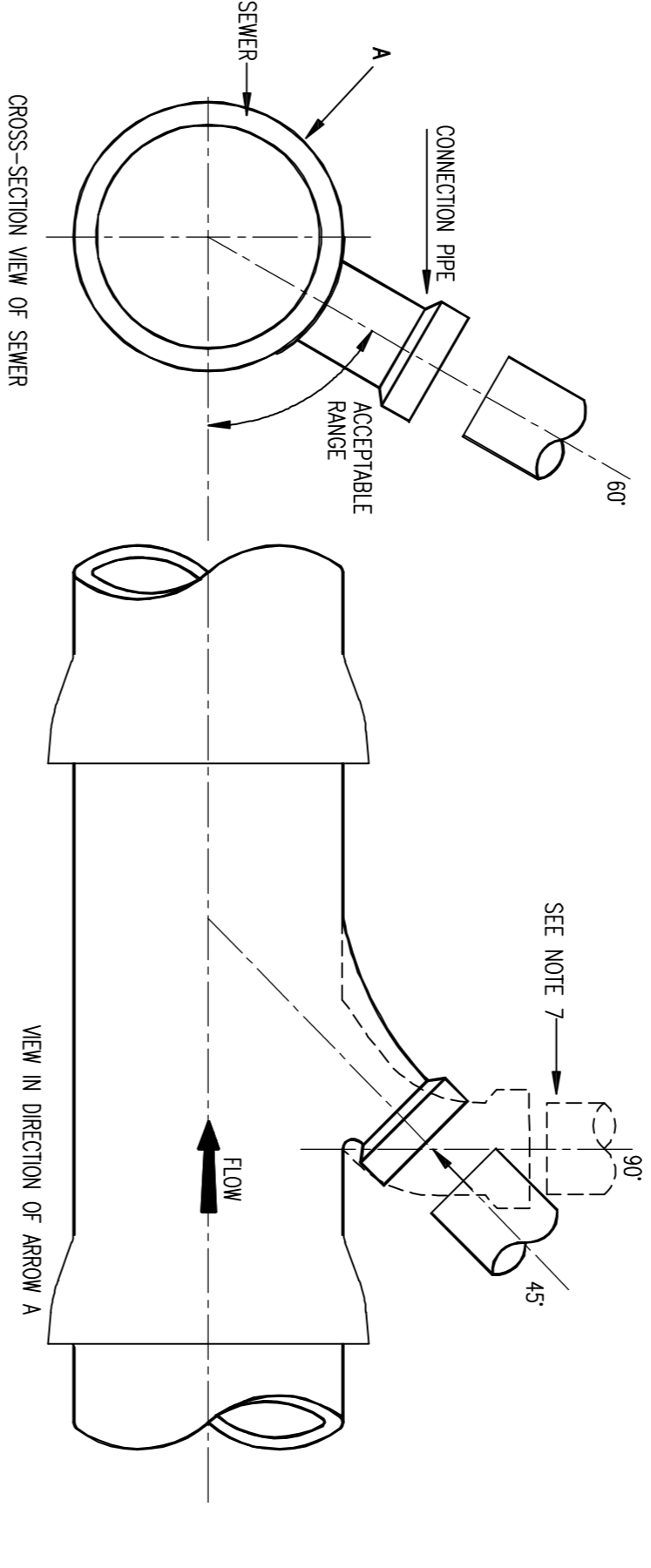
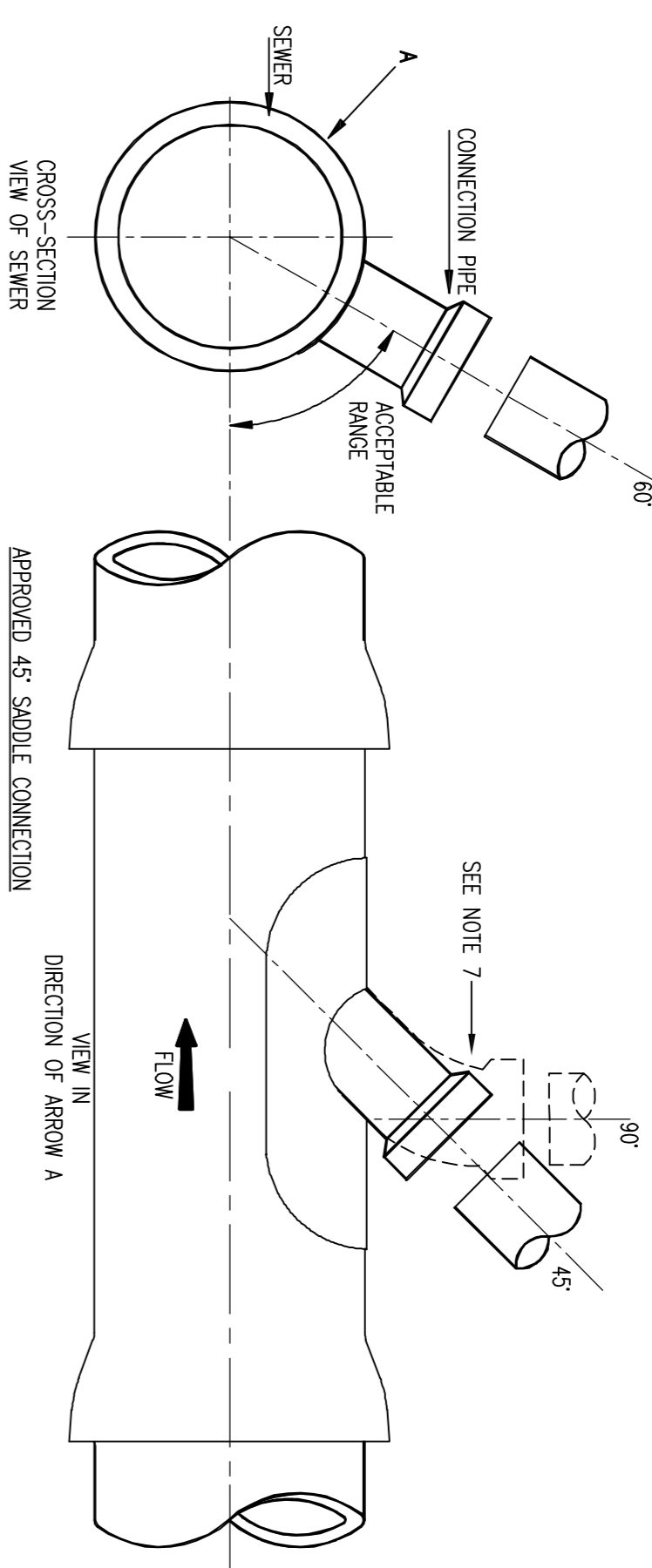


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE
2. AS FAR AS PRACTICABLE, JOINTS AND SERVICE CONNECTIONS SHALL BE BUILT IN FOR ALL PLANNED USERS WHEN THE SEWER IS BEING CONSTRUCTED, WHERE IT IS NECESSARY TO MAKE A POST-CONSTRUCTION CONNECTION THE DEVELOPER SHALL BRING THE SEWER TO THE INSPECTION CHAMBER AND SEAL THE UPSTREAM END UNTIL THE CONNECTION IS REQUIRED.
3. THE VERTICAL ANGLE BETWEEN THE SERVICE CONNECTING PIPE & THE HORIZONTAL SHALL BE GREATER THAN 0° AND NOT MORE THAN 60°
4. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER OF 300mm OR LESS, CONNECTIONS SHALL BE MADE USING 45° ANGLE JOINTS
5. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER GREATER THAN 300mm, CONNECTIONS SHALL BE CONSTRUCTED TO FORM THE CONNECTION POINT OR POINTS WITH A SLOW BOND BETWEEN THE SADDLE AND THE CONNECTION SWEET/DRAIN
6. CONNECTIONS MADE WITH SADDLE FITTINGS SHALL BE MADE BY CUTTING AND SPLITTING A CORE FROM THE PIPE AND JOINING THE SADDLE FITTING TO THE PIPE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ENSURE A WATERTIGHT JOINT. THE CONNECTION PIPE SHALL NOT PROTRUDE INTO THE SEWERS
7. THE USE OF 90° CONNECTIONS TO THE SEWER MAY BE ALLOWED SUBJECT TO IRISH WATER REVIEW, PROVIDED THE SADDLE OR BRANCH INCORPORATES A SWEEP TEE CONNECTION TOWARDS THE DIRECTION OF FLOW

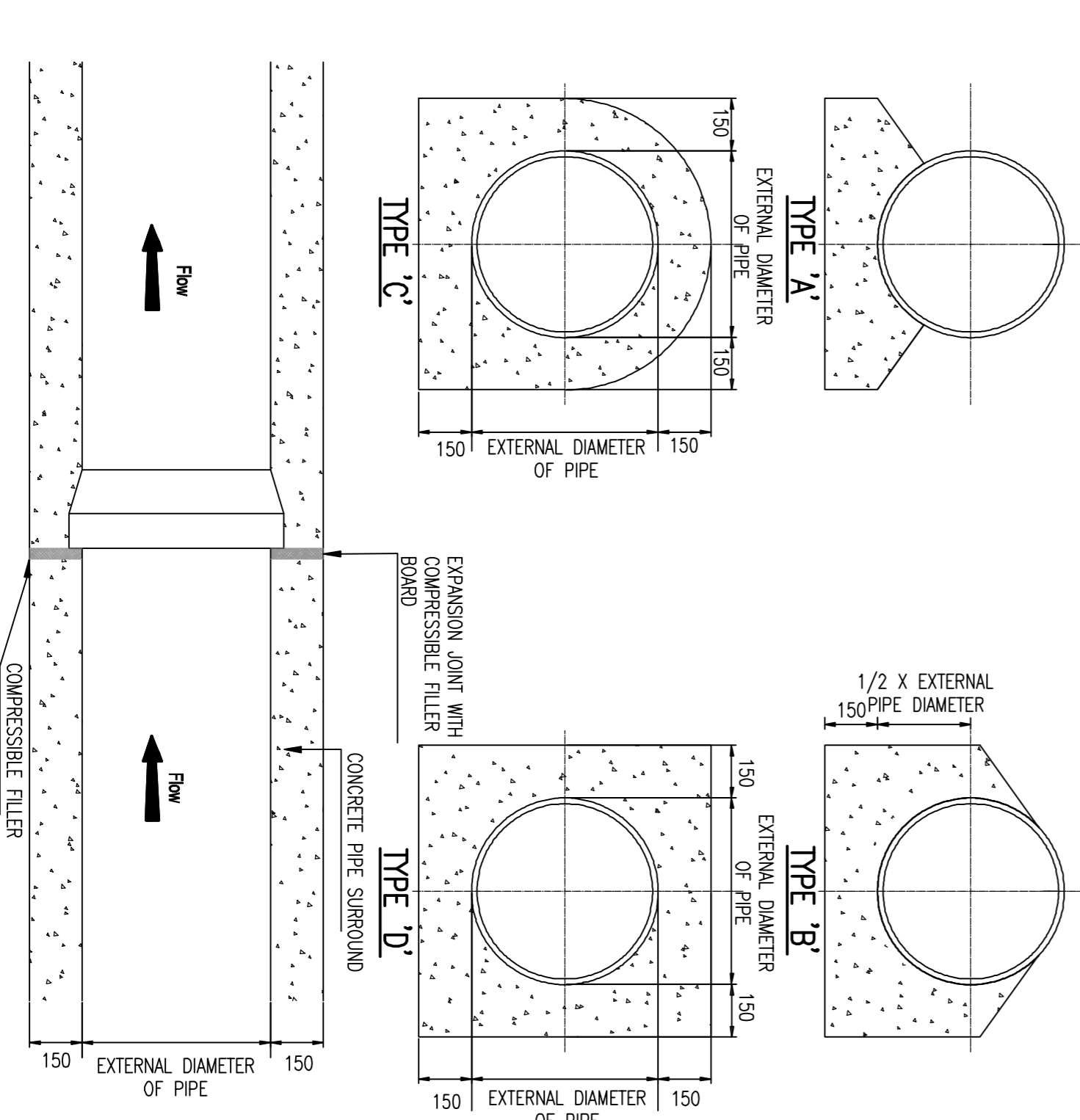


TYPICAL SEWER/SERVICE PIPE CONNECTION STD-WW-04

SCALE 1:25

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE
2. CONCRETE PIPE BEDS AND HAUNCHES MAY BE REQUIRED TO ADDRESS WATER BEFORE ADVANCING WITH THE WORKS
3. CONCRETE PIPE 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.
4. CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 AND TO BE CLASS C16/20.
5. THE HAUNCHES AND SURROUNDS TO BE FORMED USING FORM WORK TO PROVIDE A ROUGH CAST FINISH.
6. EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY, COMPRESSIBLE FILTER BOARD TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4, AND TO BE 18mm THICK.
7. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
8. BRUNNIOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES

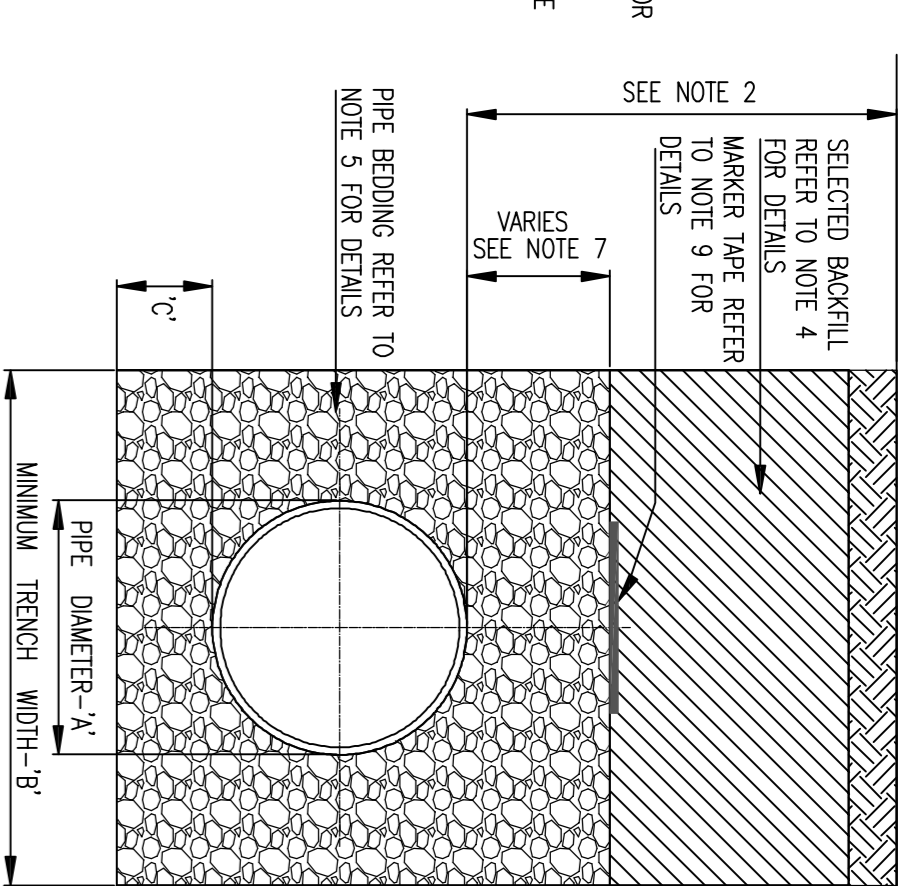


CONCRETE BED, HAUNCH AND SURROUND TO WASTEWATER PIPES STD-WW-08

SCALE 1:25

Aug 18, 2019 - 2:48pm Drawing Location: \MyProject\81818489 - Congliffin Planning Application\Drawings\Watermain Moylan\CityPlanning\SHD Application 118499-P1211 Public Foul Water Drainage Construction Details.rvt

CROSS SECTION IN GRASSED AREAS



TRENCH BACKFILL AND BEDDING STD-WW-07

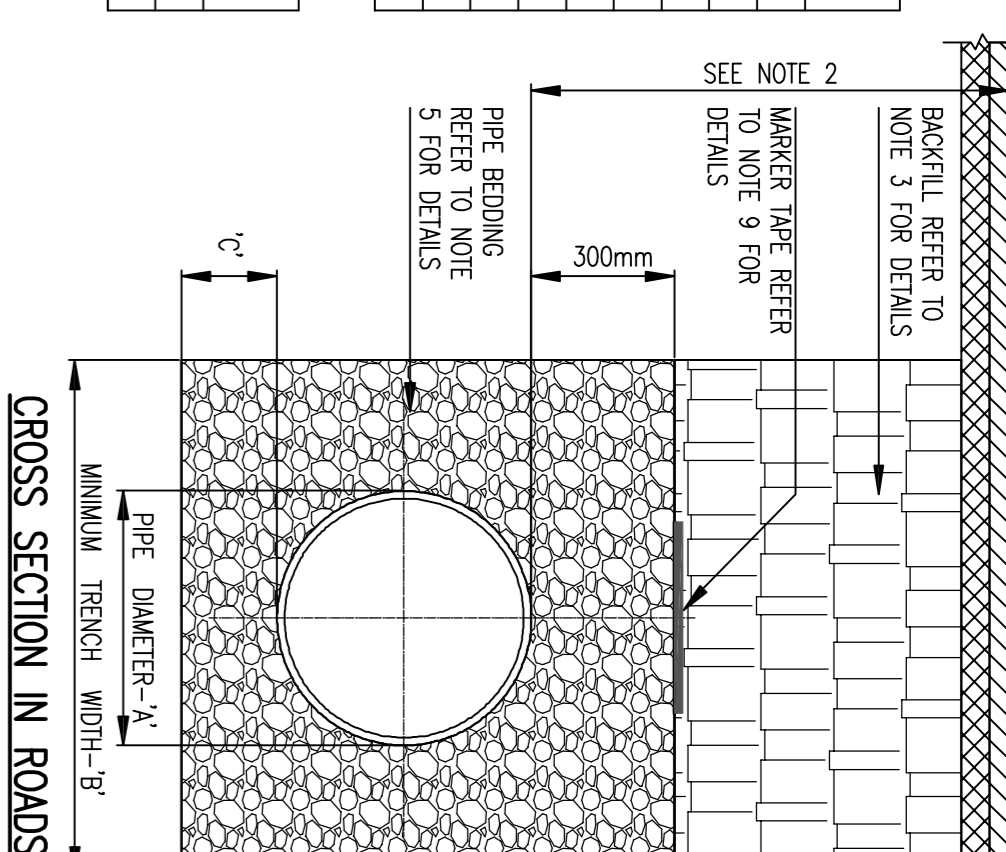
SCALE 1:25

NOTES:

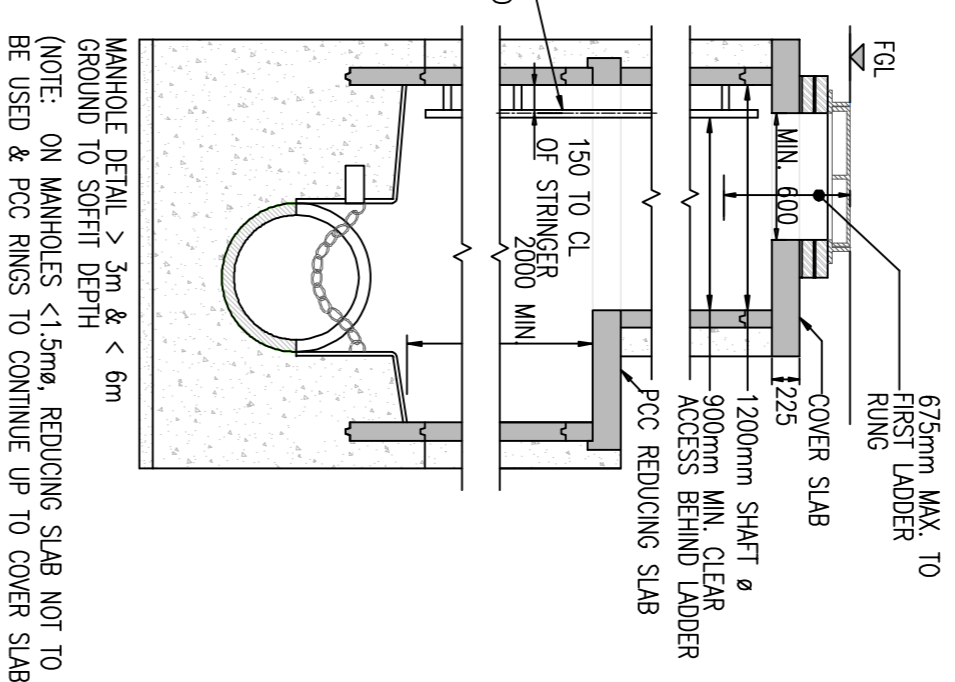
1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE
2. PRE-CAST MANHOLE UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND BS 9911-PART 3.
3. THICKER MANHOLE BAGS REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
4. APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND CONSULTATION WITH BS 5911-PART 4 2002.
5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
6. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 225mm.
7. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 225mm.
8. DESIGNER MUST COMPLY WITH BS 5911-PART 4 2002.
9. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM IRISH WATER.
10. 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.
11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
12. NEW ROAD RENAISSANCE AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY REQUIREMENTS.
13. EXISTING ROAD RENAISSANCE & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
14. TRANSPORT, TOURISM & SPORT OR TRANSPORT INFRASTRUCTURE RE-LAND REQUIREMENTS.
15. IF DEPTH FROM GROUND TO PIPE SLOTT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
16. PROPRIETARY WATERPROOF 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.

PIPE DIAMETER A (mm)	TRENCH WIDTH B (mm)	DEPTH OF BEDDING C (mm)
< 100	500	100
100 - 150	600	100
150 - 200	800	100
200 - 250	600	750
250 - 300	750	750
300 - 350	750	750
350 - 400	900	900
400 - 450	900	900

CROSS SECTION IN ROADS

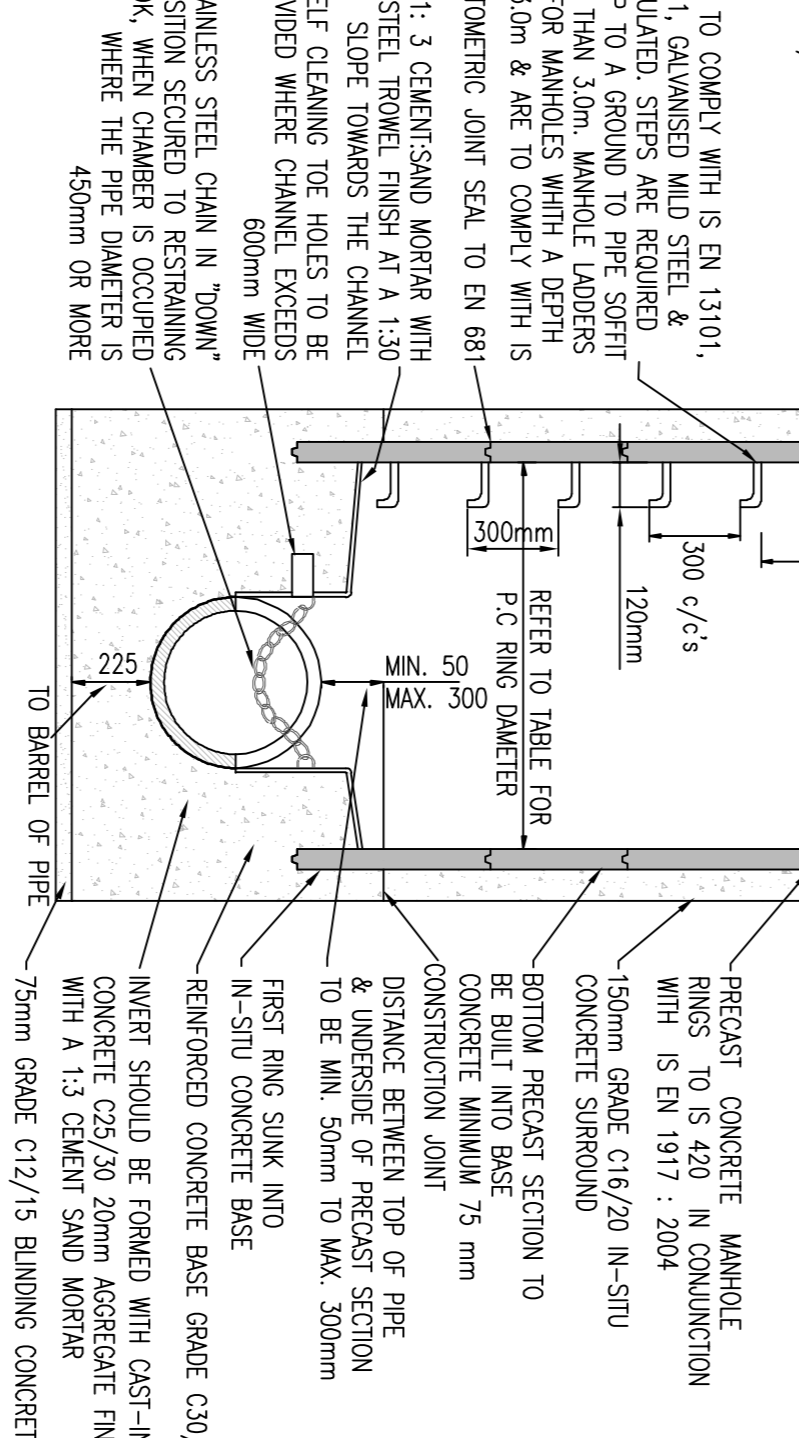


CROSS SECTION IN ROADS



MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm) MIN OPE. 600x600mm

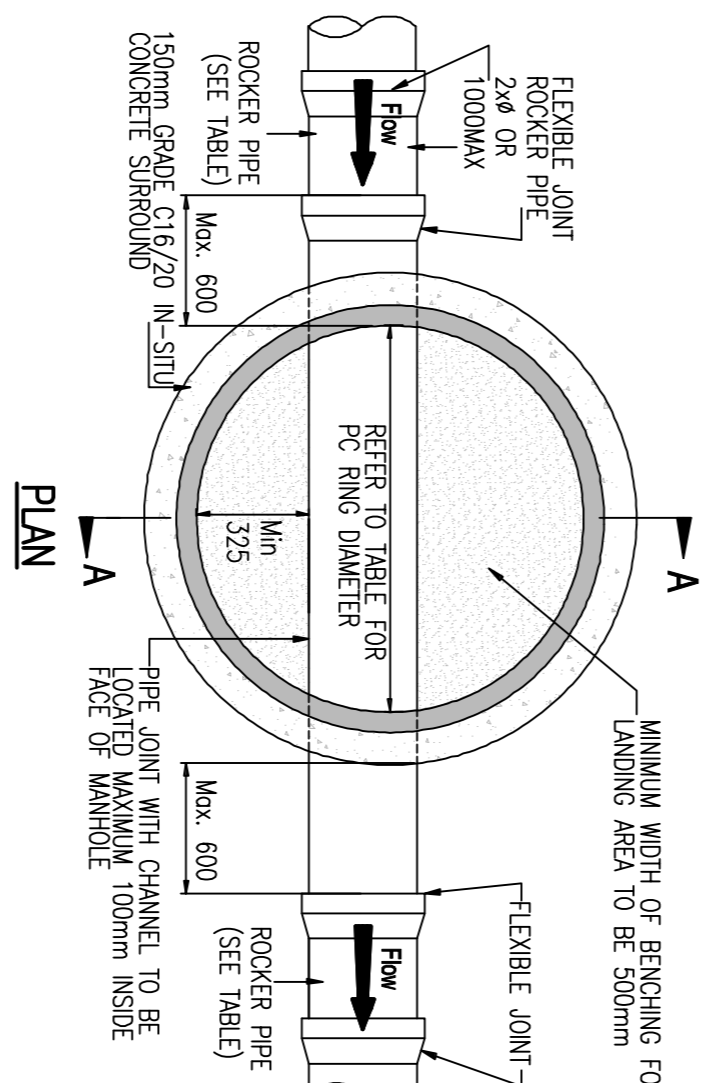
1. NO. COURSE, MIN.
3. NO. COURSES MAX OF CLASS
- NO. COURSES MAX OF CLASS
- ENGINEERING BRICKS SET IN C50/60 MORTAR



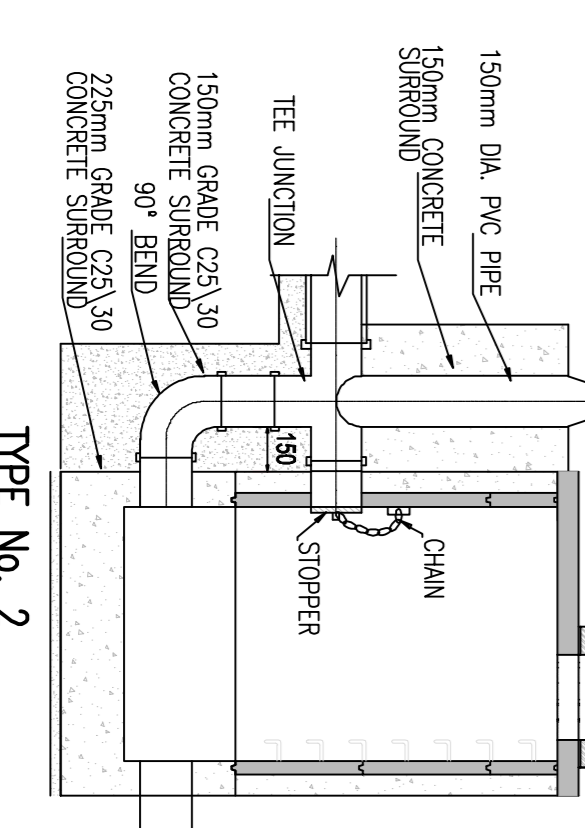
PRE-CAST CONCRETE MANHOLE STD-WW-10

SCALE 1:25

MINIMUM MANHOLE DIAMETERS	ROCKER PIPE LENGTH	INTERNAL DIAMETER OF MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
375 TO 450	1200	150 TO 600	600
450mm OR MORE	1350	GREATER THAN 600 TO 750	1000
500 TO 750	1500	GREATER THAN 750	1250

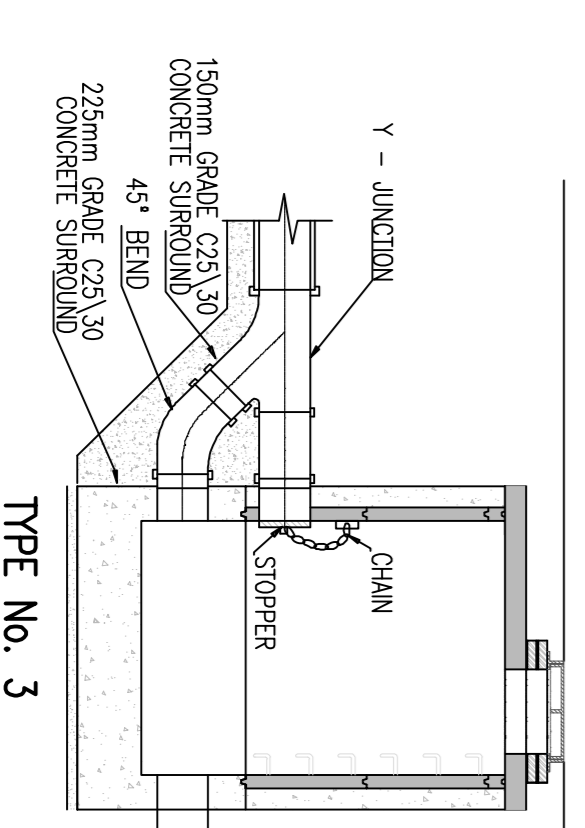


1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. DUTY METAL COVERS TO BE USED AND BS SEAL COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.
3. ON GROUND CONDITIONS CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE SHOULD ANTI FLOATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
5. MANHOLE DETAILS TO BE IN ACCORDANCE WITH STD-WW-09, 10 AND 11



BACKDROP MANHOLES STD-WW-12

SCALE 1:25



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GREAT PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS:
 - a. GARDEN PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS:
 - i. DEPTH NOT LESS THAN 100mm
 - ii. DEPTH NOT LESS THAN 100mm
 - iii. DEPTH NOT LESS THAN 100mm
 - iv. DEPTH NOT LESS THAN 100mm
 - b. OTHER PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS:
 - i. DEPTH NOT LESS THAN 100mm
 - ii. DEPTH NOT LESS THAN 100mm
 - iii. DEPTH NOT LESS THAN 100mm
 - iv. DEPTH NOT LESS THAN 100mm
3. OTHER DIMENSIONS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO DEPTH NOT LESS THAN 1.2 M.
4. OTHER DIMENSIONS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO DEPTH NOT LESS THAN 1.2 M.
5. OTHER DIMENSIONS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO DEPTH NOT LESS THAN 1.2 M.
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19. OTHER DIMENSIONS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO DEPTH NOT LESS THAN 1.2 M.
20. OTHER DIMENSIONS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO DEPTH NOT LESS THAN 1.2 M.

REV. / DATE	DESCRIPTION	BY	CHKD
A	DESIGNED FOR FINAL SUBMISSION	PJD	MD
B	AMENDMENT	DRN	APPD

FOR PLANNING NOT FOR CONSTRUCTION

Waterman Moylan
Engineering Consultants

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GERARD GANNON PROPERTIES
ARCHITECT CONROY CROWE KELLY

CLONGRIFIN SHD APPLICATION 1

PUBLIC FOUL WATER DRAINAGE CONSTRUCTION DETAILS

DRAWN	DESIGNED	APPROVED	DATE
PJD	PJD	MD	NOV 18
SCALE	1:25	1:25	1:25
1:25	1:25	1:25	1:25