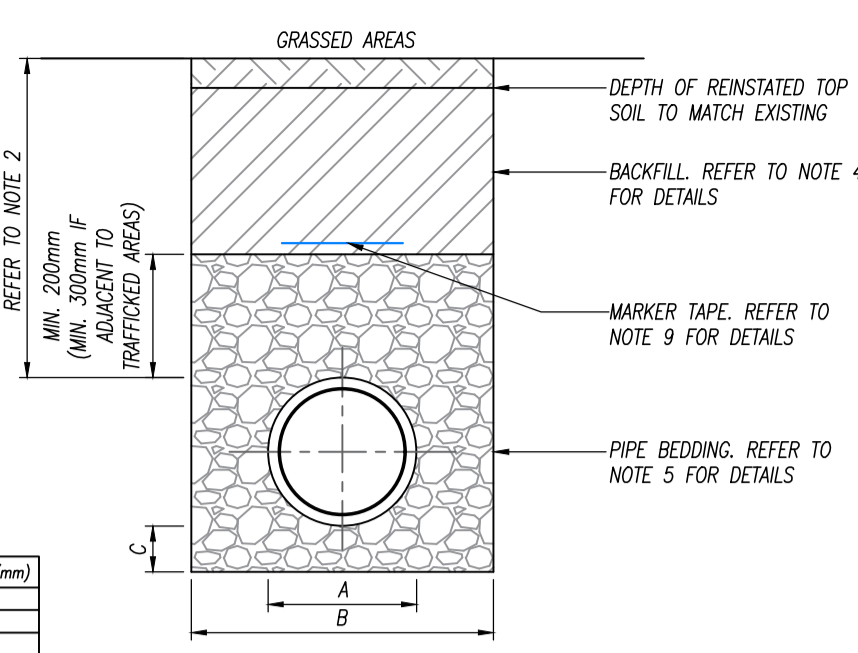


CROSS SECTION UNDER ROADWAYS/FOOTPATHS

PIPE BEDDING TYPICAL DETAIL

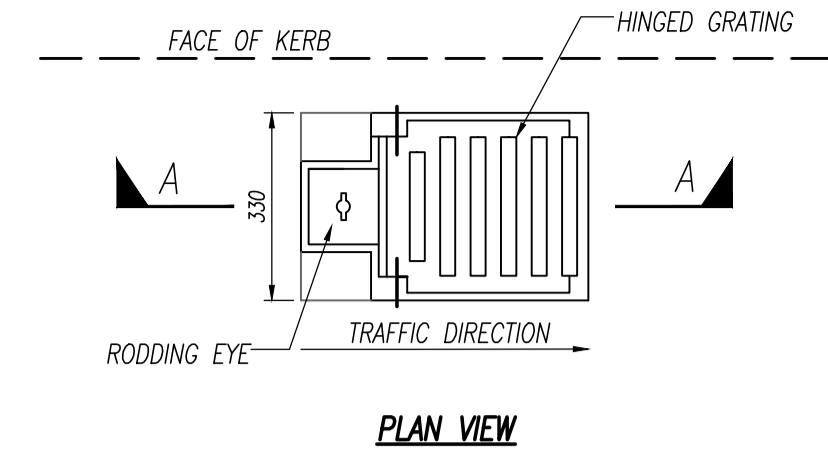
PIPE DIAMETER, A (mm)	TRENCH WIDTH, B (mm)
LESS THAN 80	SEE NOTE TO
150	600
200	600
250	750
300	750
350	750
400	900
450	900

PIPE DIAMETER, A (mm)	DEPTH OF BEDDING, C (mm)
LESS THAN 200	150
MORE THAN 250	200

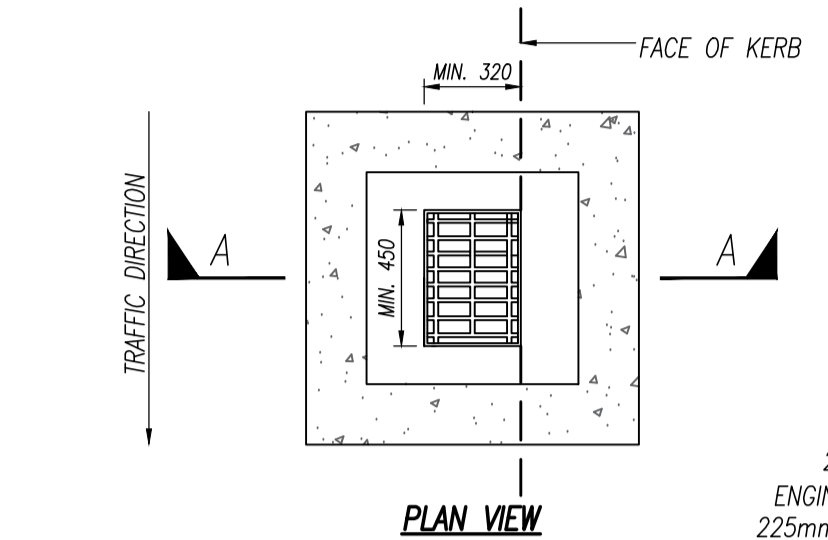


CROSS SECTION UNDER OPEN SPACE

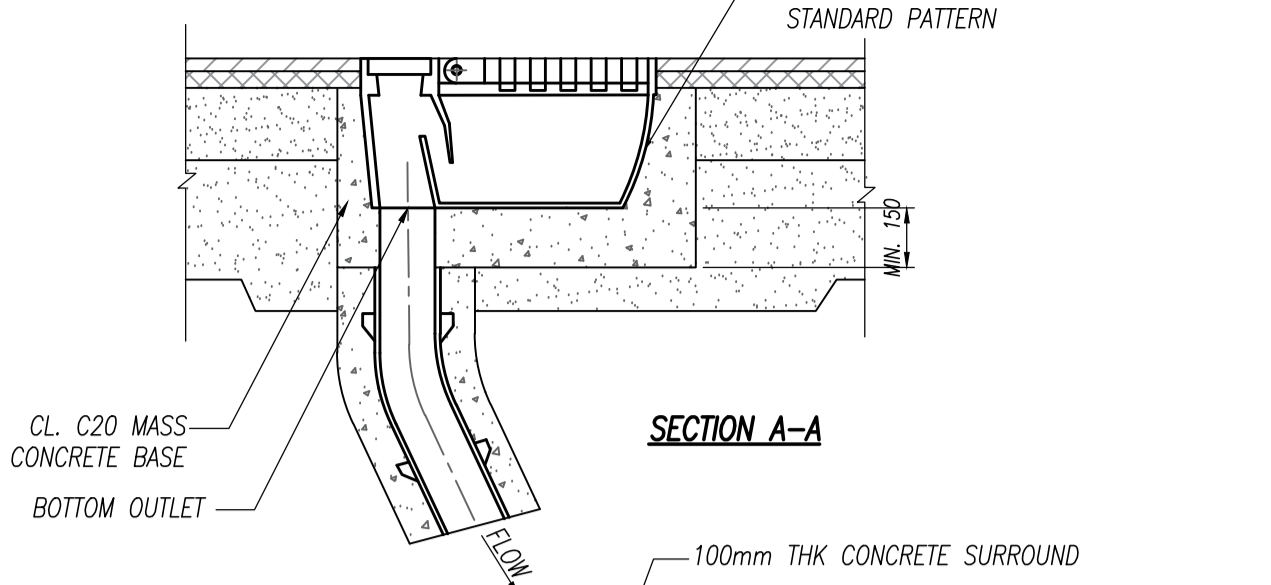
- PIPE BEDDING NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS (mm) U.N.O.
 - THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 750mm FOR SERVICE CONNECTIONS, 900mm FOR WATER MAINS. MAXIMUM COVER SHOULD NOT EXCEED 1200mm WHERE PRACTICABLE.
 - CLAUSE 808 MATERIAL COMPACTED AS PER CLAUSE 802, IN ACCORDANCE WITH NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS, TO BE USED WHERE WATER MAIN IS LOCATED IN ROADS, FOOTPATHS, WHEN NEAREST PART OF THE TRENCH IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY.
 - SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUNDING MATERIAL SUBJECT TO APPROVAL OF IRISH WATER.
 - PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01. GRANULAR MATERIAL SHALL BE 14mm TO 5mm SIZES.
 - IN SOFT GROUND CONDITIONS (CBR<5%) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH WASTE MANAGEMENT ACT AND CLAUSE 808 MATERIAL SHALL REPLACE IT, WRAPPED IN GEOTEXTILE WRAPPING. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS (PILING ETC) MAY BE REQUIRED WHERE DEPTH OF THE SOFT MATERIAL IS EXCESSIVE, SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING.
 - PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY OTHER HARD OBJECT AT ANY POINT ALONG THE TRENCH. ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 804 MATERIAL IN ACCORDANCE WITH NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
 - SHOULD MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE CB/10 SHALL BE USED AS BACKFILL MATERIAL.
 - MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 12163. PLASTIC PIPES SHALL HAVE WARNING TAPE INCORPORATED REINFORCED BAND BRACING WIRE. SERVICE PIPES SHALL HAVE 200mm WIDE MESH TAPE. MARKER TAPE TO BE LAID AT TOP OF PIPE BEDDING LAYER.
 - TRENCH WIDTHS FOR PIPE SIZES LESS THAN 80mm MAY BE LESS THAN 500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY AND CONSTRUCTION ACCESS REQUIREMENTS.



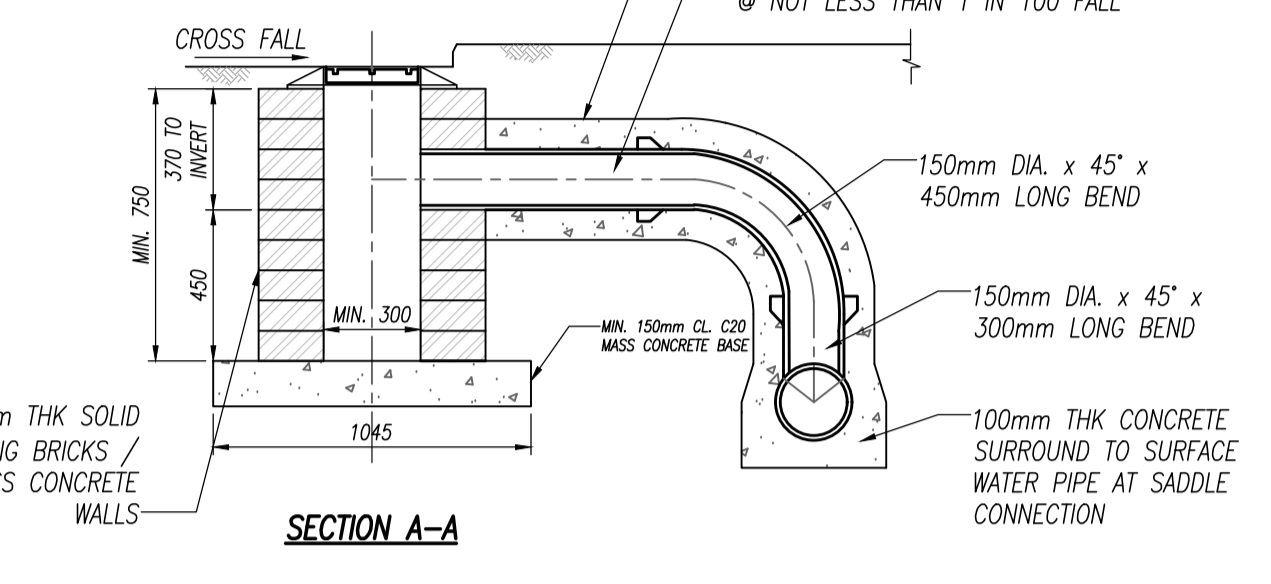
SEEALED GULLY TYPICAL DETAIL



UNSEALED GULLY TYPICAL DETAIL

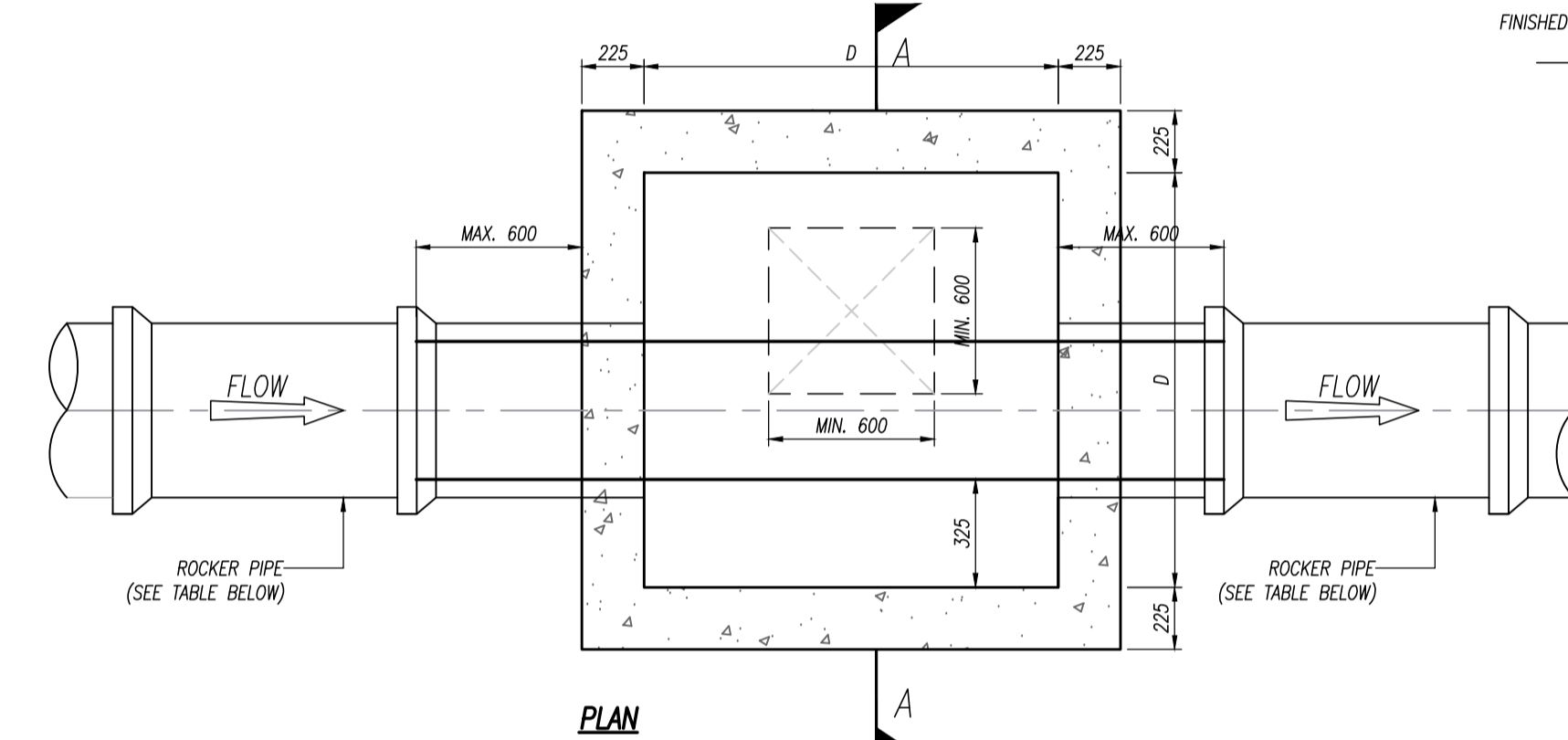


SECTION A-A

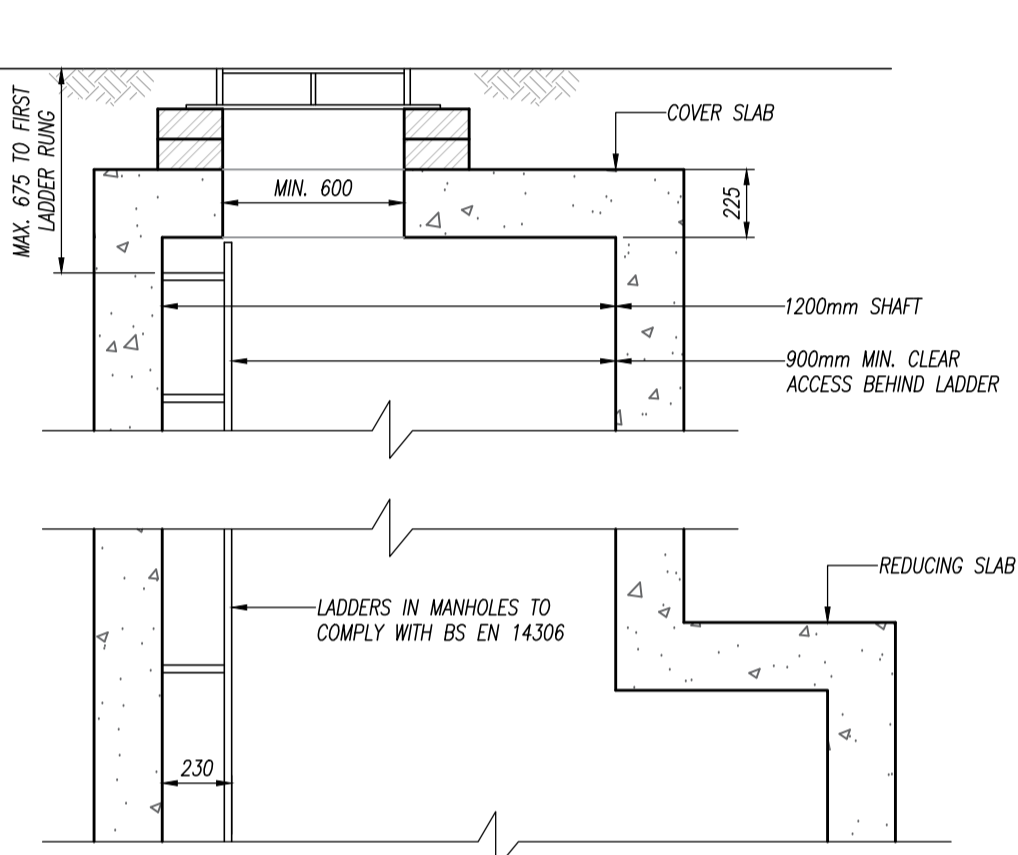


SECTION A-A

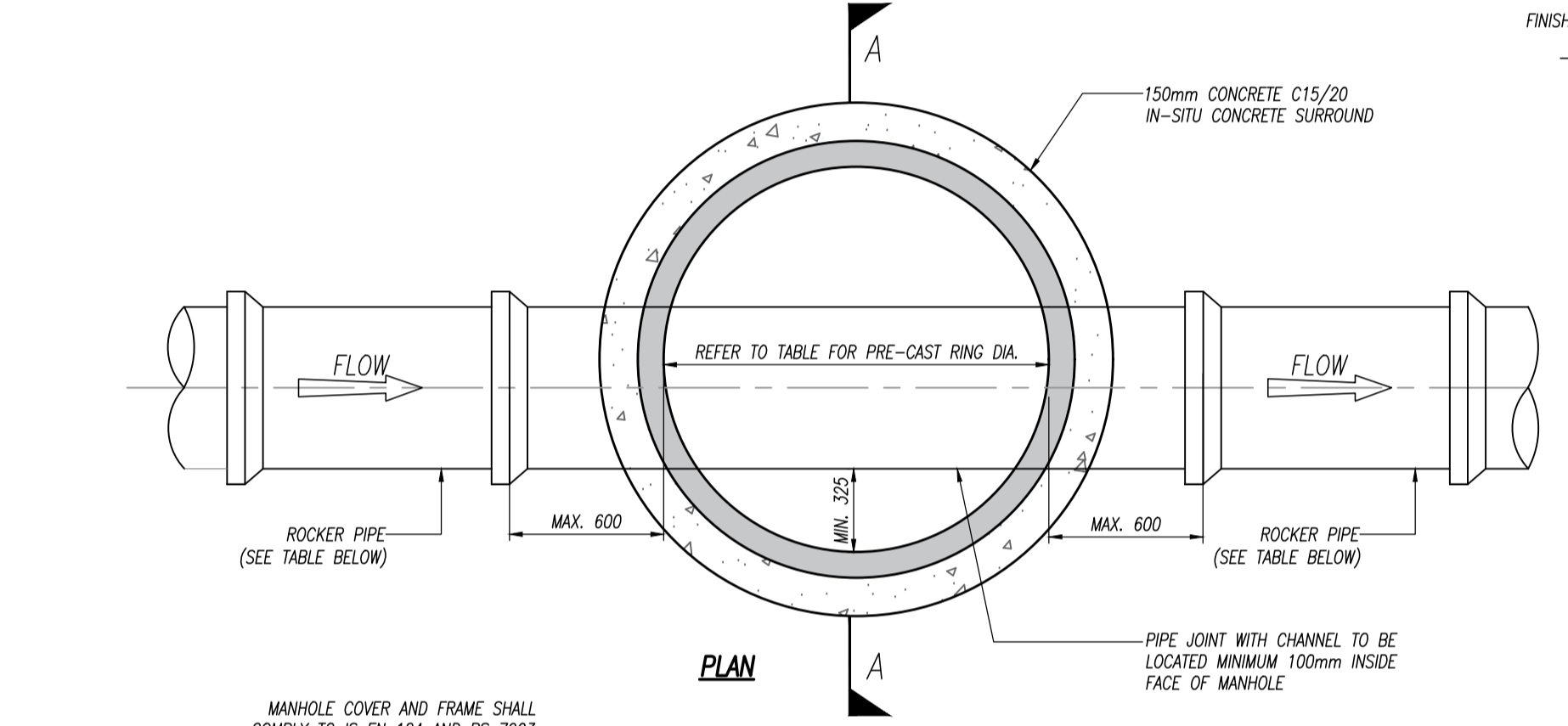
- ROAD GULLY NOTES:**
- ROAD GULLIES, GRATINGS AND FRAMES SHALL CONFORM TO EN 124, CLASS D400. THE SPACING OF ROAD GULLIES MUST SUIT THE REQUIREMENTS OF SPECIFIC ROAD LAYOUT. ONE GULLY POT TO 200m² OF PAVED AREA; LOW POINTS ON ROADWAY REQUIRE ADDITIONAL GULLIES.
 - GULLIES TO BE HINGED AT RIGHT ANGLES TO KERB LINE SO THAT THEY CLOSE WITH DIRECTION OF TRAFFIC AND SLOTS MUST BE AT RIGHT ANGLES OR DIAGONAL TO THE KERB.
 - SEALED GULLIES TO HAVE BOTTOM OUTLETS AND UNSEALED GULLIES TO HAVE SIDE OUTLETS.
 - FOUNDATION SLABS FOR GULLY PITS TO BE MIN. 150mm THICKNESS AND BUILT IN CL. C20 IN SITU CONCRETE.
 - EACH GULLY TO HAVE A SEPARATE 150mm CONNECTION SURROUNDED BY 150mm CL. 20N/20mm CONCRETE. GULLIES SHALL NOT BE INTERCONNECTED.
 - WHEN CONNECTING TO PUBLIC SEWERS, 7° TO 45° BENDS TO BE USED AS REQUIRED AND SADDLE JUNCTION FITTED TO MAKE THE CONNECTION TO THE SEWER. LONG RADIUS BENDS ARE PREFERRED.
 - GULLY CONNECTIONS SHOULD NOT EXCEED 10m IN LENGTH. CONNECTIONS GREATER THAN 30m LONG REQUIRE AN ADDITIONAL MANHOLE.
 - WHEN CONNECTED TO MANHOLES, GULLIES GULLIES SHALL BE CONNECTED AT THE BENCHING LEVEL OR MAX. 500mm ABOVE INVERT OF MAIN PIPE.



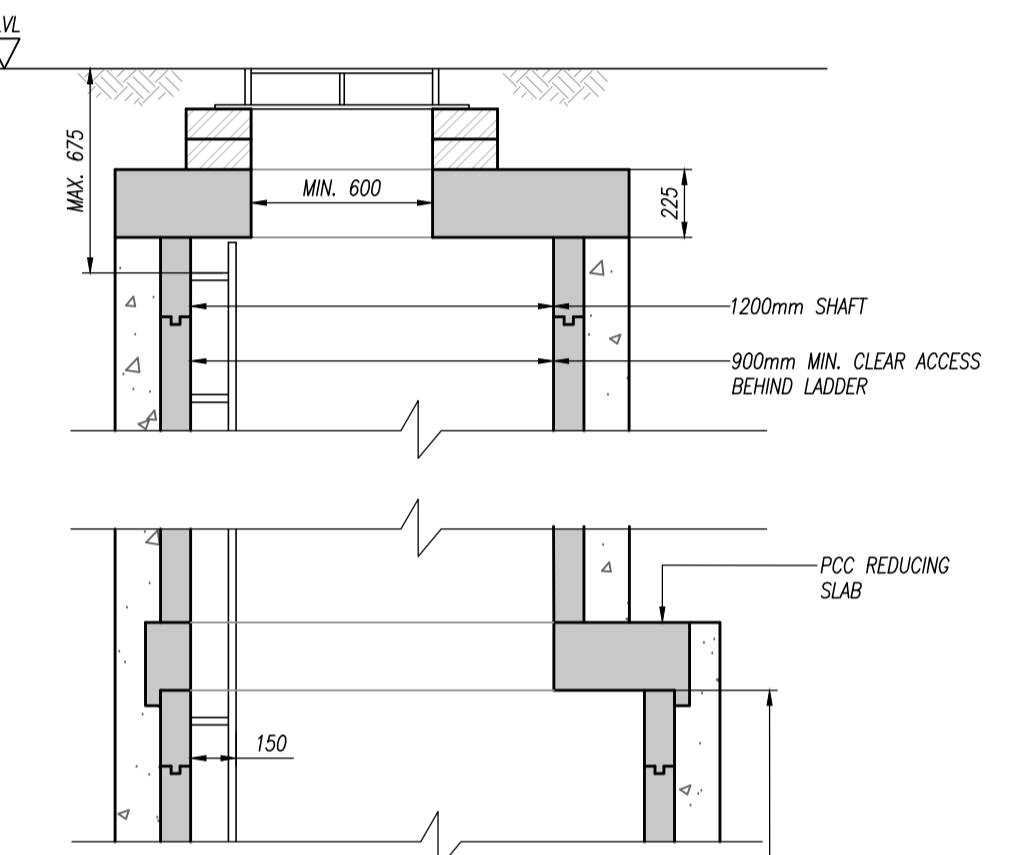
PLAN



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



PLAN



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

ROCKER PIPE LENGTH

PIPE DIA. (mm)	ROCKER PIPE LENGTH (mm)
150 to 600	600
600 to 750	1000
>750	1250

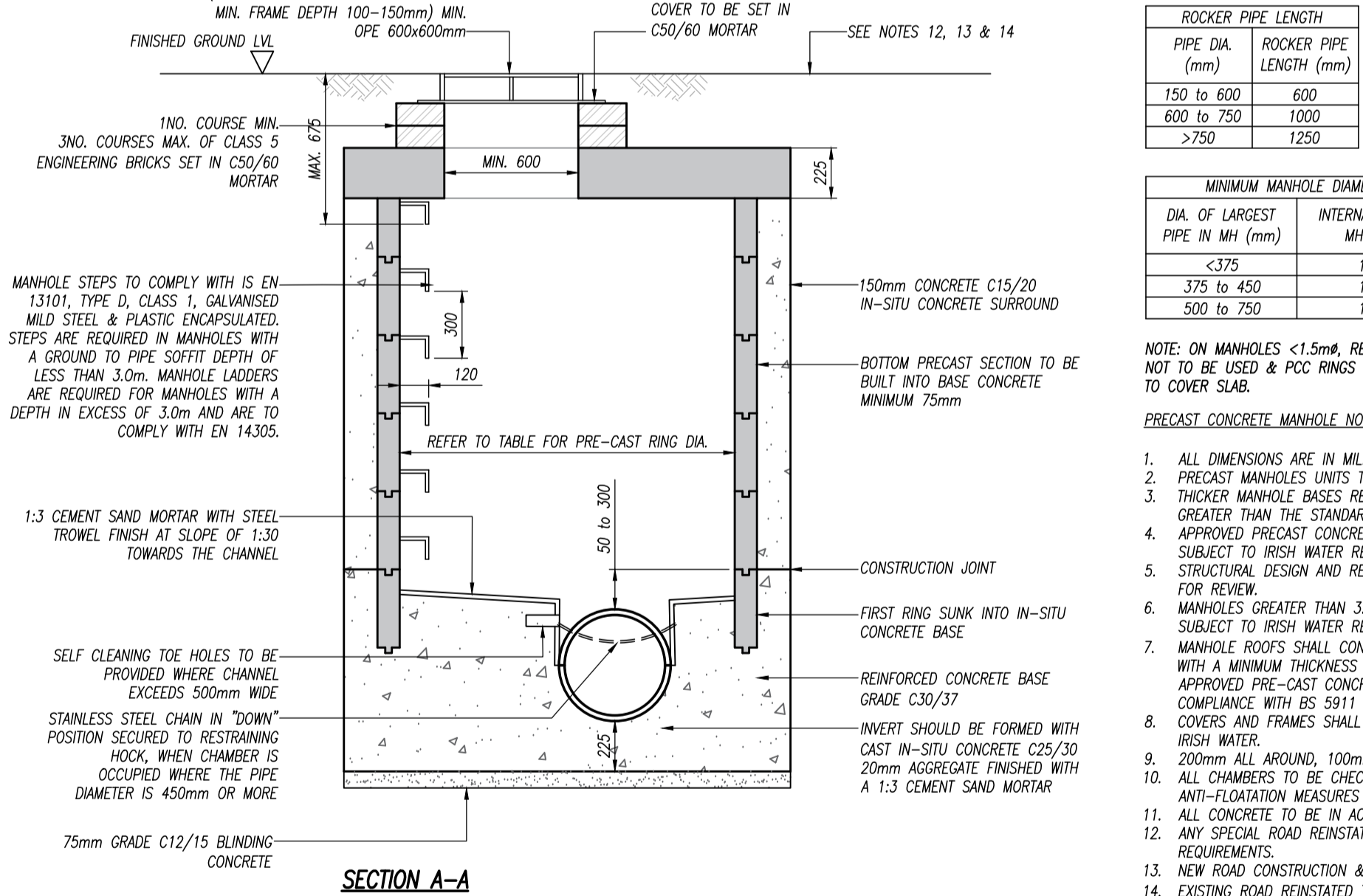
MINIMUM MANHOLE DIMENSION 'D'

DIA. OF LARGEST PIPE IN MH (mm)	INTERNAL DIMENSION OF MH (mm)
<375	1200
375 to 450	1350
500 to 750	1500

NOTE: ON MANHOLES <1.5m SHAFT DIMENSION, REDUCING SLAB NOT TO BE USED & SHAFT TO CONTINUE UP TO COVER SLAB.

CAST-IN-SITU CONCRETE MANHOLE NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES (mm) U.N.O.
- IN-SITU MANHOLES TO HAVE A MINIMUM WALL AND FLOOR THICKNESS OF 225mm FOR MANHOLE DEPTHS UP TO 3.0m AND 300mm OR MORE WHEN THE MANHOLE DEPTH EXCEEDS 3.0m.
- MANHOLE ROOFS SHALL CONSIST OF A REINFORCED 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 APPROVAL AND COMPLIANCE WITH BS 5911 PART 4: 2002.
- MANHOLES GREATER THAN 3.0m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.
- 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 BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 208: 2013.
- ANY SPECIAL ROAD REINSTATEMENT AROUND COVER AND FRAME SHALL BE TO ROAD AUTHORITIES REQUIREMENTS.
- NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
- EXISTING ROAD REINSTATED TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPARTMENT OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
- IF DEPTH FROM GROUND TO PIPE SOFFIT EXCEEDS 6.0m, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.



SECTION A-A

PRECAST CONCRETE MANHOLE TYPICAL DETAIL

ROCKER PIPE LENGTH

PIPE DIA. (mm)	ROCKER PIPE LENGTH (mm)
150 to 600	600
600 to 750	1000
>750	1250

MINIMUM MANHOLE DIAMETERS

DIA. OF LARGEST PIPE IN MH (mm)	INTERNAL DIA. OF MH (mm)
<375	1200
375 to 450	1350
500 to 750	1500

NOTE: ON MANHOLES <1.5m, REDUCING SLAB NOT TO BE USED & PCC RINGS TO CONTINUE UP TO COVER SLAB.

PRECAST CONCRETE MANHOLE NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES (mm) U.N.O.
- PRECAST MANHOLE UNITS TO COMPLY WITH REQUIREMENTS OF IS EN 1917 AND BS 5911-PART 3.
- THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3.0m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
- APPROVED PRECAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH BS 5911-PART 4: 2002.
- STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED AND SUBMITTED TO IRISH WATER FOR REVIEW.
- MANHOLES GREATER THAN 3.0m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.
- MANHOLE ROOFS SHALL CONSIST OF A REINFORCED 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 APPROVAL 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 BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 208: 2013.
- ANY SPECIAL ROAD REINSTATEMENT AROUND COVER AND FRAME SHALL BE TO ROAD AUTHORITIES REQUIREMENTS.
- NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
- EXISTING ROAD REINSTATED TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPARTMENT OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
- IF DEPTH FROM GROUND TO PIPE SOFFIT EXCEEDS 6.0m, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
- PROPRIETARY WATERTIGHT PCC MANHOLE RING SYSTEMS WITH A WALL THICKNESS >125mm AND A WATER TIGHT JOINT SEALING SYSTEM MAY BE USED WITHOUT CONCRETE SURROUND, SUBJECT TO THE GROUND WATER LEVEL AT THE MANHOLE BEING LOW AND SUBJECT TO REVIEW BY IRISH WATER.

- NOTES**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER APPROPRIATE DRAWINGS AND SPECIFICATIONS.
 - DO NOT SCALE, USED FIGURED DIMENSIONS ONLY.
 - ARCHITECTURAL LAYERS RECEIVED FROM MCCROSSAN O'ROURKE MANNING ARCHITECTS, 1 GRANTHAM STREET, DUBLIN 8, D08 A497. TEL: 01 478 8700. EMAIL: arch@mccorm.ie
 - ALL WORKS TO COMPLY WITH THE IRISH WATER CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE AND THE RELEVANT IRISH WATER STANDARD DETAILS.

STATUS FOR PLANNING ONLY				CLIENT KIMPTON VALE LTD			
				ARCHITECT MCCROSSAN O'ROURKE MANNING ARCHITECTS			
				TITLE STANDARD DRAINAGE DETAILS			
				DRAWN AMT			
				DESIGNED AMT			
				APPROVED SMQ			
				DATE 16/09/2019			
REV. DATE				AMENDMENT			
				SCALE AS SHOWN			
				JOB NO. 18-178			
				DRG. NO. P007			
				REVISION			

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PROJECT WINDMILL, PORTERSTOWN, CLONSILLA, DUBLIN 15

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