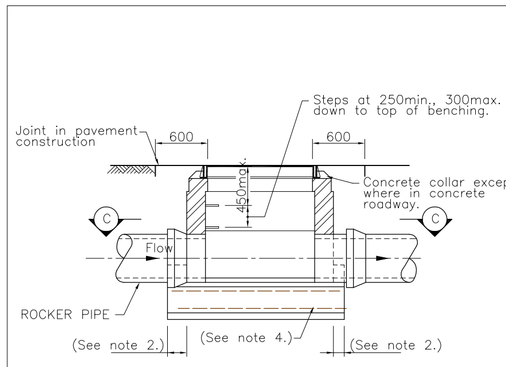
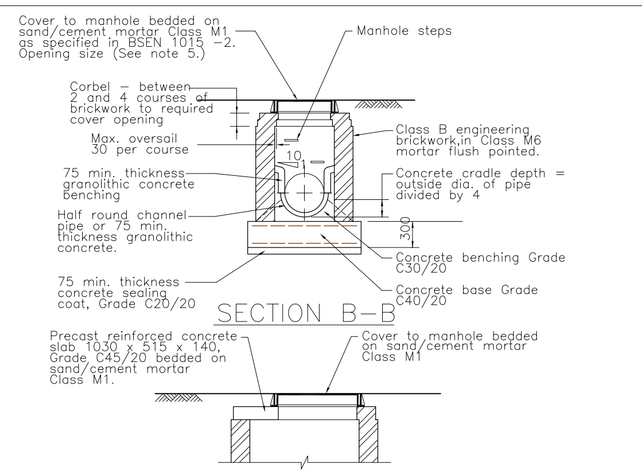
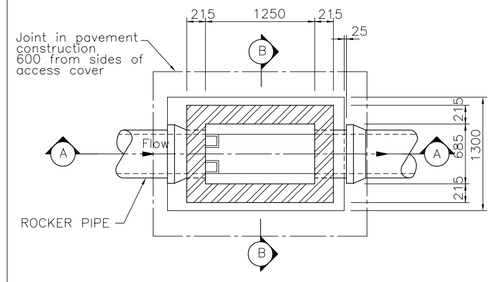


SECTION A–A



SECTION B–B

DETAIL 1 – alternative cover



SECTION C–C

NOTES
1. This detail is for depth from cover level to soffit of outgoing pipe not exceeding 450 dia.
2. All pipes built into manholes to be supported over full length up to the first joint outside the structure with concrete beds cast integrally with base concrete. The first joint shall be 400max. from face of structure or 150 min. if socket faces the structure.
3. Granolithic concrete and channel inverts shall be formed to the same gradient as the largest outgoing pipe, with min. of 5 fall across manhole. Branch pipe soffits not to be lower than main incoming pipe soffit.
4. Reinforcement in base slab to be A393 fabric mesh reinforcement, 1 layer top and bottom with 50 mm concrete cover.
5. Covers to manholes in roads shall be 1200x600 min. clear opening multiple double triangular, designed for wheel loads of 11.50 tonnes.
   Covers to manholes in private drives and footpaths may alternatively be 900x600 min. clear opening, as Detail 1, designed for wheel loads of 5 tonnes.
6. This design is not for use in motorways nor heavily trafficked primary routes.
7. Where manholes are in road, top of manhole cover set to align with adjacent road surface before construction of infill section around cover.
8. "Designated Mixes" to BS5328, Part 2, Section 5 may be used instead of "Designed Mixes" (Grade) as follows:

Grade Reference	Designated Mix
C20/20	. . .
C30/20	. . .
C40/20	. . .

The choice of "Designated Mix" is determined by the site sulphate classification of . . .

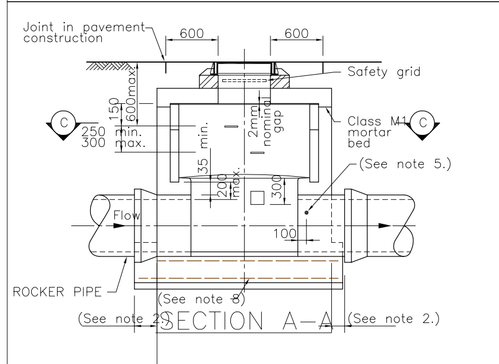
MANHOLE RING DIAMETERS AND NO. OF TOE HOLES

MAX. PIPE DIA.	NO. OF INCOMING PIPES 1	2	3	NO. OF TOE HOLES
UPTO 375	1200	1200	1200	–
450	1350	1350	1500	–
600	1500	1500	1800	1
900	1800	1800	2100	2
1200	2100	Special	Special	3

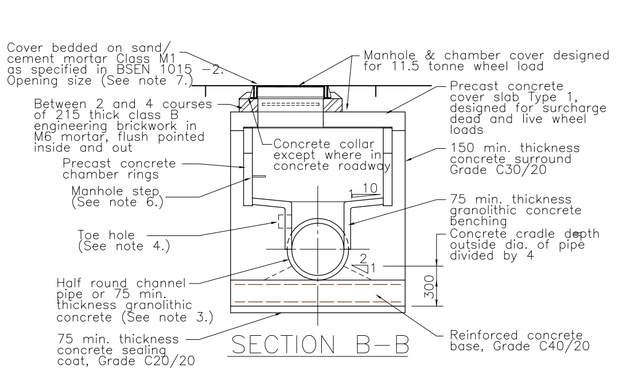
ROCKER & BUTT PIPES DATA

NOMINAL SIZE OF PIPE	EFFECTIVE LENGTH	
	ROCKER PIPE	BUTT PIPE
DN	m	m
300–600	0.6	0.6
675–1200	1.0	1.25
1350–1800	1.25	1.25

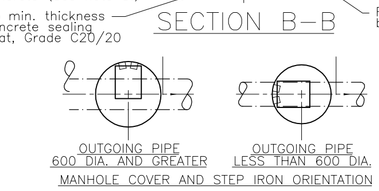
TYPICAL MANHOLE TYPE A



SECTION A–A



SECTION B–B



MANHOLE COVER AND STEP IRON ORIENTATION

NOTES
1. This detail is for depth from cover level to soffit of outgoing pipe exceeding 800 but not exceeding 1800.
2. All pipes built into manholes to be supported over full length up to the first joint outside the structure with concrete beds cast integrally with base concrete. The first joint shall be 400 max. from face of structure or 150 min. if socket faces the structure.
3. Granolithic concrete and channel inverts shall be formed to the same gradient as the largest outgoing pipe, with min. of 5 fall across manhole.
4. When largest pipe exceeds 400 dia. toe holes shall be provided with min. dimensions of 150x150x150 deep with 300 vertical spacing.
5. Safety rope or chain shall be provided at entrance of outgoing pipe if pipe exceeds 700 dia.
6. Either manhole steps or ladders to be used to suit Employer's requirements.
   If portable access ladders are specified, install lockable safety grid.
7. Cover opening to be 750x600 or as specified.
8. Reinforcement in base slab to be A393 fabric mesh reinforcement, 1 layer top and bottom with 50 mm concrete cover.
9. This cover design is not for use in motorways nor heavily trafficked primary routes.
10. Where manholes are in road, top of manhole cover set to align with adjacent road surface before construction of infill section around cover.
11. "Designated Mixes" to BS5328, Part 2, Section 5 may be used instead of "Designed Mixes" (Grade) as follows:

Grade Reference	Designated Mix
C20/20	. . .
C30/20	. . .
C40/20	. . .

The choice of "Designated Mix" is determined by the site sulphate classification of . . .

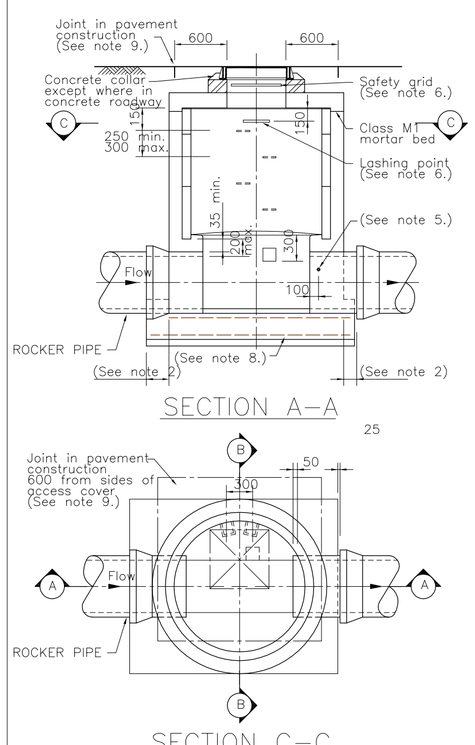
ROCKER & BUTT PIPES DATA

NOMINAL SIZE OF PIPE	EFFECTIVE LENGTH	
	ROCKER PIPE	BUTT PIPE
DN	m	m
300–600	0.6	0.6
675–1200	1.0	1.25
1350–1800	1.25	1.25

MANHOLE RING DIAMETERS AND NO. OF TOE HOLES

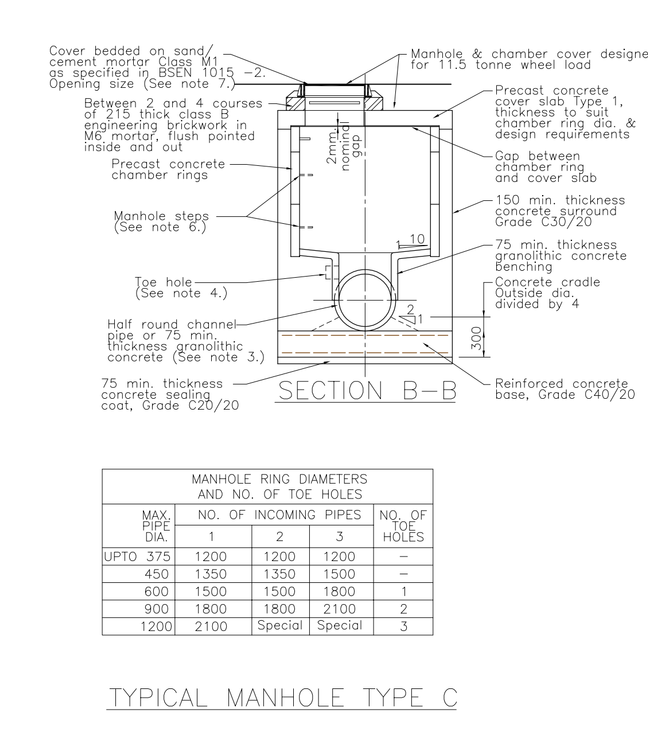
MAX. PIPE DIA.	NO. OF INCOMING PIPES 1	2	3	NO. OF TOE HOLES
UPTO 375	1200	1200	1200	–
450	1350	1350	1500	–
600	1500	1500	1800	1
900	1800	1800	2100	2
1200	2100	Special	Special	3

TYPICAL MANHOLE TYPE B



SECTION C–C

SECTION A–A



SECTION B–B

NOTES
1. This detail is for depth from cover level to soffit of outgoing pipe exceeding 1800 but not exceeding 2700.
2. All pipes built into manholes to be supported over full length up to the first joint outside the structure with concrete beds cast integrally with base concrete. The first joint shall be 400 max. from face of structure or 150 min. if socket faces the structure.
3. Granolithic concrete and channel inverts shall be formed to the same gradient as the largest outgoing pipe, with min. of 5 fall across manhole.
4. When largest pipe exceeds 400 dia. toe holes shall be provided with min. dimensions of 150x150x150 deep with 300 vertical spacing.
5. Safety rope or chain shall be provided at entrance of outgoing pipe if pipe exceeds 700 dia.
6. Safety grid and lashing point for use with portable access ladder to be omitted if Contract specifies chamber with step irons.
7. Cover opening to be 750x600 for ladder access, or 675 sq. if step iron access specified.
8. Reinforcement in base slab to be A393 fabric mesh reinforcement, 1 layer top and bottom with 50 mm concrete cover.
9. Where manholes are in road, top of manhole cover set to align with adjacent road surface before construction of infill section around cover.
10. "Designated Mixes" to BS5328, Part 2, Section 5 may be used instead of "Designed Mixes" (Grade) as follows:

Grade Reference	Designated Mix
C20/20	. . .
C30/20	. . .
C40/20	. . .

The choice of "Designated Mix" is determined by the site sulphate classification of . . .

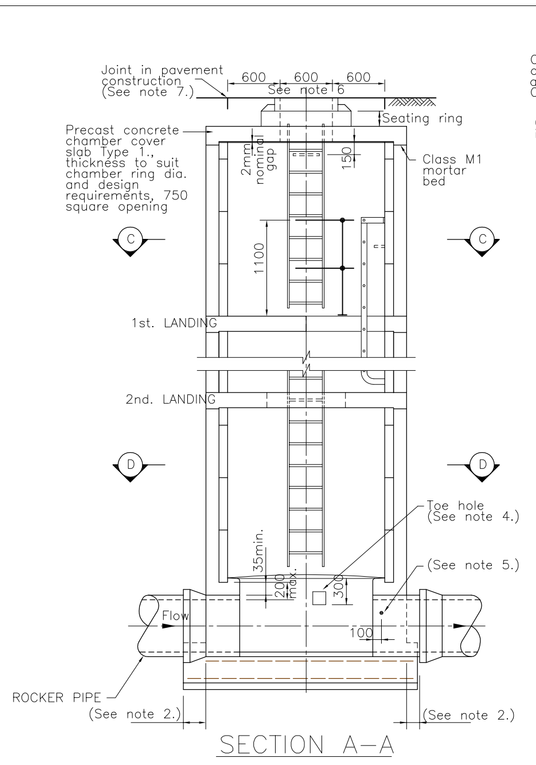
ROCKER & BUTT PIPES DATA

NOMINAL SIZE OF PIPE	EFFECTIVE LENGTH	
	ROCKER PIPE	BUTT PIPE
DN	m	m
300–600	0.6	0.6
675–1200	1.0	1.25
1350–1800	1.25	1.25

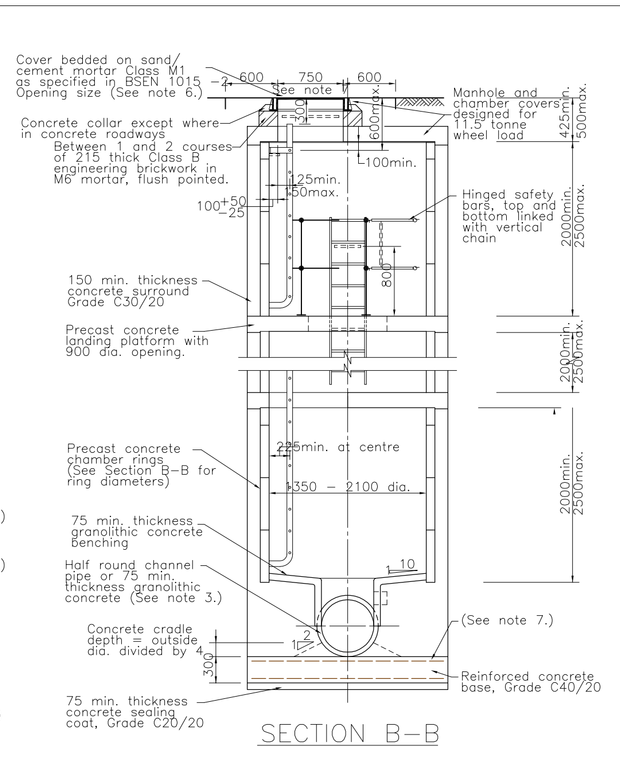
MANHOLE RING DIAMETERS AND NO. OF TOE HOLES

MAX. PIPE DIA.	NO. OF INCOMING PIPES 1	2	3	NO. OF TOE HOLES
UPTO 375	1200	1200	1200	–
450	1350	1350	1500	–
600	1500	1500	1800	1
900	1800	1800	2100	2
1200	2100	Special	Special	3

TYPICAL MANHOLE TYPE C

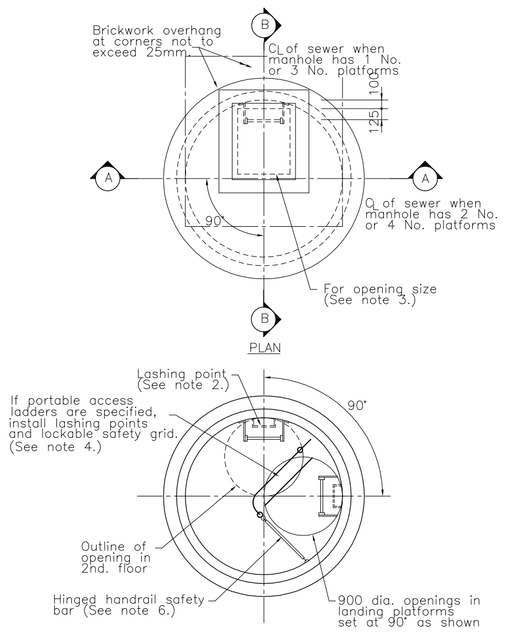


SECTION A–A

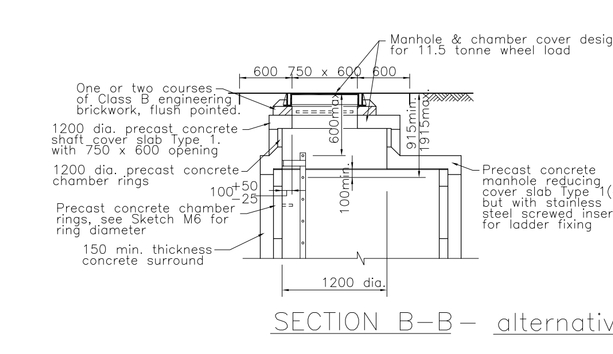


SECTION B–B

NOTES
1. This detail is for depth from cover level to soffit of outgoing pipe exceeding 2700.
2. All pipes built into manholes to be supported over full length up to the first joint outside the structure with concrete beds cast integrally with base concrete. The first joint shall be 400 max. from face of structure or 150 min. if socket faces the structure.
3. Granolithic concrete and channel inverts shall be formed to the same gradient as the largest outgoing pipe, with min. of 5 fall across manhole.
4. When largest pipe exceeds 400 dia. toe holes shall be provided with min. dimensions of 150x150x150 deep with 300 vertical spacing.
5. Safety rope or chain shall be provided at entrance of outgoing pipe if pipe exceeds 700 dia.
6. Cover opening to be 750x600 or as specified.
7. Reinforcement in base slab to be A393 fabric mesh reinforcement: manhole depth 0–5m, 1 layer T. and B. manhole depth 5–10m, 2 layers T. 1 layer B.
8. Landing platforms required when depth exceeds 4665. All openings in landing platforms to overlap by 250 approx. to give clear line access to bottom of manhole.

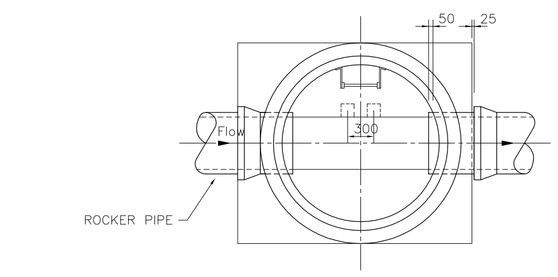


SECTION C–C



SECTION B–B – alternative cover & shaft

NOTES
1. This detail is for depth from cover level to soffit of outgoing pipe exceeding 2700.
2. Landing platforms required when depth exceeds 4665. All openings in landing platforms to overlap by 250 approx. to give clear line access to bottom of manhole.



SECTION D–D

ROCKER & BUTT PIPES DATA

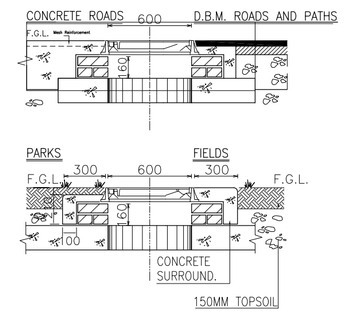
NOMINAL SIZE OF PIPE	EFFECTIVE LENGTH	
	ROCKER PIPE	BUTT PIPE
DN	m	m
300–600	0.6	0.6
675–1200	1.0	1.25
1350–1800	1.25	1.25

	MANHOLE WITHOUT PLATFORM NO SHAFT min.	max.	WITH SHAFT min.	max.	MANHOLE WITH ONE PLATFORM NO SHAFT min.	max.	WITH SHAFT min.	max.	MANHOLE WITH TWO PLATFORMS NO SHAFT min.	max.	WITH SHAFT min.	max.	COMMENTS
Cover and frame depth	165	165	165	165	165	165	165	165	165	165	165	165	Typical dimensions including bedding
Seating ring thickness	150	300	150	150	150	300	150	150	150	300	150	150	± 25 for sloping frame
Shaft cover slab thickness	–	–	150	150	–	–	150	150	–	–	150	150	Or design thickness
Chamber rings 1200 dia.	–	–	300	1300	–	–	300	1300	–	–	300	1300	Standard make–up rings
Manhole cover slab thickness	150	150	–	–	150	150	–	–	150	150	–	–	Or design thickness
Manhole cover reducing slab thk.	–	–	150	150	–	–	150	150	–	–	150	150	Or design thickness
Sub–total	465	615	915	1915	465	615	915	1915	465	615	915	1915	
Chamber depth	–	–	–	–	–	–	–	–	1950	2550	2400	2550	Typical standard rings
Platform thickness	–	–	–	–	–	–	–	–	150	150	150	150	Or design thickness
Chamber depth	–	–	–	–	1950	2550	2400	2550	1950	2550	2400	2550	Typical standard rings
Platform thickness	–	–	–	–	150	150	150	150	150	150	150	150	Or design thickness
Chamber depth	2115	2400	2100	2550	1950	2550	2400	2550	2550	2550	2550	2550	Standard make–up rings
Bottom ring to pipe barrel	150	150	150	150	150	150	150	150	150	150	150	150	Min. dimension above highest pipe
TOTAL DEPTH (cover level to soffit of outgoing pipe)	2730+	3165	3165	4615+	4665+	6015+	6015+	7315+	7365	8715+	8715+	10015+	+Plus difference in level between highest incoming pipe and outgoing pipe soffits.

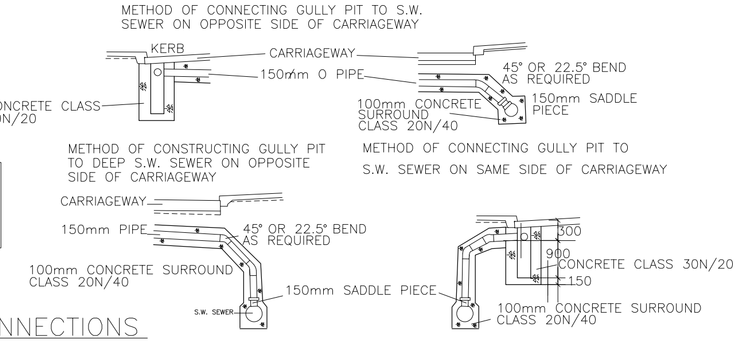
DEPTH DIMENSION GUIDE
TYPICAL MANHOLE TYPE D

MANHOLE RING DIAMETERS NO. OF TOE HOLES

MAX. PIPE DIA.	NO. OF INCOMING PIPES 1	2	3	NO. OF TOE HOLES	
600	1800	1800	1800	1	WITH PLATFORM
900	1800	1800	2100	2	
1200	2100	Special	Special	3	
450	1350	1350	1500	–	WITHOUT PLATFORM
600	1500	1500	1800	1	
900	1800	1800	2100	2	
1200	2100	Special	Special	3	



NOTE:
SEE DRG. 15079–13 FOR GULLY POT SPECIFICATIONS AND CONSTRUCTION DETAILS



ROAD GULLY CONNECTIONS
SCALE (NTS)

NOTES A3

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING. DIMENSIONS TO BE CHECKED ON SITE.
2. THIS DRAWING TO BE READ IN CONJUCTION WITH ALL OTHER ARCHITECTURAL & ENGINEERING DRAWINGS & ALL OTHER RELEVANT DRAWINGS & SPECIFICATIONS
3. ALL LEVELS RELATE TO O.S. DATUM AT MALIN HEAD UNLESS NOTED OTHERWISE

DRAINAGE NOTES:

1. SPIGOT SOCKET CONNECTION TO BE USED AT PVC–A/DUCTILE IRON JUNCTIONS.
2. WATERMAIN TO BE MDPE (PE 80) SDR17. COVER TO WATERMAIN TO BE 900mm. ALL WATERMIAN MATERIALS SHALL COMPLY WITH IRISH WATER CODE OF PRACTICE SECTION 3.9
3. ALL FOUL SEWERS TO BE CONCRETE OR PVC–U. ALL SURFACE WATER SEWERS TO BE MINIMUM CLASS H. ALL C AND SHALL COMPLY WITH IRISH WATER CODE OF PRACTICE SECTION 3.13. ALL SURFACE WATER SEWER SHALL BE CLASS H.
4. ALL WORKS SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS & CONDITIONS ISSUED BY LOCAL AUTHORITY
5. ALL WATERMAIN AND WASTEWATER WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE IRISH WATER CODE OF PRACTICES – IW–CDS–5020–03 FOR WATERMAINS AND IW–CDS–5030–03 FOR WASTEWATER
6. THE DEVELOPMENT SHALL BE CONNECTED TO THE PUBLIC SEWER TO THE SATISFACTION OF THE LOCAL AUTHORITY. THE MINIMUM COVER TO ANY SEWER PIPE SHALL BE 1.2m IN ROADS AND 0.9m IN OPEN SPACES AND FOOTPATHS NOT ADJACENT TO CARRIAGEWAYS. WHERE IT IS NOT POSSIBLE TO ACHIEVE THESE MINIMUM COVERS, PIPES SHALL BE BEDDED AND SURROUNDED IN CONCRETE 150mm THICK.
7. ALL MANHOLE COVERS AND FRAMES SHALL BE HEAVY DUTY GRADE A TO BS 497 & TO COMPLY WITH LOCAL AUTHORITY'S REQUIREMENTS
8. THE SEWERS AND MANHOLES SHALL BE LAID AND SATISFACTION OF TESTED TO THE THE LOCAL AUTHORITY. LAYING, BEDDING AND BACK FILLING OF SEWERS SHALL BE IN ACCORDANCE WITH DFK SPECIFICATIONS & DRAWINGS
9. ALL SERVICES TRENCHES IN ROADS SHALL BE BACK FILLED AND PROPERLY COMPACTED WITH GRANULAR MATERIAL AS PER DFK TYPICAL DETAILS.

Rev.	Date	Drawn By	Checked By	Revision
A	09.12.20	BS	SG	DETAILS UPDATED

Status
PLANNING

Architect
CW O'BRIEN LTD

Project
OLD SCHOOLHOUSE SITE
(FORMER CLONSILLA SCHOOL,
PROTECTED STRUCTURE RPS NO. 700),
PORTERSTOWN ROAD,
KELLYSTOWN,
CLONSILLA,
DUBLIN 15

Drg.Title
TYPICAL MANHOLE DETAILS SHEET 2

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Drawn By	Scale
BS	AS SHOWN
Checked By	Date
CK	31–03–20
Drg.No. 19160–11	Rev. A