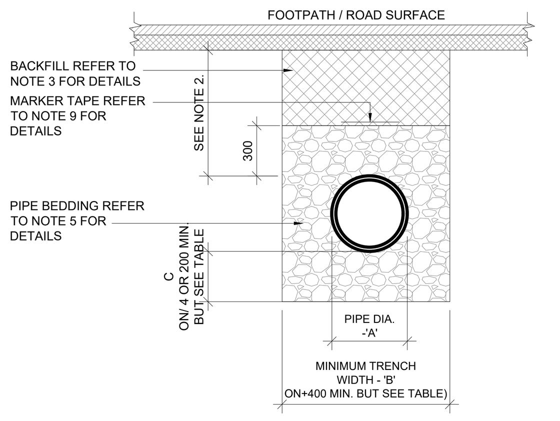
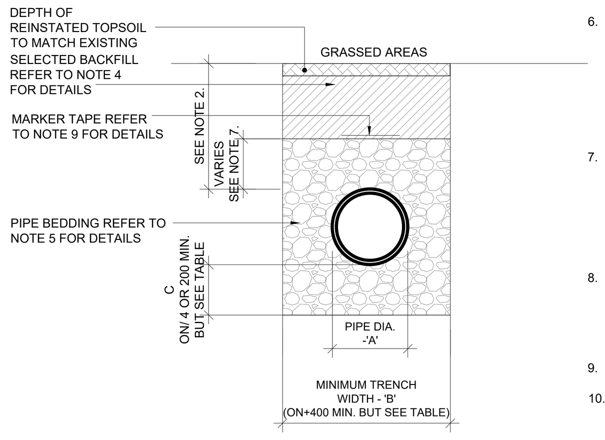


A1 CROSS SECTION IN PAVED AREAS



A2 CROSS SECTION IN GRASSED AREAS / SOFT LANDSCAPING

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE
2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRAVITY PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS :
   A) GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS - DEPTH NOT LESS THAN 0.5 M . (THIS WOULD NORMALLY RELATE TO DRAINS IN PRIVATE PROPERTY . SHALLOW PIPES OF THIS NATURE ARE UNDESIRABLE AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS) .
   B) DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.75 M .
   C) DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (E.G.MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.9 M .
   D) DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE .
   E) AGRICULTURAL LAND AND PUBLIC OPEN SPACE - DEPTH NOT LESS THAN 0.9 M .
   F) OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 1.2 m . IF THE MINIMUM COVERS LISTED ABOVE ARE NOT ACHIEVED THE PIPES ARE TO BE FULLY ENCASED IN CONCRETE AS PER DETAIL B2.
3. CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE TII SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE SEWER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1 m OF THE PAVED EDGE OF THE ROADWAY. CLAUSE 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE TII SPECIFICATION FOR ROAD WORKS .
4. SELECTED EXCAVATED MATERIAL (eg. CLASS 2C MATERIAL TO TABLE 6.1 OF TII SPECIFICATION FOR ROADWORKS) MAY BE USED IN GREEN - FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO THE APPROVAL OF THE EMPLOYERS REPRESENTATIVE .
5. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14 mm TO 5 mm GRADED AGGREGATE OR 10 mm SINGLE SIZED AGGREGATE IS EN 13242 CONCRETE BED , HAUNCH & SURROUND WHERE REQUIRED (NOTE: CONCRETE BED AND HAUNCH REQUIRED IN AREAS TO BE TAKEN IN CHARGE BY DUBLIN CITY COUNCIL) , SHALL BE TO DETAIL B1.
6. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE TII SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO - TEXTILE WRAPPING . ALTERNATIVELY , SPECIAL PIPE SUPPORT ARRANGEMENTS , INCLUDING PILING ETC . MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE.SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY THE EMPLOYERS REPRESENTATIVE BEFORE ADVANCING WITH THE WORK .
7. IN GREEN FIELD AREAS , TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL) WILL BE ALLOWED ABOVE THE SIDE HAUNCH GRANULAR MATERIAL IN THE CASE OF RIGID PIPES . A GRANULAR SURROUND OF A MINIMUM DEPTH OF 150 mm ABOVE THE CROWN OF THE PIPE IS REQUIRED FOR FLEXIBLE PIPES , AND TYPE B MATERIAL MAY BE USED AS BACKFILL ABOVE THIS . ALL RISING MAINS IN GREENFIELD AREAS SHALL HAVE A MINIMUM COVER OF 300 mm OF GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE .
8. PIPES SHALL NOT BE SUPPORTED ON STONES , ROCKS , OR ANY HARD OBJECTS AT ANY POINT ALONG THE TRENCH . ROCK SHALL BE EXCAVATED TO A DEPTH OF 150 mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE TII SPECIFICATION FOR ROAD WORKS . THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL
9. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER . .
10. TRENCH WIDTHS FOR PIPE SIZES 80 mm MAY BE < 500 mm , SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH , HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS .

PIPE DIAMETER A (mm)	TRENCH WIDTH B (mm)
80 RISING MAIN	SEE NOTE 10.
100	500
150	600
200	600
250	750
300	750
350	750
400	900
450	900
750	1500

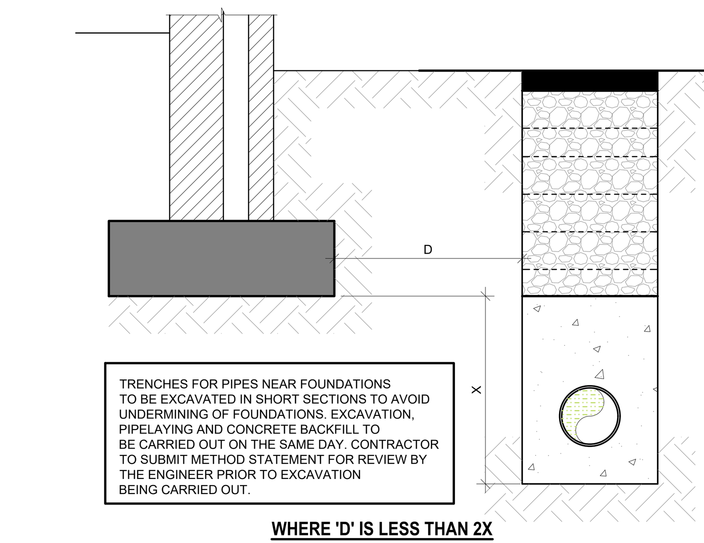
PIPE MATERIALS

UNLESS SPECIFICALLY NOTED OTHERWISE IN THE DRAINAGE LAYOUT THE PIPE MATERIAL WILL BE AS FOLLOWS:

PIPE DIAMETER ≤ 100mm: USE uPVC PIPE WORK
PIPE DIAMETER >100 & ≤ 375mm: USE VITRIFIED CLAY PIPE WORK
PIPE DIAMETER >375mm: USE CONCRETE PIPE WORK.
PIPE MATERIAL TO BE IN ACCORDANCE WITH THE FOLLOWING:

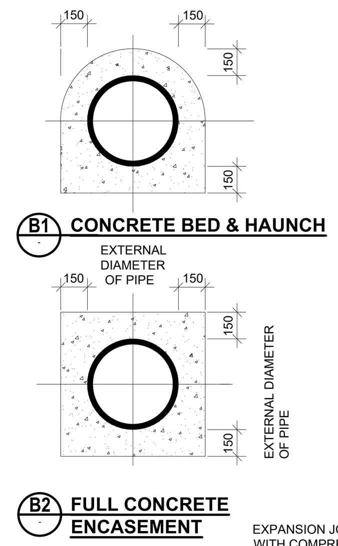
1. CONCRETE PIPES TO HAVE SPIGOT & SOCKET JOINTS AND RUBBER RING FITTINGS TO IS EN 1916 (2002); BS5911, PART 1 , (2002- 2010) AND IS 6 (2004), STRENGTH CLASS 120
2. VITRIFIED CLAY PIPES & FITTINGS TO HAVE FLEXIBLE JOINTS AND TO COMPLY WITH IS EN 295- 1/2/ 3 - CLASS 160 OR CLASS 200
3. uPVC PIPES, JOINTS AND FITTINGS TO COMPLY WITH THE PROVISION OF IS EN 1401- PART 1 AND BS 4660 (NOTE: uPVC PIPES NOT PERMITTED IN AREAS TO BE TAKEN IN CHARGE BY DUBLIN CITY COUNCIL)

A TRENCH BACKFILL & BEDDING

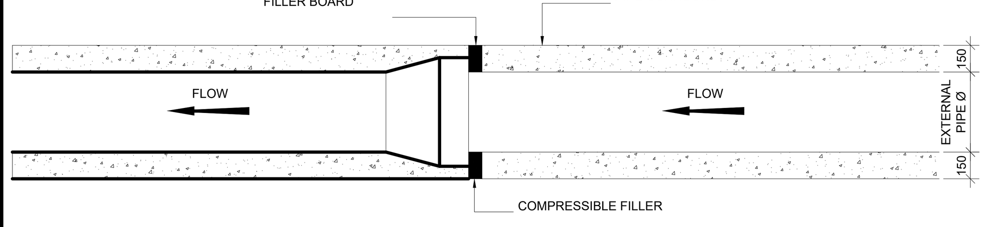


WHERE 'D' IS LESS THAN 2X
(CONCRETE FILL TO LEVEL OF FOUNDATION BOTTOM)

C DRAIN LAID NEAR FOUNDATIONS

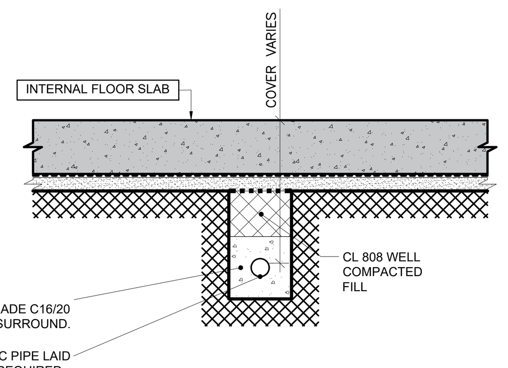


1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. CONCRETE PIPE BEDS AND HAUNCHES MAY BE REQUIRED TO ADDRESS MINIMUM COVER SITUATIONS. AND SHALL BE SUBJECT TO SUBMISSION AND ASSESSMENT BY THE EMPLOYERS REPRESENTATIVE BEFORE ADVANCING WITH THE WORKS.
3. CONCRETE PIPE BEDS AND HAUNCHES SHALL HAVE MINIMUMTHICKNESS OF 150 mm WITH AN ABSOLUTE MINIMUM DEPTH OF COVER ABOVE THE EXTERNAL CROWN OF THE PIPE OF 150 mm .
4. CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 AND TO BE CLASS C 16 / 20.
5. THE HAUNCHES AND SURROUNDS TO BE FORMED USING FORMWORK 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 FILLER 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. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES .



SPIGOT AND SOCKET JOINT

B CONCRETE HAUNCH, BED & SURROUND

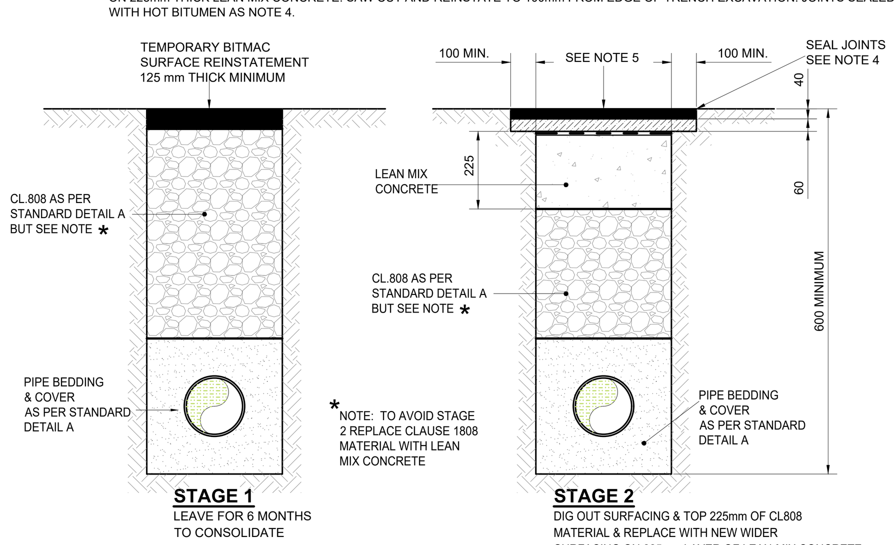


DRAINAGE PIPE / DUCT UNDER GROUND FLOOR SLAB
(SCALE @ A0 1:25)

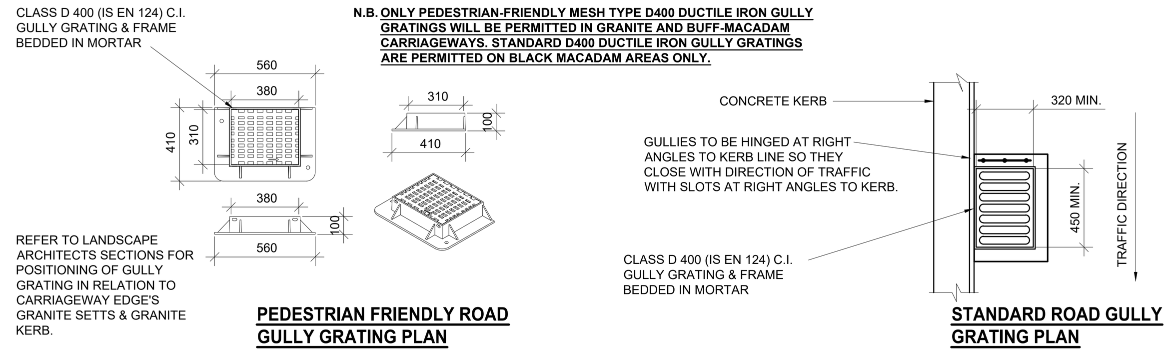
J TYPICAL INTERNAL BURIED DRAINAGE/ DUCT DETAIL

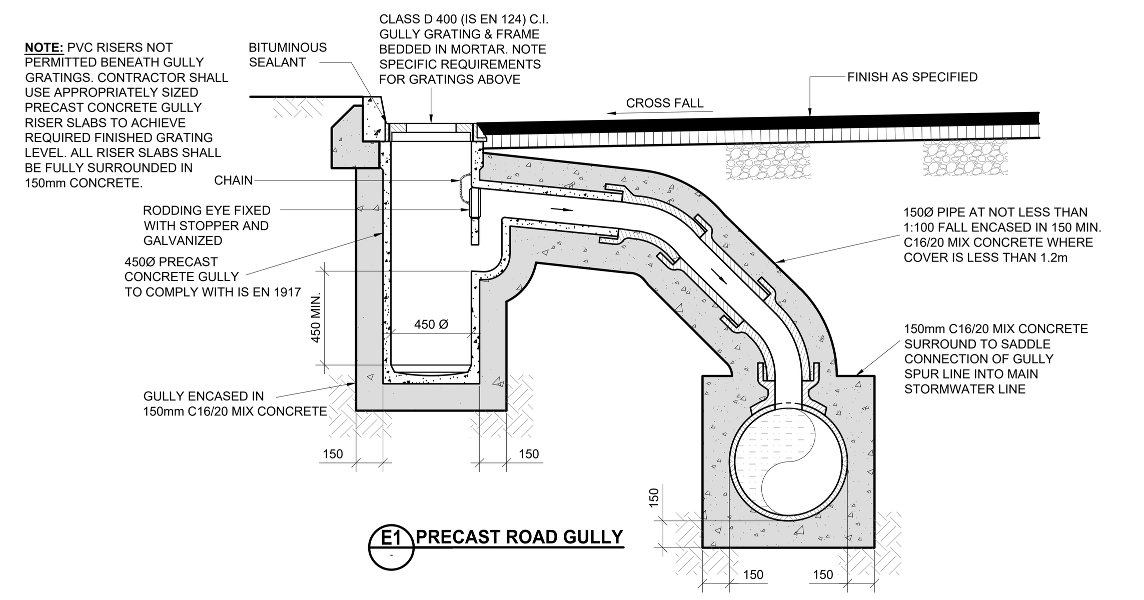
NOTES:

1. FORM A SAW CUT 100mm DEEP AT A MIN. OF 100mm FROM SIDES OF EXCAVATION PRIOR TO PERMANENT REINSTATEMENT. WHERE ANY TRIM LINES ARE WITHIN 400mm OF ROAD EDGE, JOINT OR OTHER REINSTATEMENT, THE TRIM LINE SHOULD BE EXTENDED TO THE INTERFACE OF SUCH SITUATIONS.
2. LEAN-MIX SURFACE TO BE SPRAYED AS PER CLAUSE 920 (TII SPEC.) PRIOR TO APPLICATION OF BINDER COURSE MACADAM.
3. 100°C HOT BITUMEN BINDER 50 PEN OR COLD THIXOTROPIC BITUMEN 50 - 70 PEN TO BE APPLIED TO ALL VERTICAL CUTS IN ACCORDANCE WITH IS EN 13108-4 PRIOR TO APPLICATION OF BITUMINOUS MATERIAL.
4. JOINTS SEALED WITH HOT BITUMEN AND TOPPED WITH FINE SAND / GRIT TO GET A MINIMUM 55 SKID RESISTANCE VALUE AS DETERMINED BY THE PORTABLE SKID RESISTANCE PENDULUM USED IN ACCORDANCE WITH ROAD NOTE 27 AND SHALL NOT EXCEED 3mm THICKNESS AND 25mm WIDTH.
5. SURFACE REINSTATEMENT:
   ASPHALT CONCRETE ROAD -
   40mm MIN THICK OF 'SMA 10 surf 70/100 des' SURFACE COURSE TO IS EN 13108 and NSAI's S28; ON 60mm MIN THICK OF 'AC 20 dense bin 70 /100 des' BINDER COURSE TO IS EN 13108 AND NSAI's S28; ON BITUMEN SPRAY TO Cl.920 OF TII SPECIFICATION FOR ROAD WORKS ON 225mm THICK LEAN MIX CONCRETE. SAW CUT AND REINSTATE TO 100mm FROM EDGE OF TRENCH EXCAVATION. JOINTS SEALED WITH HOT BITUMEN AS NOTE 4.



D REINSTATEMENT OF PIPE TRENCH IN EXISTING ROAD

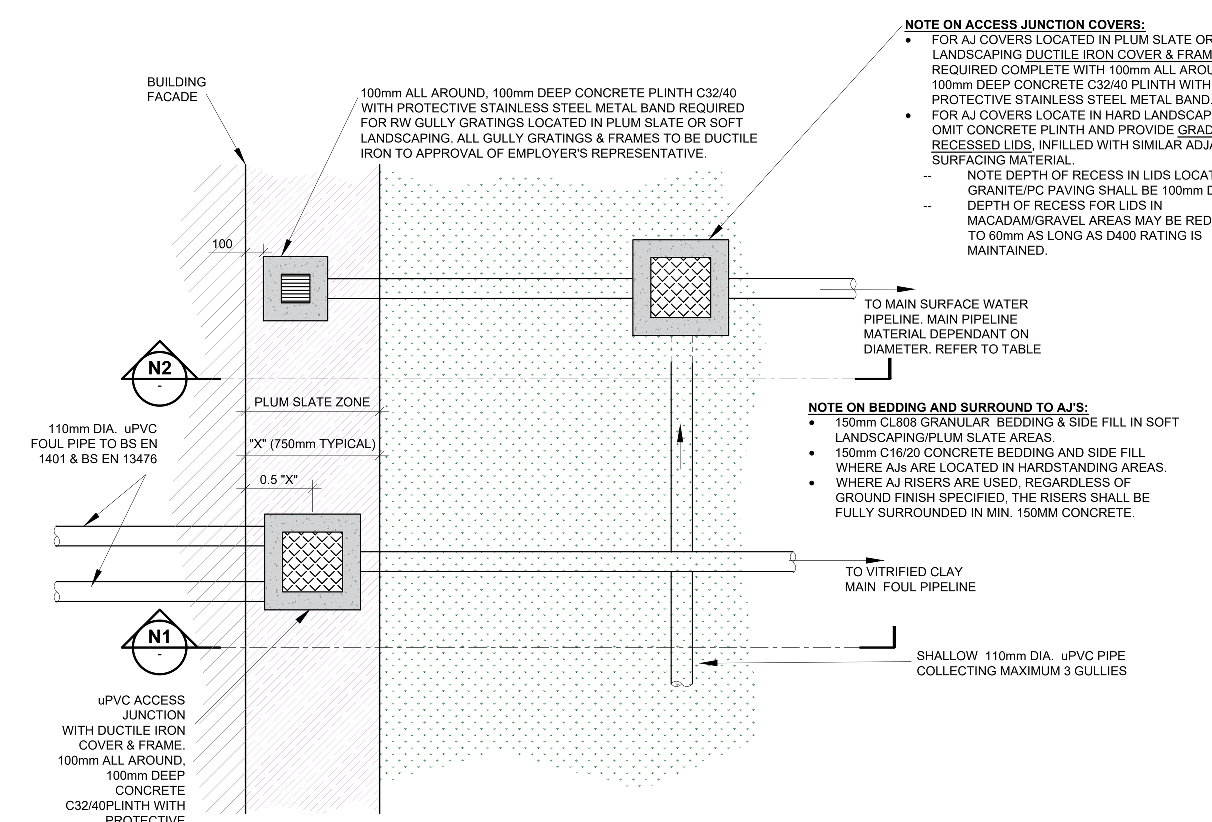




E TYPICAL SECTION THROUGH ROAD GULLY

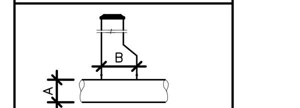
NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEERS & ARCHITECT'S DRAWINGS.FIGURED DIMENSIONS ONLY (NOT SCALING) TO BE USED. WHERE A CONFLICT OF INFORMATION EXISTS OR IF IN ANY DOUBT - `ASK'.
2. CONSULTANTS TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE WORK PROCEEDS.
3. WASTE DRAINAGEDETAILS TO BE IN ACCORDANCE WITH IRISH WATER REQUIREMENTS UNLESS NOTED OTHERWISE. REFER TO IRISH WATER DETAILS FOR ADDITIONAL INFORMATION.
4. CONNECTION OF BRANCHES TO THE MAIN LINE ARE TO BE BY MEANS OF 45° BRANCH CONNECTIONS. SADDLE CONNECTIONS ARE ONLY PERMITTED FOR CONNECTING GULLY TAILS TO BRANCHES/MAINLINES.
5. INTERNAL GROUND FLOOR FOUL CONNECTIONS TO DRAIN SEPARATELY FROM THE UPPER STOREYS.
6. ALL BURIED PIPES UNDER GROUND FLOOR SLABS TO BE ENCASED IN CONCRETE.
7. CONTRACTOR TO NOTE REQUIREMENTS FOR PEDESTRIAN FRIENDLY GULLY GRATINGS ON THE GRANITE SHARED SURFACE CARRIAGEWAY. AND BUFF MACADAM ROADS. THESE SHALL BE A MESH TYPE D400 GRADE DUCTILE IRON GRATING. ROAD GULLIES IN BLACK MACADAM AREAS REQUIRE STANDARD D400 ROAD GULLY GRATINGS. **ALL ROAD GULLY GRATINGS TO BE MIN. D400 RATING.**
8. REFER TO DRAWING C-1204 FOR PERMEABLE PAVING DRAINAGE AND SuDS DETAILS.

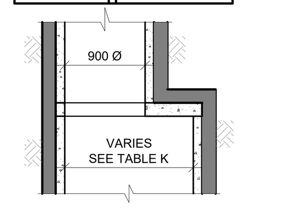


N PLAN VIEW OF TYPICAL GULLY & AJ LAYOUT AT EDGE OF BUILDING

TABLE K

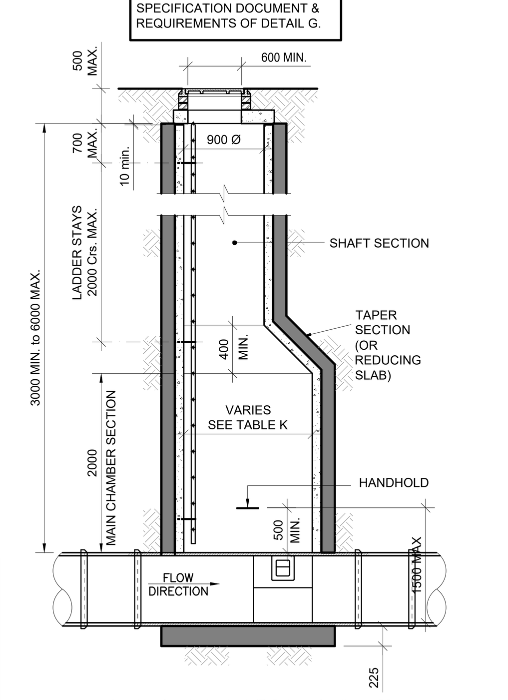


MANHOLE PIPE Ø A	CHAMBER INTERNAL Ø B
225	1200
300	1200
375	1200
525	1200
600	1200
675	1350
750	1500
900	1500
1050	2100
1200	2100



ALTERNATIVE DETAIL
(REDUCING SLAB INSTEAD OF TAPER SECTION)

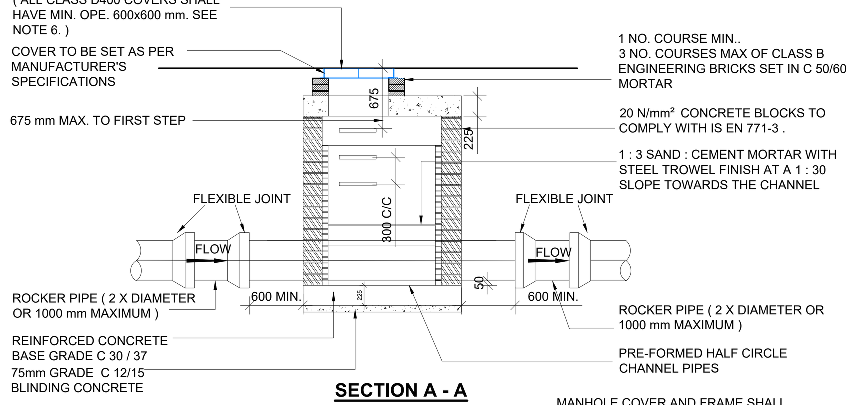
NOTE: UNLESS OTHERWISE NOTED IN THIS DETAIL K, ALL MANHOLES SHALL COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATION DOCUMENT & REQUIREMENTS OF DETAIL G.



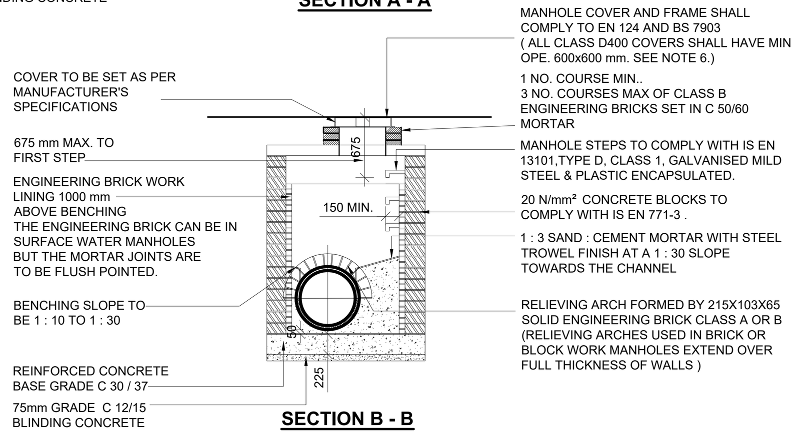
DEEP MANHOLE DETAIL
3m ≤ DEPTH TO INVERT < 6m

K TYPICAL SECTION THROUGH DEEP MANHOLE

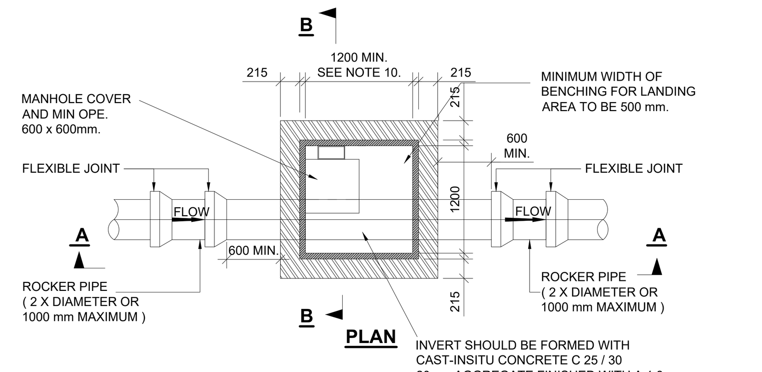
1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. SOLID BLOCKWORK TO BE OF HIGH STRENGTH (20 N/mm) TO IS EN 771.
3. MAXIMUM DEPTH OF BLOCK WORK MANHOLE IS 2.0 m (THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND WRITTEN APPROVAL FROM THE EMPLOYERS REPRESENTATIVE).
4. WALLS TO BE FLUSH POINTED INTERNALLY.
5. FOR FOUL MANHOLES PROVIDE, INTERNAL LINING OF ENGINEERING BRICK TO IS EN 771-1 TO A HEIGHT OF 1m ABOVE BENCHING. ENGINEERING BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN WALL BOND. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS FOR ROOF AND BASE SLABS TO BE PROVIDED BY THE CONTRACTOR AND SUBMITTED TO THE EMPLOYERS REPRESENTATIVE FOR REVIEW.
6. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM THE EMPLOYERS REPRESENTATIVE. STANDARD D400 DUCTILE IRON ROUND MANHOLE COVERS REQUIRED IN BLACK MACADAM AREAS AND SOFT LANDSCAPED AREAS. RECESSED SQUARE MANHOLE LIDS TO MIN. GRADE D400 IN ALL OTHER AREAS.
7. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
8. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE CONTRACTOR BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO APPROVAL FROM THE EMPLOYERS REPRESENTATIVE.
9. ALL CONCRETE TO BE ACCORDANCE WITH IS EN 206: 2013.
10. BRANCH PIPES INTO MANHOLES: BENCHING TO BE SHAPED SO AS TO GUIDE THE FLOW IN THE FLOW DIRECTION. THE MINIMUM LENGTH OF THE MANHOLE BASED ON THE SIDE WITH THE GREATEST NUMBER OF BRANCHES EQUAL TO 300mm PLUS THE SUM OF THE BRANCH DIAMETERS PLUS 200mm PER BRANCH FOR BRANCHES UP TO 150mm (OR 300mm FOR BRANCHES GREATER THAN 150mm DIAMETER).
11. WHERE PIPE DIAMETER CHANGES AT A MANHOLE THE PIPE CROWNS ARE TO LINE UP ALL MANHOLES TO BE WATERTIGHT TO THE SATISFACTION OF THE EMPLOYERS REPRESENTATIVE.



SECTION A - A

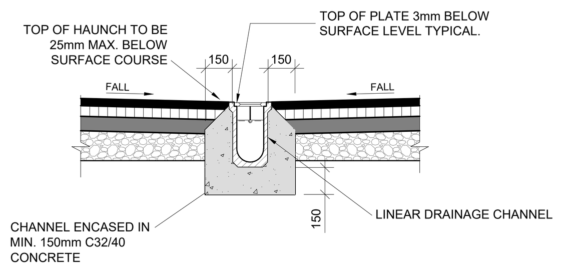


SECTION B - B

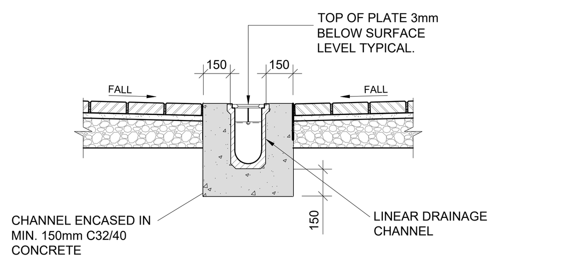


F BLOCKWORK MANHOLE < (450mm DIAMETER & DEPTH TO INVERT ≤ 2m)

NOTES:
1. ALL DRAINAGE CHANNEL BRANCH PIPES ARE TO BE CONNECTED TO SURFACE WATER NETWORK VIA SADDLE CONNECTION AS PER DETAIL N DRG. NO. C1200.
2. 100MM WIDE DRAINAGE CHANNEL UNITS AS CALLED UP ON DRAWINGS AT DOOR THRESHOLDS AND STEP UNITS, ARE TO BE CE MARKED AND FULLY CERTIFIED TO BS EN 1433:2002 LOAD CLASS C250. THE CHANNELS SHALL HAVE CONSTANT INVERT, NOMINAL BORE SIZE OF 100MM, AND MANUFACTURED FROM HIGH DENSITY HIGH STRENGTH RECYCLED POLYPROPYLENE, BLACK IN COLOUR. EDGE RAILS SHALL BE GALVANISED STEEL. EXTERNAL SURFACE SHALL BE TEXTURED WITH ANCHORS TO KEY INTO CONCRETE SURROUNDS.
3. 150MM WIDE DRAINAGE CHANNEL UNITS AS CALLED UP ON DRAWINGS IN OPEN AREAS, ARE TO BE CE MARKED AND FULLY CERTIFIED TO BS EN 1433:2002 LOAD CLASS D400. THE CHANNELS SHALL HAVE CONSTANT INVERT, NOMINAL BORE SIZE OF 200MM, DEPTH OF 265MM AND MANUFACTURED FROM HIGH DENSITY HIGH STRENGTH RECYCLED POLYPROPYLENE, BLACK IN COLOUR. EDGE RAILS SHALL BE GALVANISED STEEL. EXTERNAL SURFACE SHALL BE TEXTURED WITH ANCHORS TO KEY INTO CONCRETE SURROUNDS.
4. ALL CHANNEL AND GULLY GRATINGS TO 100MM WIDE DRAINAGE CHANNELS SHALL BE LOAD CLASS C250 COMPOSITE MATERIAL (i.e. NOT STEEL OR D.I.) AND HEEL-PROOF. ALL CHANNEL AND GULLY GRATINGS TO 150MM WIDE DRAINAGE CHANNELS SHALL BE LOAD CLASS D400 DUCTILE IRON AND HEEL-PROOF.
5. DUCTILE IRON GRATINGS SHALL BE SUPPLIED WITH A HIGH PERFORMANCE CORROSION RESISTANT COATING, BLACK IN COLOUR. WATER-BASED COATINGS WILL NOT BE ACCEPTABLE.
6. ALL DRAINAGE CHANNELS SHALL FALL TO A PROPRIETARY SUMP UNITS 500mm LONG WITH INTEGRATED PLASTIC SILT BUCKET. OUTLETS FROM SUMP UNITS SHALL BE 110mm DIA. PROPRIETARY CLOSING END CAPS SHALL BE PROVIDED WHERE CHANNELS TERMINATE.
7. ALL DRAINAGE CHANNELS SHALL INCORPORATE A LOCKING SECURITY SCREW AND CLAMP MECHANISM.
8. 2NO. SETS OF LIFTING TOOLS AND SECURITY KEYS FOR EACH TYPE OF DRAINAGE CHANNEL GRATING SHALL BE DELIVERED TO THE EMPLOYER'S REPRESENTATIVE FOLLOWING COMPLETION OF THE INSTALLATION WORKS.



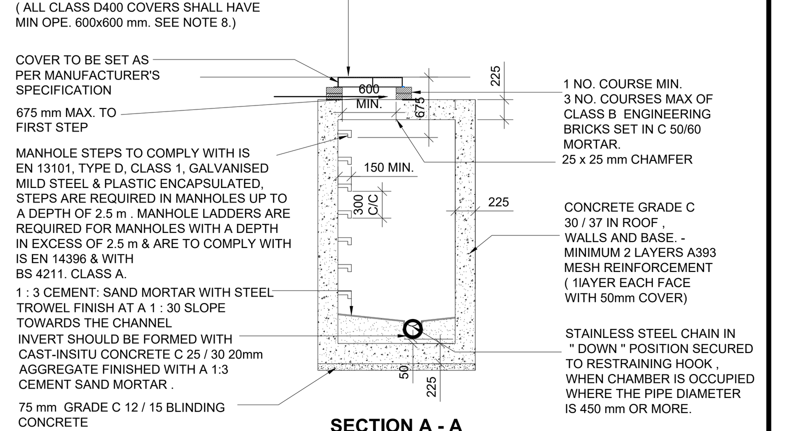
TYPICAL SECTION THRO' LINEAR DRAINAGE CHANNEL IN MACADAM AREAS



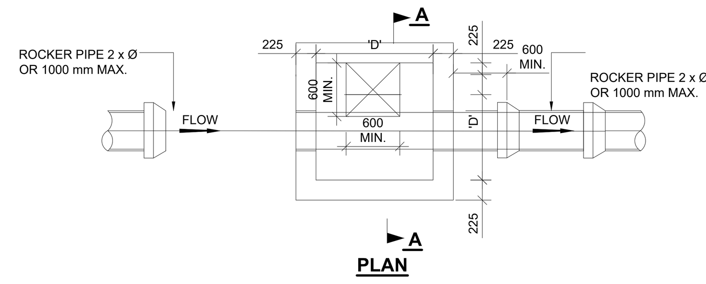
TYPICAL SECTION THRO' LINEAR DRAINAGE CHANNEL IN PAVED AREAS

DRAINAGE CHANNEL DETAILS
SCALE @ A0 1:25

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
2. IN-SITU MANHOLES TO HAVE A MINIMUM WALL AND FLOOR THICKNESS OF 225mm FOR MANHOLE DEPTHS UP TO 3.0 m AND 300 mm OR MORE WHEN THE MANHOLE DEPTH EXCEEDS 3.0 m.
3. STRUCTURAL DESIGN & REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO THE EMPLOYERS REPRESENTATIVE FOR REVIEW.
4. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO THE EMPLOYERS REPRESENTATIVE APPROVAL.
8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM THE EMPLOYERS REPRESENTATIVE. STANDARD D400 DUCTILE IRON ROUND MANHOLE COVERS REQUIRED IN BLACK MACADAM AREAS AND SOFT LANDSCAPED AREAS. RECESSED SQUARE MANHOLE LIDS TO MIN. GRADE D400 IN ALL OTHER AREAS.
9. 200 mm ALL AROUND, 100 mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS METAL BAND AROUND COVERS IN GREEN AREAS.
10. ALL CHAMBERS TO BE IN CHECKED FOR UPLIFT BY THE CONTRACTOR, BASED ON GROUND CONDITIONS WITHIN THE SITE . SHOULD ANTI FLOTATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO APPROVAL FROM THE ER.
11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
12. BRANCH PIPES INTO MANHOLES: BENCHING TO BE SHAPED SO AS TO GUIDE THE FLOW IN THE FLOW DIRECTION. THE MINIMUM LENGTH OF THE MANHOLE BASED ON THE SIDE WITH THE GREATEST NUMBER OF BRANCHES EQUAL TO 300mm PLUS THE SUM OF THE BRANCH DIAMETERS PLUS 200mm PER BRANCH FOR BRANCHES UP TO 150mm (OR 300mm FOR BRANCHES GREATER THAN 150mm DIAMETER).
13. WHERE PIPE DIAMETER CHANGES AT A MANHOLE THE PIPE CROWNS ARE TO LINE UP.
14. MANHOLE SHAFTS ARE RECOMMENDED IN DEEP MANHOLES . THE DISTANCE BETWEEN THE TOP OF THE BENCHING AND THE SOFFIT OF THE MAIN ROOF SLAB SUPPORTING THE SOFFIT SHOULD BE NOT LESS THAN 2.1m , THE MINIMUM SHAFT SIZE SHOULD BE 900mm.
15. ALL MANHOLES TO BE WATERTIGHT TO THE SATISFACTION OF THE EMPLOYERS REPRESENTATIVE.

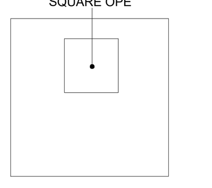


SECTION A - A



PLAN

MIN.600x600 mm SQUARE OPE

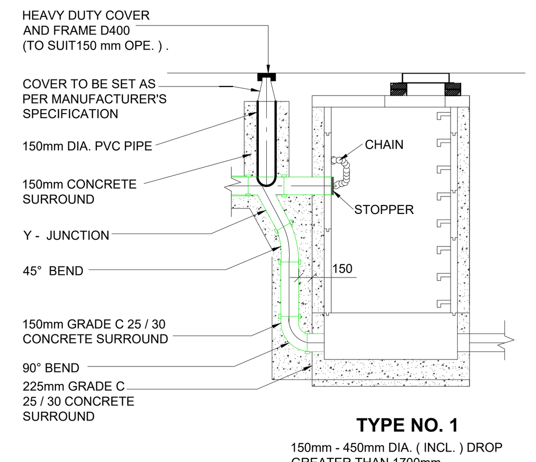


ROOF PLAN

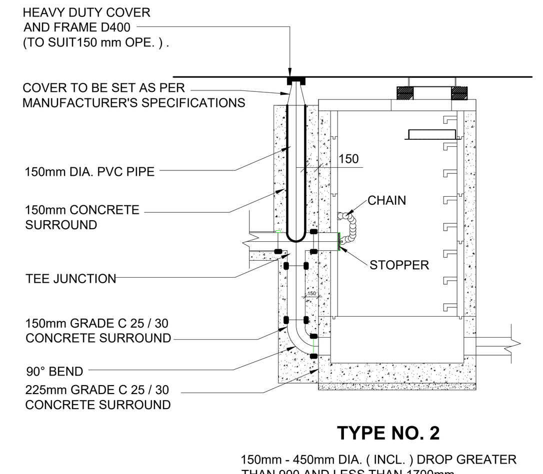
MINIMUM MANHOLE DIMENSIONS " D "	
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIMENSION OF MANHOLE (mm)
LESS THAN 375	1200
375 TO 450	1350
500 TO 750	1500

H IN- SITU CONCRETE MANHOLE

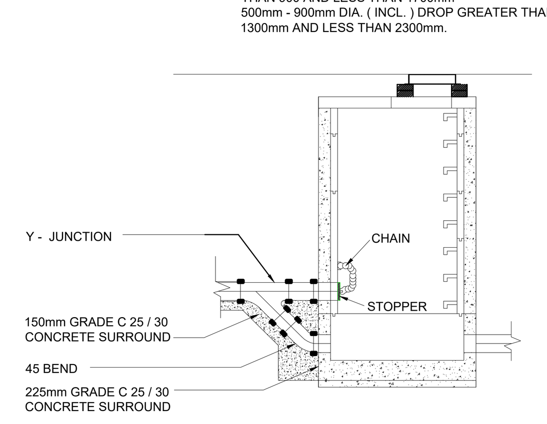
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. RODDING EYE CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF THE EMPLOYERS REPRESENTATIVE
3. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO APPROVAL FROM THE EMPLOYERS REPRESENTATIVE.
4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
5. MANHOLE DETAILS TO BE IN ACCORDANCE WITH DETAILS F,G & H



TYPE NO. 1
150mm - 450mm DIA. (INCL.) DROP GREATER THAN 1700mm
500mm - 900mm DIA. (INCL.) DROP GREATER THAN 2300mm.

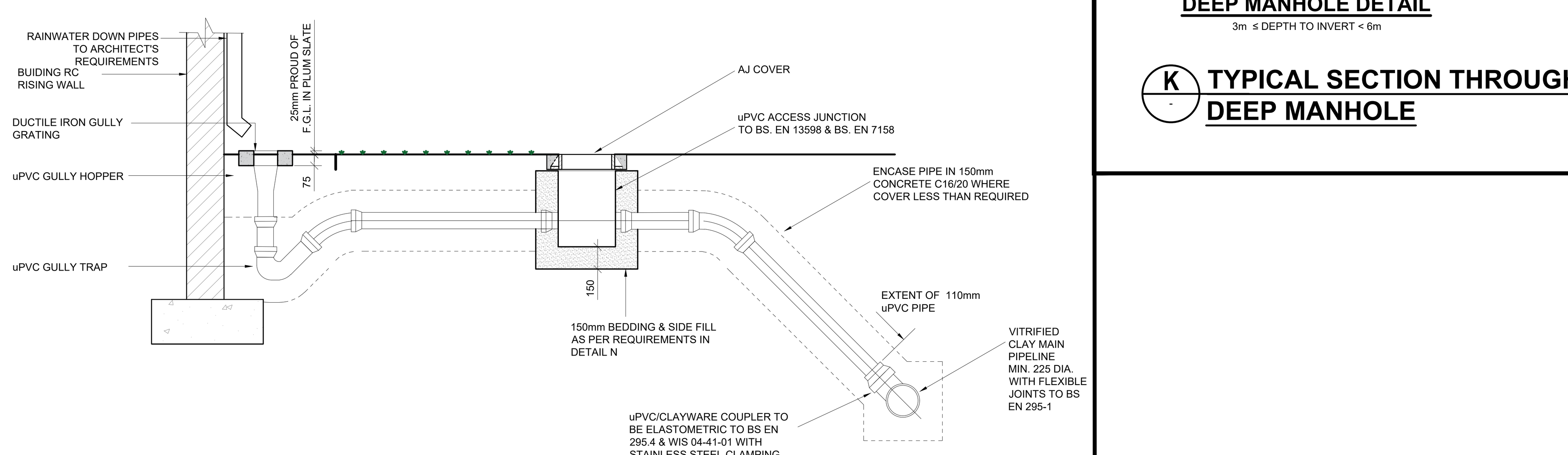


TYPE NO. 2
150mm - 450mm DIA. (INCL.) DROP GREATER THAN 900 AND LESS THAN 1700mm
500mm - 900mm DIA. (INCL.) DROP GREATER THAN 1300mm AND LESS THAN 2300mm.

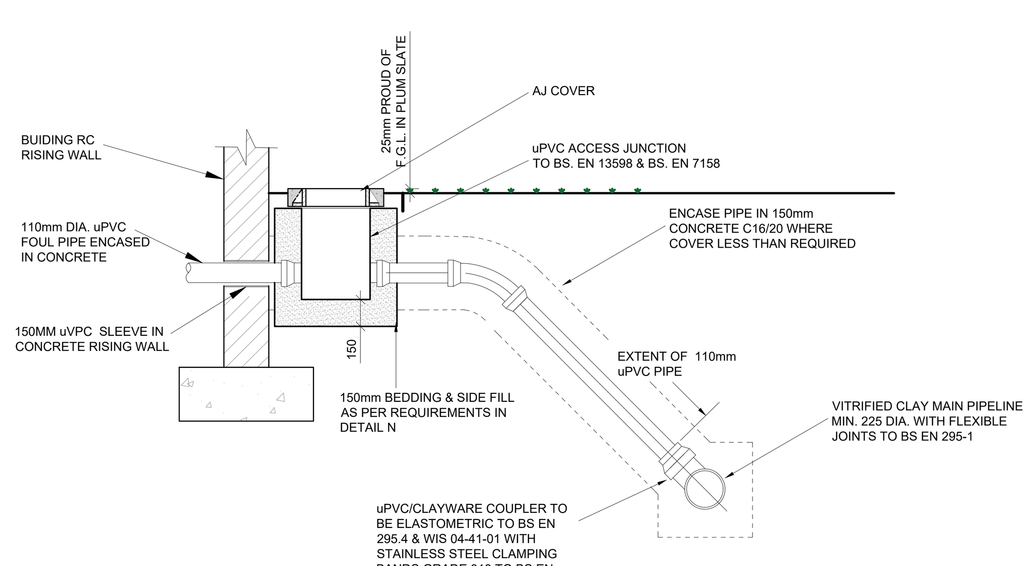


TYPE NO. 3
150mm - 450mm DIA. (INCL.) DROP GREATER THAN 600mm AND LESS THAN 900mm
500mm - 900mm DIA. (INCL.) DROP GREATER THAN 600mm AND LESS THAN 1300mm.

L BACKDROP MANHOLE



N2 SECTION
SCALE @ A1: 1:25
SCALE @ A3: 1:50



N1 SECTION
SCALE @ A1: 1:25
SCALE @ A3: 1:50

ISSUE	DATE	DESCRIPTION	DRN / ORIG	P.E. / P.D.
PL4	15.05.20	PLANNING ISSUE	KS / KS	COR / CK
PL3	26.03.20	DRAFT PLANNING ISSUE	KS / KS	COR / CK
PL2	13.01.20	ISSUED FOR PLANNING	KS / KS	COR / CK
PL1	05.11.19	ISSUED FOR PLANNING	KS / KS	COR / CK
P1	20.09.19	ISSUED FOR COMMENT	KS / KS	COR / CK

DRAWING STAGE **PLANNING**

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CLIENT
DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV

PROJECT TITLE
BAILEY GIBSON SOUTH CIRCULAR ROAD

BM PROJECT No. **19117**

MODEL REFERENCE | MODEL REV. | SUITABILITY

DRAWING TITLE
STANDARD STORMWATER DRAINAGE DETAILS

DRAWING No. **BG-BMD-ZZ-XX-DR-C-1220** ISSUE **PL4**