

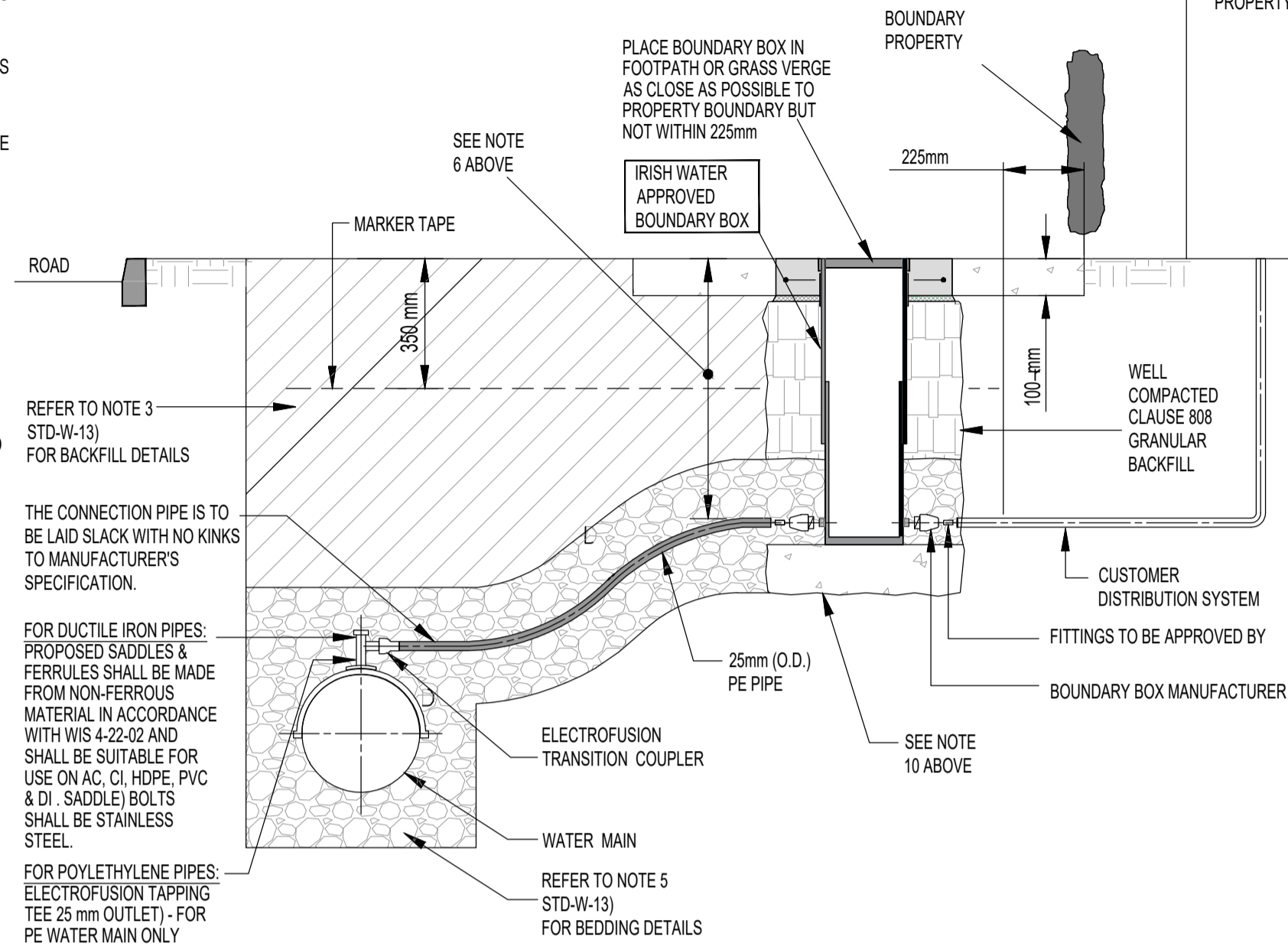
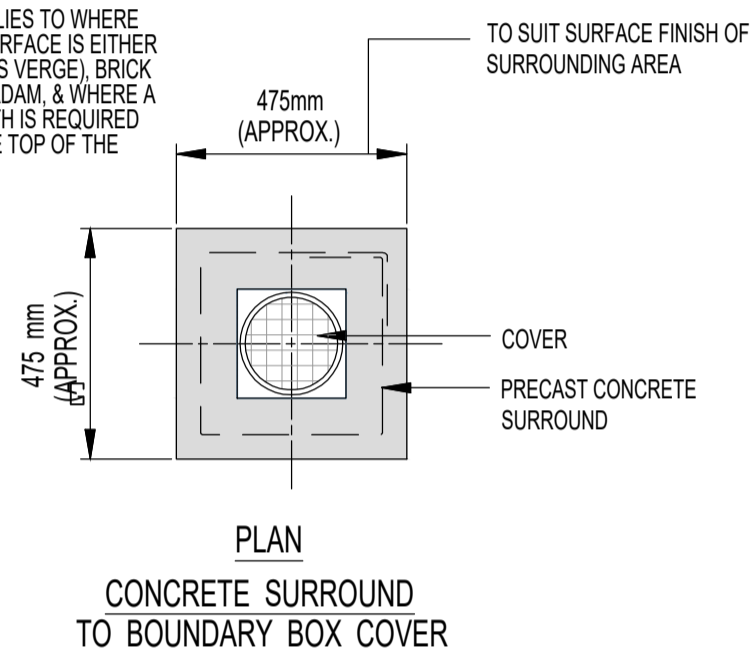
GENERAL NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- FOR CONNECTION TO AN EXISTING MAIN THE CONNECTION SHALL BE AS PER THE PIPE MANUFACTURER'S SPECIFICATION.
- ELECTRO FUSION COUPLING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.

BOUNDARY BOX NOTES:

- THE BOUNDARY BOX IS TO BE IN ACCORDANCE WITH THE IRISH WATER SPECIFICATION, INCORPORATING A G1.5 MANIFOLD, STOP-TAP, FROST PLUG & NON-RETURN VALVE.
- THE BOUNDARY BOX SHALL BE POSITIONED IN PUBLIC SPACE & AS CLOSE AS POSSIBLE TO THE PROPERTY BOUNDARY BUT NO PART OR FITTING TO BE WITHIN 225mm OF THE PROPERTY LINE.
- THE BOUNDARY BOX SHALL BE LOCATED WHERE IT IS SAFE TO OPEN THE COVER & ACCESS THE STOP TAP OR VISUALLY READ THE METER, i.e. ON A FOOTPATH OR VERGE, & NOT IN A CARRIAGEWAY.
- THE SURFACE BOX COVER ON THE BOUNDARY BOX SHOULD BE NOT LESS THAN GRADE C (BS 6824:2011), & THE BOUNDARY BOX SHOULD BE LOCATED SUCH THAT HEAVIER GRADES OF COVER WOULD NOT BE REQUIRED.
- THE SHAFT OF THE BOUNDARY BOX IS TO BE INSTALLED VERTICALLY, & THE SURFACE BOX COVER INCLINED TO MATCH THE SURFACE GRADIENT.
- THE BOUNDARY BOX IS TO BE INSTALLED AT A MINIMUM DEPTH OF 600mm (+/- 25mm) TO THE CROWN OF THE INLET & OUTLET FITTINGS ON THE OUTSIDE OF THE BOX.
- THE SERVICE CONNECTION PIPE SHALL NOT BE WRAPPED AROUND THE SHAFT OF THE BOUNDARY BOX OR BENT IN ANY RADIUS LESS THAN THAT APPROVED BY THE MANUFACTURER.
- THE PIPE FITTINGS TO THE BOUNDARY BOX SHALL BE APPROVED BY THE BOUNDARY BOX MANUFACTURER.
- THE BOUNDARY BOX SHALL BE INSTALLED HYGIENICALLY & LEFT CLEAN & FREE OF CONSTRUCTION WASTE OR DIRT FOR LATER METER INSTALLATION BY IRISH WATER.
- THE BOUNDARY BOX TO BE FOUND ON 100mm DEPTH OF C12/15 CONCRETE AND SURROUNDED WITH CLAUSE 808 GRANULAR MATERIAL.
- THE DESIRABLE MINIMUM COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF A SERVICE CONNECTION SHALL BE 750mm WITH AN ABSOLUTE MINIMUM DEPTH OF 600mm FOR SHORT DISTANCES (SUBJECT TO IRISH WATER AGREEMENT). THE DESIRABLE MAXIMUM COVER FOR A SERVICE CONNECTION PIPE SHOULD BE 1200mm, WHERE PRACTICABLE.
- CUSTOMER'S DISTRIBUTION PIPEWORK WITHIN THE PREMISES SHOULD BE SUITABLY SIZED TO ACCOMMODATE FLOW FROM 20mm INTERNAL DIAMETER SERVICE PIPE.

THIS DETAIL APPLIES TO WHERE THE FINISHED SURFACE IS EITHER UNBOUND (GRASS VERGE), BRICK PAVING OR MACADAM, & WHERE A CONCRETE PLINTH IS REQUIRED TO SUPPORT THE TOP OF THE BOUNDARY BOX.

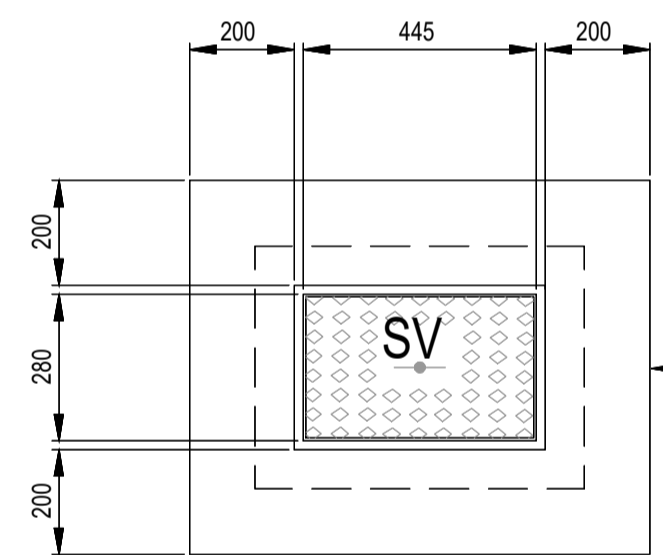


IRISH WATER DETAIL STD-W-03
BOUNDARY BOX DETAIL (25mm OD PIPE)

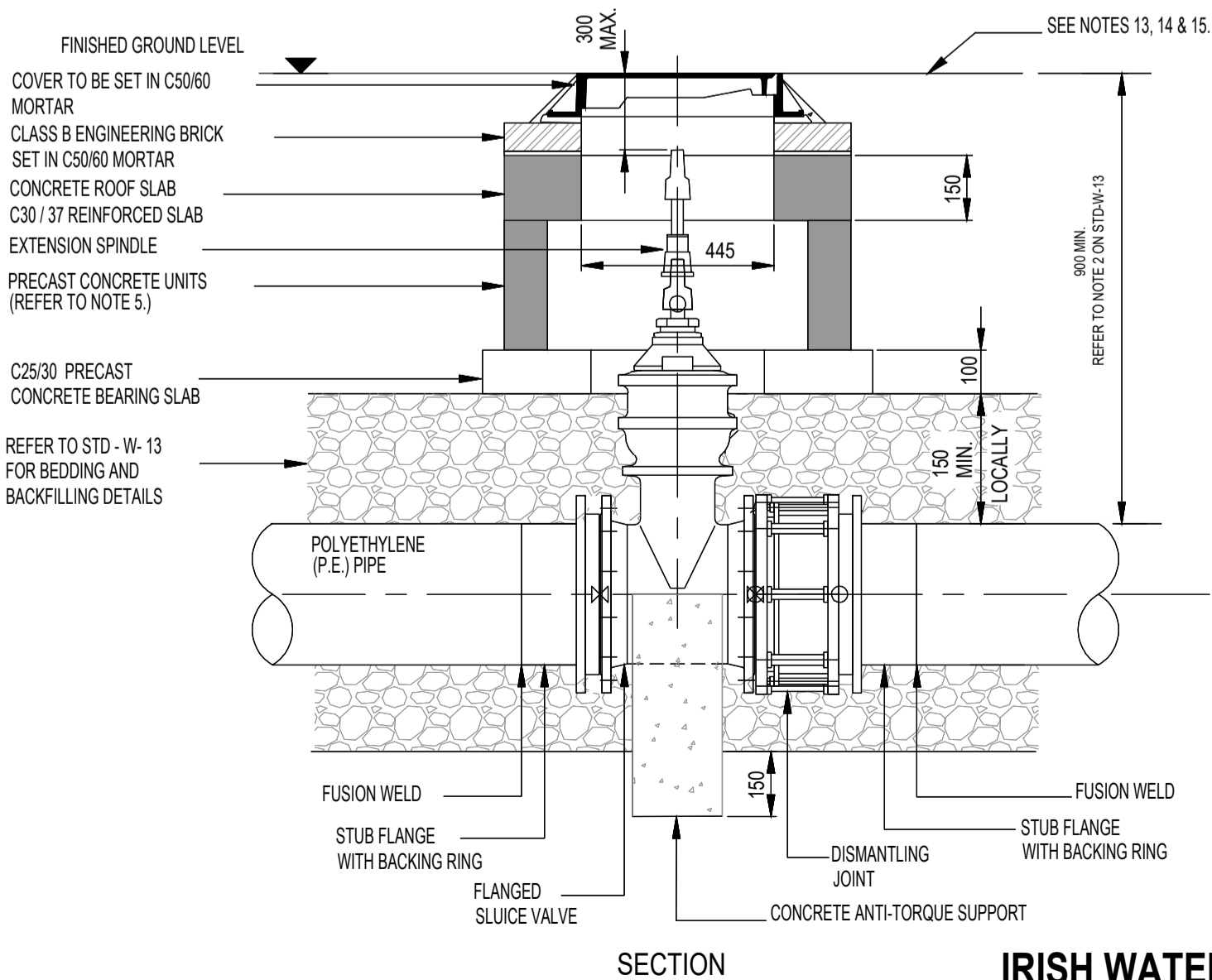
SCALE: NTS

SLUICE VALVE CHAMBER NOTES:

- ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- SLUICE VALVE CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 OR BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.
- SLUICE VALVES SHALL BE RESILIENT SEATED AND SHALL COMPLY WITH BS 5163-1, BS 5163-2, IS EN 1074-1, IS EN 1074-2, OR EQUIVALENT E.U. SPECIFICATIONS.
- ALL SLUICE VALVES SHALL BE ANTI-CLOCKWISE CLOSING.
- VALVE CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED. SUBJECT TO REVIEW BY IRISH WATER. ROOF SLABS SHALL BE DESIGNED TO CARRY ALL LIVE LOADS & DEAD LOADS, & CONSIST OF A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, GRADE C30/37, WITH A MINIMUM THICKNESS OF 150mm. ALTERNATIVELY PRE-CAST CONCRETE ROOFS MAY BE USED, SUBJECT TO IRISH WATER REVIEW, & COMPLIANCE WITH BS 5911, Part 4.
- CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER STD-W-13.
- DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545. PE PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2011.
- 200mm ALL ROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GRASS AREAS.
- THRUST BLOCKS (NOT SHOWN ON DRAWING), TO BE PROVIDED AS PER STANDARD DRAWING STD-W-28 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
- ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
- 450 x 450mm INTERNAL DIMENSION CHAMBERS MAY BE PROVIDED SUBJECT TO REVIEW BY IRISH WATER. SUCH CHAMBERS SHALL BE PROVIDED WITH GRADE "A" HEAVY DUTY COVER & FRAME & STAMPED "SV".
- 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.

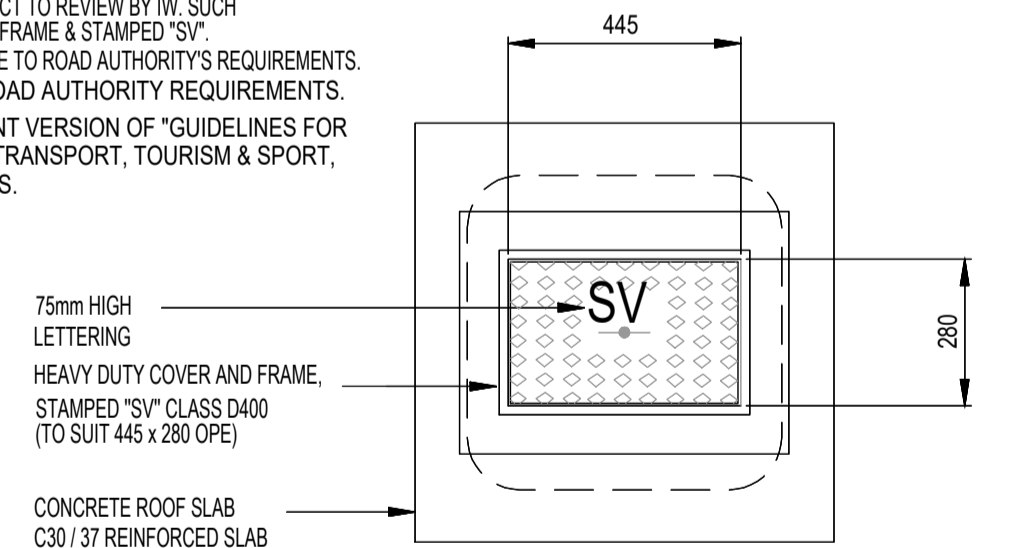


PLINTH DETAIL
IN GRASS AREA

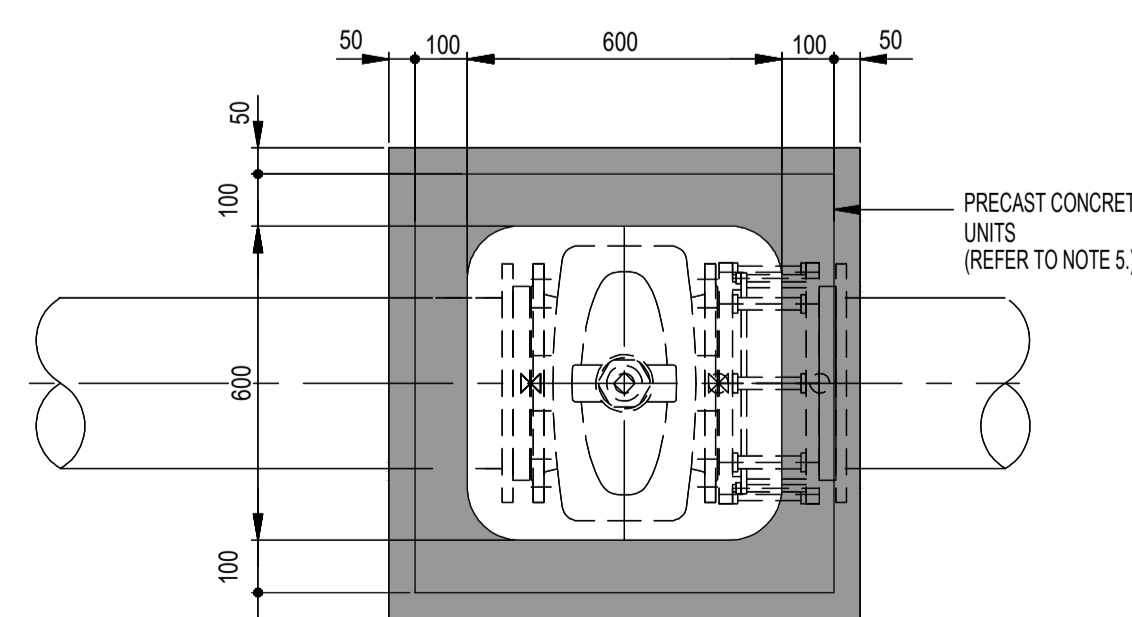


IRISH WATER DETAIL STD-W-15
SLUICE VALVE CHAMBER

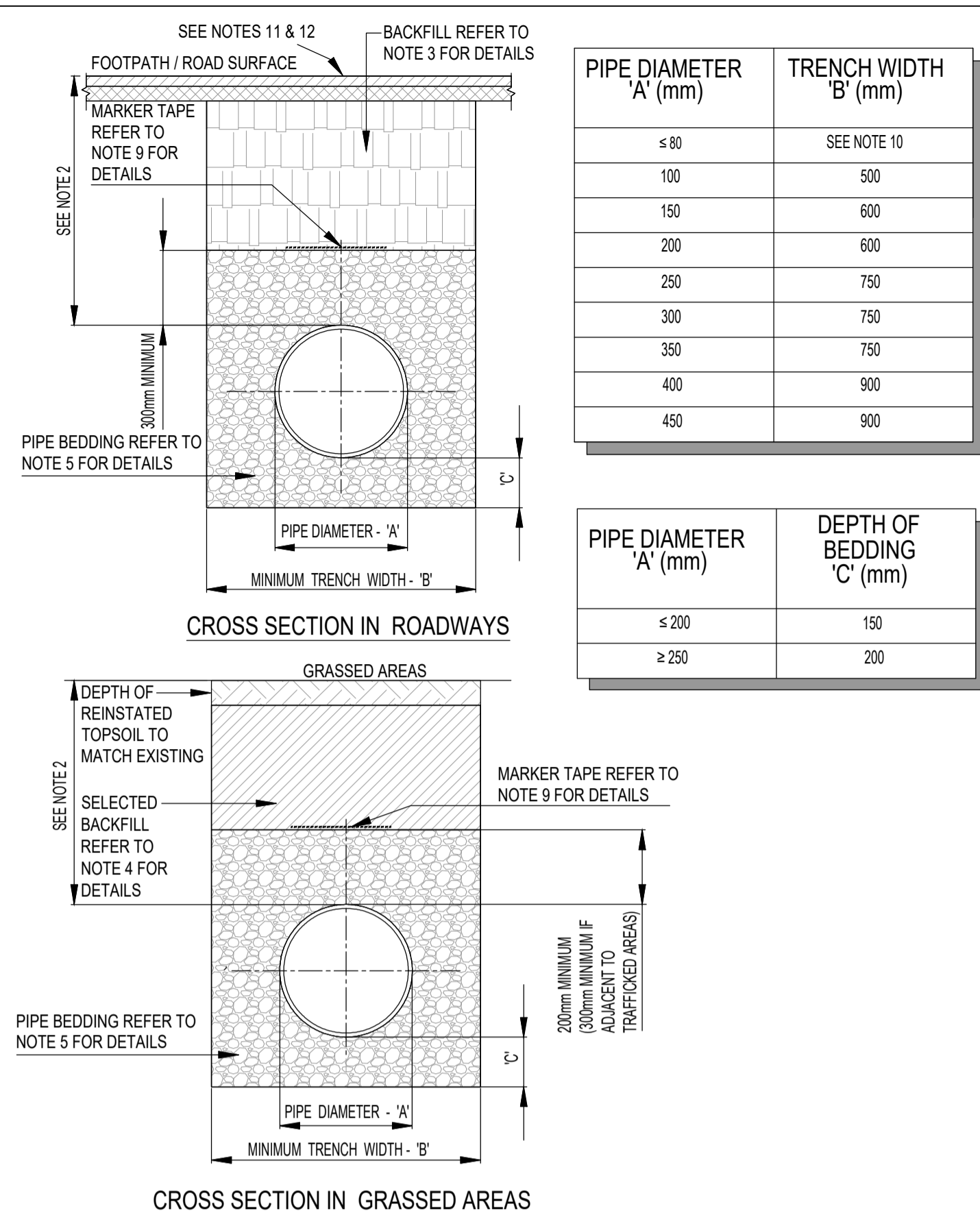
SCALE: NTS



ROOF PLAN

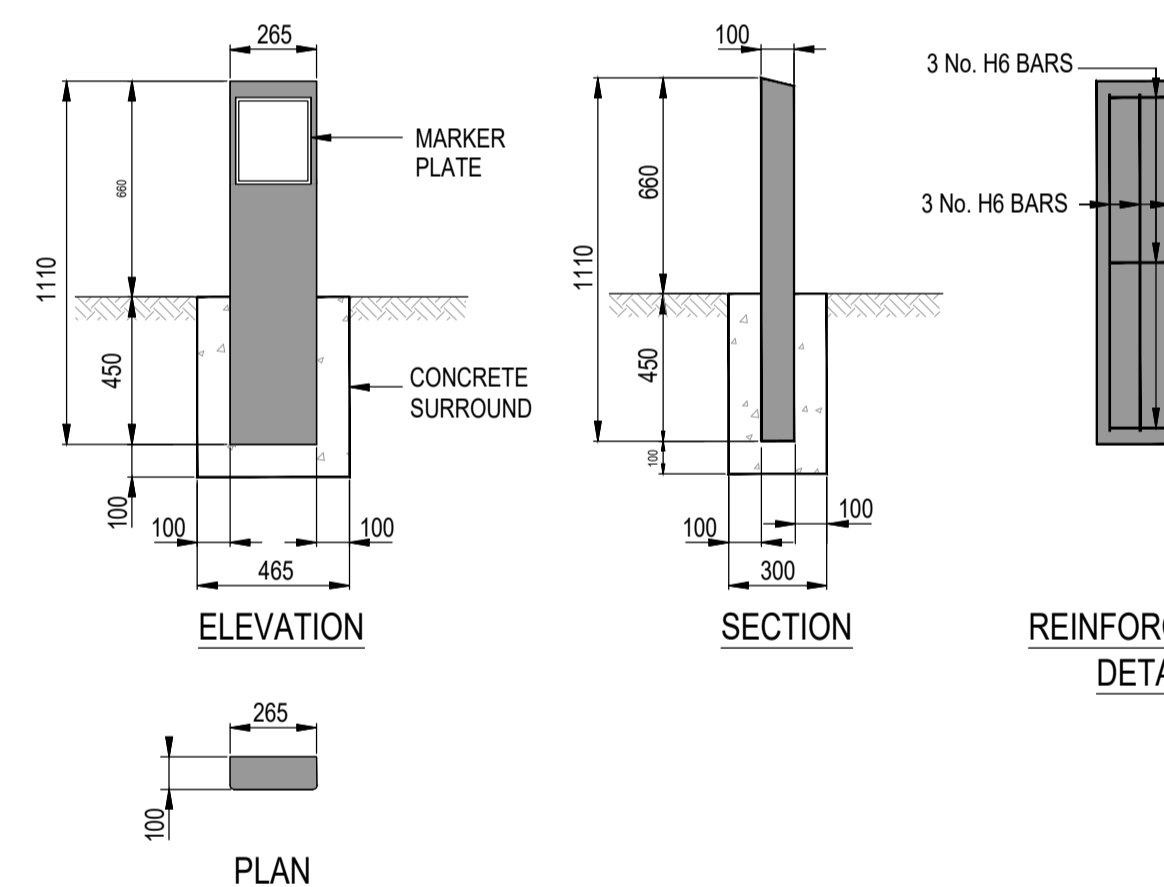


SLUICE VALVE CHAMBER
(PRECAST CONCRETE CONSTRUCTION)



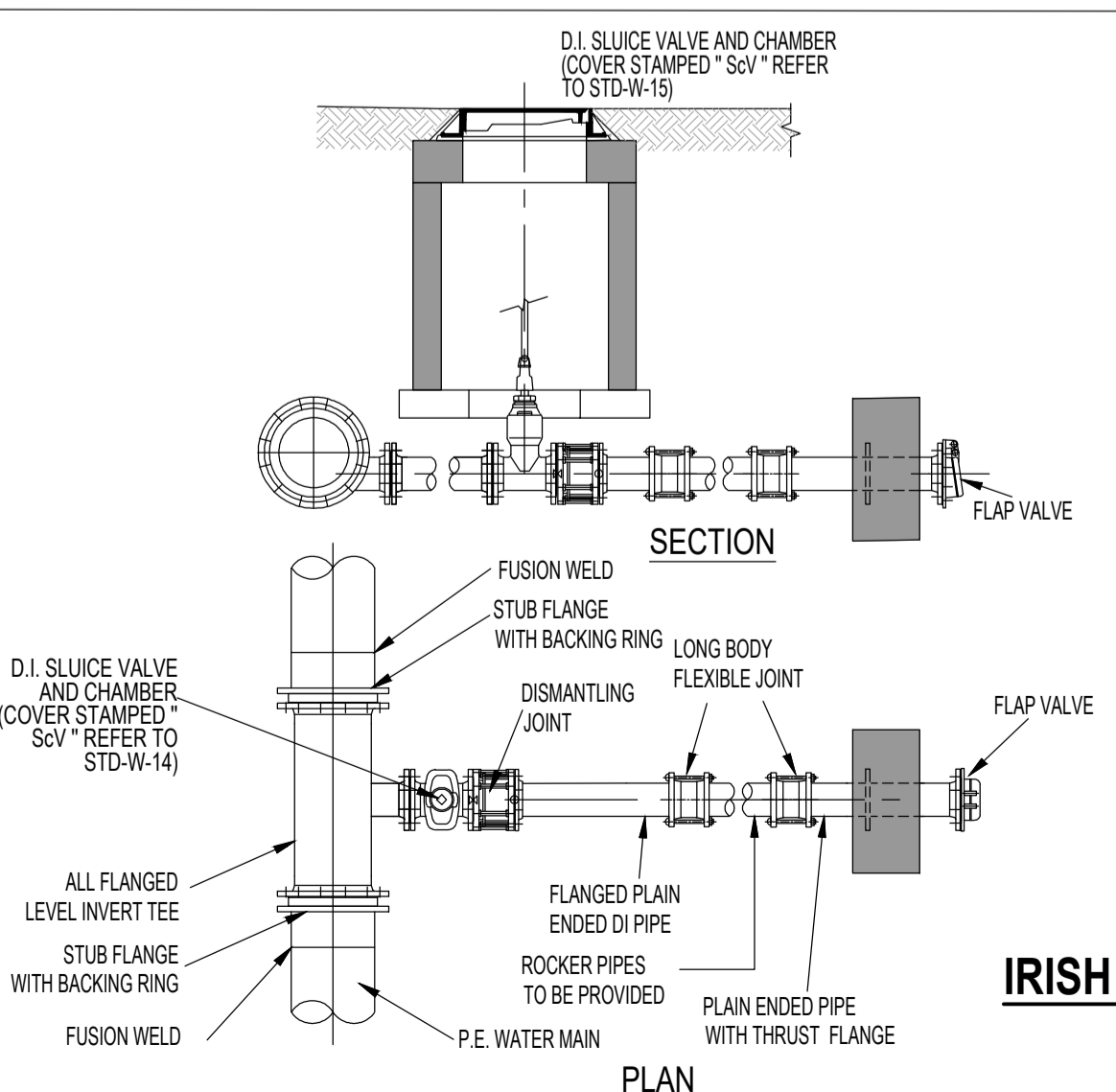
IRISH WATER DETAIL STD-W-13
TRENCH BACKFILL AND BEDDING IN ROADWAYS & GRASSED AREAS

SCALE: NTS



IRISH WATER DETAIL STD-W-27
MARKER POST PLATES

SCALE: NTS



IRISH WATER DETAIL STD-W-30
SCOUR CHAMBER

SCALE: NTS

PIPE BEDDING NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 900mm WHERE THE PIPE IS TO BE LOCATED IN HOUSING ESTATE ROADS. GREATER DEPTHS OF COVER AND/OR PIPE STRENGTH AND/OR A HIGHER CLASS OF BEDDING MATERIAL MAY BE REQUIRED WHERE HIGH TRAFFIC LOADING IS ANTICIPATED. THE DESIRABLE COVER FOR A WATERMAIN SHOULD BE 1200mm, WHERE PRACTICABLE & SHOULD NOT EXCEED 3.0m.
- CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE WATER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CLAUSE 804 / 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. CLAUSE 808 IS TO BE USED WITHIN 500mm OF CEMENT BOUND MATERIALS, CONCRETE PAVEMENTS, CONCRETE STRUCTURES OR CONCRETE PRODUCTS. OTHERWISE CLAUSE 804 MAY BE USED. ALTERNATIVE BACKFILL MATERIAL TO THAT DESCRIBED ABOVE (CLAUSE 804 OR CLAUSE 808) OF THE PIPE TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS LOCATED, PROVIDES WRITTEN APPROVAL TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL.
- SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm GRADED AGGREGATE OR 10mm SINGLE SIZED AGGREGATE TO IS EN 13242.
- IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED OUT AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY 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 IRISH WATER BEFORE ADVANCING WITH THE WORK.
- PIPES SHALL NOT BE SUPPORTED ON STONES OR ROCKS, OR ANY 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 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL. SHOULD MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE GRADE C8/10 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 A REINFORCED BRAND 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 ≤80mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS 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.

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

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
≤ 200	150
≥ 250	200

GENERAL NOTES:-

- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS & ENGINEERS DRAWINGS & SPECIFICATIONS.
- DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS & ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. ALL DISCREPANCIES TO BE NOTIFIED, IN WRITING TO ENGINEERS & ARCHITECTS FOR RESOLUTION.
- ALL DIMENSIONS ON DRAWINGS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
- FOR DETAILS AND SETTING OUT OF RWP, SVP, WVP & ALL OPENINGS SEE THE RELEVANT ARCHITECTS DRAWINGS.
- FOR RADON BARRIER, D.P.C. & INSULATION DETAILS REFER TO ARCHITECTS DRAWINGS

NOTE: DETAILS PROVIDED ARE IN ACCORDANCE WITH IRISH WATER DOCUMENT "WATER INFRASTRUCTURE STANDARD DETAILS, CONNECTIONS AND DEVELOPER SERVICES", CONSTRUCTION REQUIREMENTS FOR SELF LAY DEVELOPMENTS DECEMBER 2017 (REVISION 03) DOCUMENT NUMBER IS-CDS-5030-01

NOTE: THIS DOCUMENT IS LIABLE TO CHANGE. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DETAILS USED ON SITE ARE IN ACCORDANCE WITH THE MOST RECENT REVISION OF THE IRISH WATER STANDARDS.

ALL SETTING OUT DIMENSIONS TO BE CHECKED AGAINST ARCHITECTS DRAWINGS. ARCHITECTS DRAWINGS TO TAKE PRECEDENCE.

Issue Register

No.	Date	Description	Drawn	Checked	Approved
PL1	09/09/19	PLANNING ISSUE	MT	DCH	MJP

PLANNING

Client: LIMERICK CITY & COUNTY COUNCIL

Project: PROPOSED RESIDENTIAL DEVELOPMENT AT BLACKBOY RD / GREENHILL RD

Drawing Title: **PROPOSED WATERMAIN DETAILS SHEET 1**

Project No: 171027

Drawing No: 171027/C/032.1

Scale: N.T.S.

Revised: PL1

Drawn: MT

Checked: DCH

Date: 15/08/19

Martin Peters Associates Consulting Engineers

Overseas Road Agency

T: +353 (0) 7733311

E: info@mpa.ie

W: www.mpa.ie