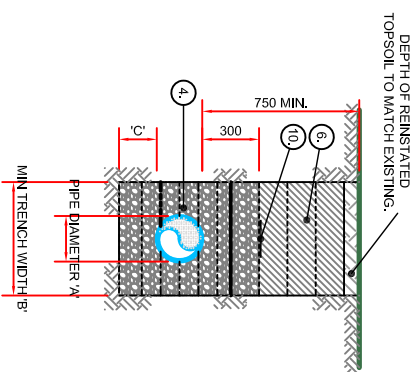


UNDER ROADS / HARDSTANDINGS / FOOTPATHS

SCALE 1:20

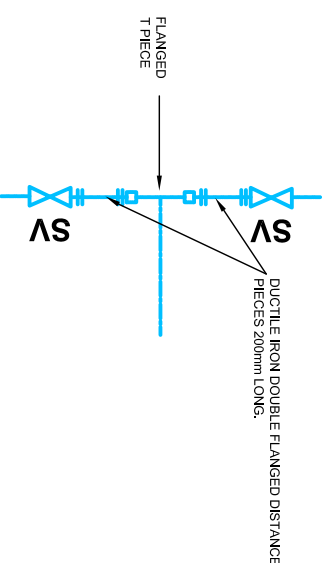
PIPE SIZE A (mm)	WIDTH OF TRENCH B (mm)
< 80	SEE NOTE 11.
100	500
150	600
200	600
250	750
300	750
350	750
400	900
450	900

PIPE SIZE A (mm)	DEPTH OF BEDDING C (mm)
< 200	150
> 200	200



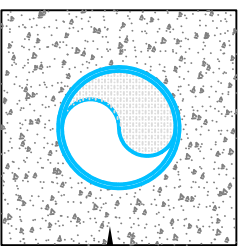
UNDER LANDSCAPED AREAS

SCALE 1:20



SCHEMATIC OF PROPOSED MAIN CONNECTION TO EXISTING WATERMAIN

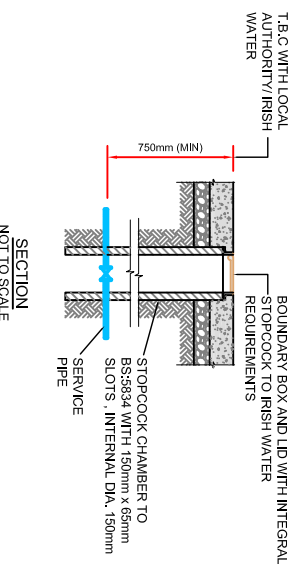
N.T.S.



CONCRETE ENCASMENT DETAIL WHERE MIN. COVER NOT PROVIDED

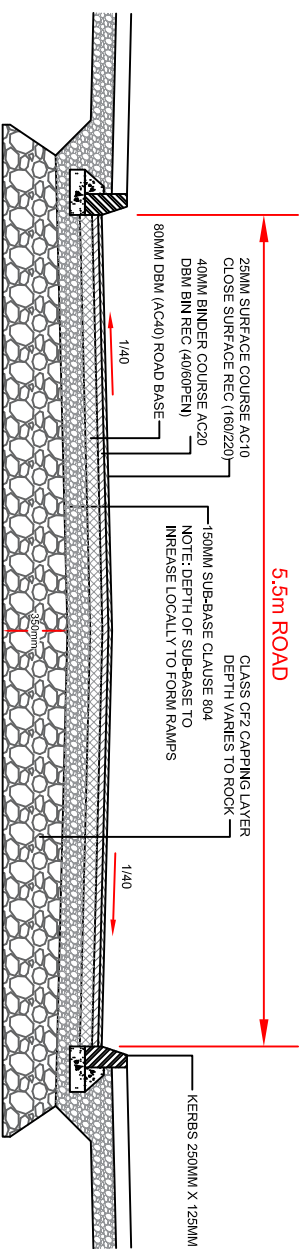
SCALE 1:10

PROVIDED WHERE COVER TO PIPES: < 1.2m IN ROADS OR PIPES UNDER BUILDINGS: < 0.9m IN GARDENS/GRASSSED AREAS



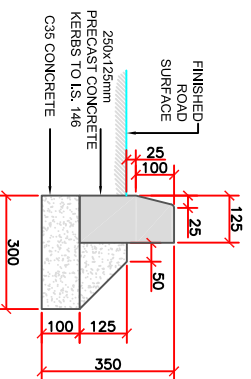
BOUNDARY BOX

SECTION NOT TO SCALE



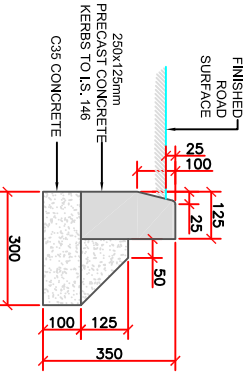
TYPICAL ROAD SECTION

SCALE 1:25



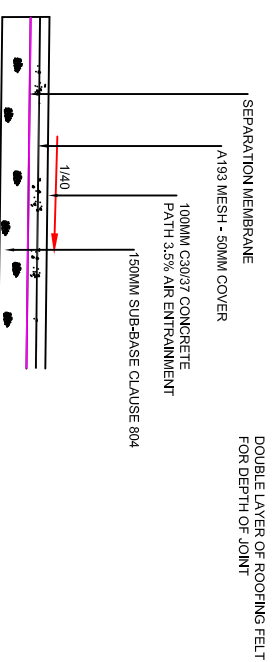
ROAD KERB SECTION

SCALE 1:10



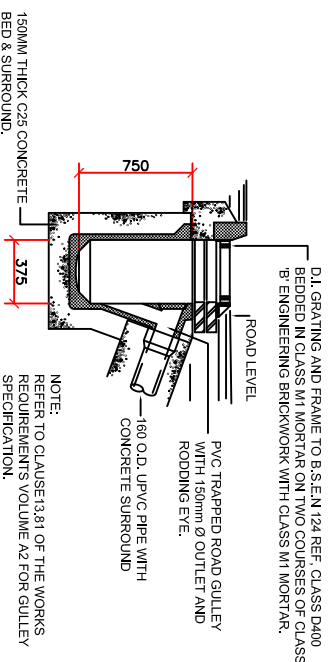
DROP KERB SECTION

SCALE 1:10



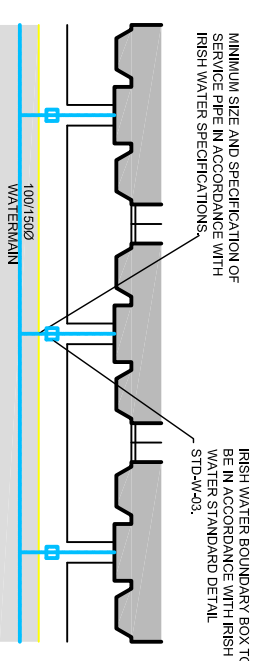
TYPICAL CONCRETE FOOTPATH DETAIL

SCALE 1:20



TYPICAL ROAD GULLY DETAIL

N.T.S.



TYPICAL WATER CONNECTION TO INDIVIDUAL UNITS

SCALE 1:200

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING. ALL DIMENSIONS TO BE CHECKED ON SITE. ENGINEER TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE COMMENCEMENT OF WORK.
3. THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL GROWN OF THE PIPE SHALL BE 750mm WITH AN ABSOLUTE MINIMUM OF 600mm FOR SHORT DISTANCES (SUBJECT TO IRISH WATER AGREEMENT). SEE SECTION 11.1 OF CODE OF PRACTICE FOR WATER MAINS (PART 1) FOR FURTHER DETAILS. ALL WATER MAINS SHALL BE INSTALLED TO A MINIMUM CLASS OF BEDDING. MATERIAL MAY BE REQUIRED WHERE HIGH TRAFFIC LOADING IS ANTICIPATED. THE MAXIMUM COVER SHOULD NOT EXCEED 1200mm WHERE FRACTURABLE.
4. REFER TO IRISH WATER STD-W-43 FOR CONSTRUCTION DETAILS. METER SPECIFICATION TO BE IN ACCORDANCE WITH IRISH WATER SPECIFICATIONS.
5. ALL WORKS TO BE IN ACCORDANCE WITH IRISH WATER'S CODE OF PRACTICE FOR WATER INFRASTRUCTURE.

6. CLAUSE 804 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 PAVED EDGE OF THE ROADWAY, CLAUSE 804 IS TO BE COMPLETED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS.
7. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN FIELD AREAS ABOVE GRANULAR PIPE IN SOFT GROUND CONDITIONS (OPEN). THE MATERIAL SHOULD BE EXCAVATED OUT AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 804 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS INCLUDING FILING 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.
8. THE SERVICE PIPE SHALL BE INSTALLED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 804 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR BACKFILL MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE GRADE C810 SHALL BE USED AS BACKFILL MATERIAL.

9. WARRING TAPES TO BE 40mm wide BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 1248. PLASTIC PIPES SHALL HAVE WARNING TAPE INCORPORATED A REINFORCED BAND BRACING WIRE. SERVICE PIPES SHALL HAVE 200mm WIDE MESH TAPE/MARKER TAPE TO BE LAID GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.
10. WATERMAIN PIPES SHALL BE SUBJECT TO IRISH WATER REQUIREMENTS:
 - (a) POLYETHYLENE PIPES AND FITTINGS COMPLYING WITH I.S. EN 12201:2011.
 - (b) SERVICE PIPES SHALL HAVE A MINIMUM 12mm INTERNAL DIAMETER & SHALL BE ONE OF THE FOLLOWING TYPES UNLESS OTHERWISE APPROVED:
 - (i) POLYETHYLENE PIPE TYPE 32 COMPLYING WITH I.S. 134 HEAVY GAUGE.
 - (ii) POLYETHYLENE PIPE TYPE 80 COMPLYING WITH I.S. 135 FITTINGS & SPECIALS SHALL BE APPROVED BY ENGINEER.

11. STOPCOCKS COMPLYING WITH B.S. 1010 SHALL BE PROVIDED ON EACH SERVICE PIPE. STOPCOCKS SHALL BE LOCATED IN FOOTPATH FRONTING THE PROPERTY BEING SERVED. THE DEPTH OF THE STOPCOCK SPINDLE SHALL NOT EXCEED 200mm.
12. SLUICE VALVES SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO BE INSTALLED TO A MINIMUM OF 150mm BELOW FINISHED ROAD AND 750mm BELOW FINISHED GROUND LEVEL. SLUICE VALVES SHALL BE DOUBLE FLANGED WITH DUCTILE IRON RESILIENT SEAL GATE VALVES. SUITABLE FOR USE IN WATER MAINS. THEY SHALL COMPLY WITH THE REQUIREMENTS OF I.S. EN 1248. ALL SLUICE VALVES SHALL BE ANTI-CLOCKWISE CLOSING.
13. VALVE CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCK WORK. ALTERNATIVELY, PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 MATERIAL AS PER STD-W-13.
14. 200MM ALL AROUND, 100MM DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL THURST BLOCKS NOT SHOWN ON DRAWING TO BE PROVIDED AS PER STANDARD DRAWING STD-W-29 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PRES AT STEEP SLOPES.
15. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
16. REFER TO IRISH WATER STD-W-14 AND 15 FOR CONSTRUCTION DETAILS.

17. WORKS OF THIS CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO I.S. 261 AND B.S. 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER.
18. HYDRAULIC SHALL BE DOUBLE FLANGED DRAINED TO RN 16. THEY SHALL COMPLY WITH BS 759 TO HEAD TYPE WITH SCREW DOWN CONNECTION OUTLET AND FALSE SPINDLE CAP AND IRON CHAIN.
19. ALL HYDRAULIC SHALL BE CLOCKWISE CLOSING.
20. PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCK WORK, ALTERNATIVELY, PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED. SUBJECT TO APPROVAL FROM IRISH WATER.
21. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150MM COMPACTED CLAUSE 31, 200MM ALL AROUND, 100MM DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BARS AROUND COVERS IN GREEN AREAS.
22. THURST BLOCKS AND SINKING ON DRAWING TO BE PROVIDED AS PER STANDARD DRAWING STD-W-29 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PRES AT STEEP SLOPES.
23. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
24. ALL CONCRETE TO BE IN ACCORDANCE WITH I.S. EN 206.
25. REFER TO IRISH WATER STD-W-16 TO 19 FOR CONSTRUCTION DETAILS.
26. AIR VALVES
27. REFER TO IRISH WATER STD-W-20 TO 23 FOR CONSTRUCTION DETAILS.
28. INDICATED PLATES, ANCHOR BOLTS
29. REFER TO IRISH WATER STD-W-27 FOR DETAILS OF ALL MARKER POSTS/SPALES.
30. PRESSURE REDUCING/SUSTAINING VALVE CHAMBER
31. REFER TO IRISH WATER STD-W-28 FOR CONSTRUCTION DETAILS.
32. BOOSTER PUMP STATION ARRANGEMENT
33. REFER TO IRISH WATER STD-W-25 FOR CONSTRUCTION DETAILS.
34. METER CHAMBERS
35. REFER TO IRISH WATER STD-W-48 FOR CONSTRUCTION DETAILS. METER SPECIFICATION TO IRISH WATER APPROVAL.
36. THURST AND SUPPORT BLOCKS
37. REFER TO IRISH WATER STD-W-29 FOR CONSTRUCTION DETAILS.
38. OTHER
39. REFER TO IRISH WATER STD-W-29 TO 37 FOR DUCT CHAMBER, SCOUR CHAMBER AND HEAD WALL ARRANGEMENT, DUCTS/TRENCHES/BRODGE CROSSINGS, SECURITY GATES AND FENCING PIPE REPAIRS, TELEMETRY AND LOGS AND DAMP BOLLARD STANDARD CONSTRUCTION DETAILS.

- NOTES:
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
 2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
 3. ENGINEER/PROVEYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES TAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES UTILITIES ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES.
 4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	Issue for	By	Chk
A	20/06/2018			JK	BR

Client: **ARLUM LTD.**
 Project: **Residential Development Moneyduff, Oranmore Co. Galway**

Title: **Standard Watermain Details and Roads Footpaths Sections**

Scale @ A1: **As Shown**
 Prepared by: **JK**
 Project Director: **Michael McDonnell**
 Drawing Status: **Planning**

TOBIN
 Patrick A. Tobin & Co. Ltd.
 Tobin Consulting Engineers,
 Fairgreen House, Fairgreen Road,
 Galway, Ireland.
 Tel: +353-(0)91-565211
 Fax: +353-(0)91-565398
 e-mail: galway@tobin.ie
 www.tobin.ie

Drawing No.: **10402-2014** Revision: **A**