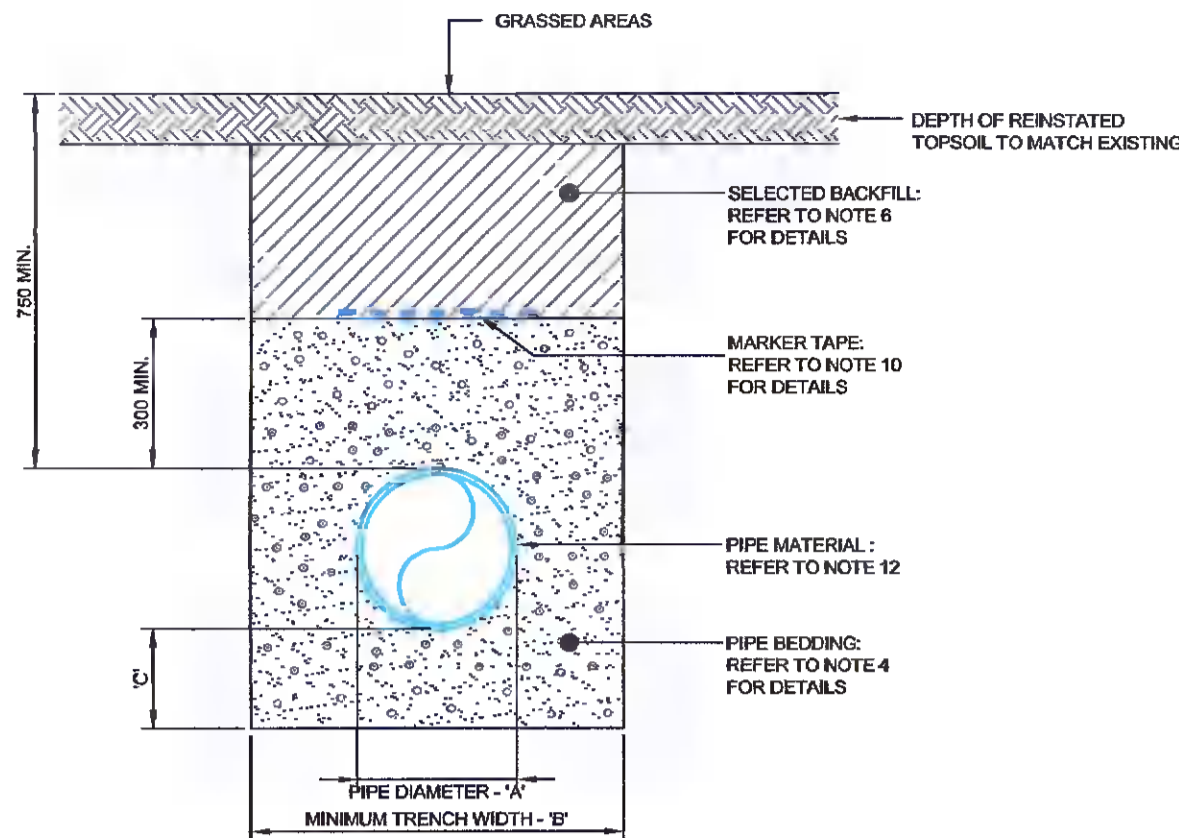


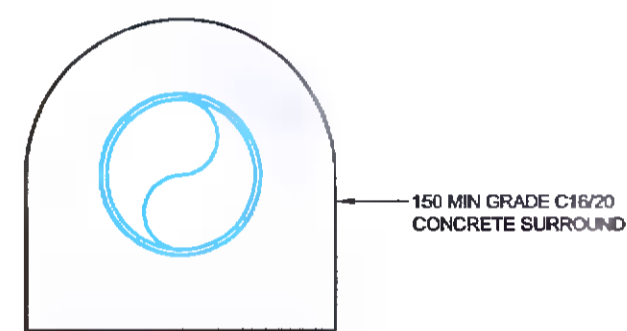
CROSS SECTION IN ROADWAYS



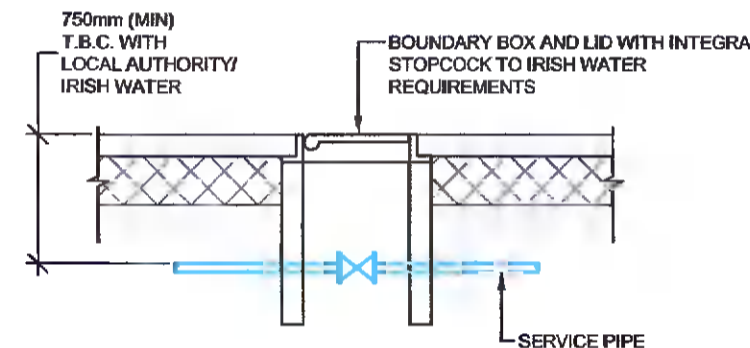
CROSS SECTION GRASSED AREAS

| PIPE DIAMETER 'A' (mm) | TRENCH WIDTH 'A' (mm) |
|------------------------|-----------------------|
| 75 | 500 |
| 100 | 500 |
| 150 | 600 |
| 200 | 600 |
| 250 | 750 |
| 300 | 750 |
| 350 | 750 |
| 400 | 900 |
| 450 | 900 |

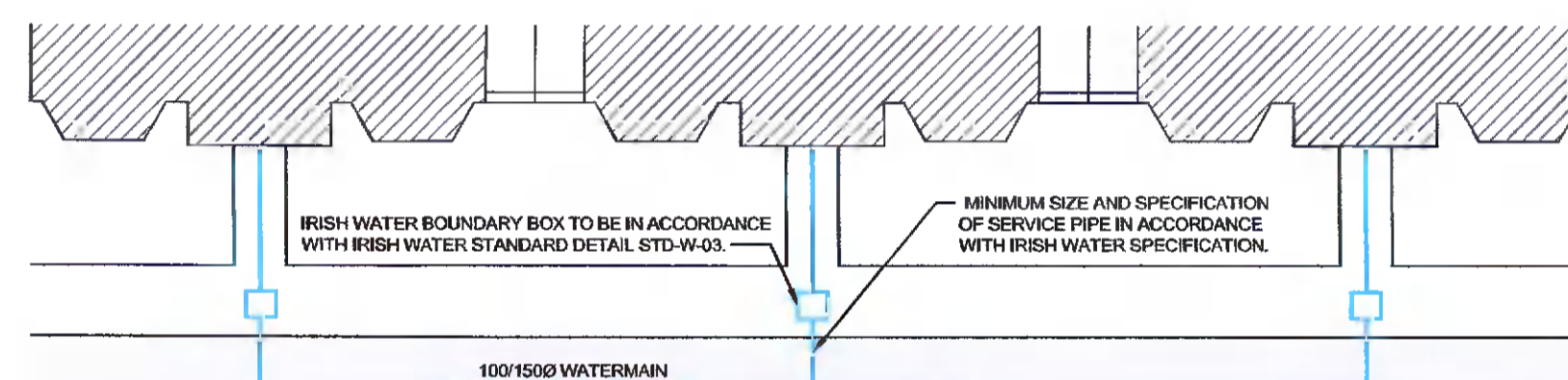
| PIPE DIAMETER 'A' (mm) | DEPTH OF BEDDING 'C' (mm) |
|------------------------|---------------------------|
| < 200 | 150 |
| > 250 | 200 |



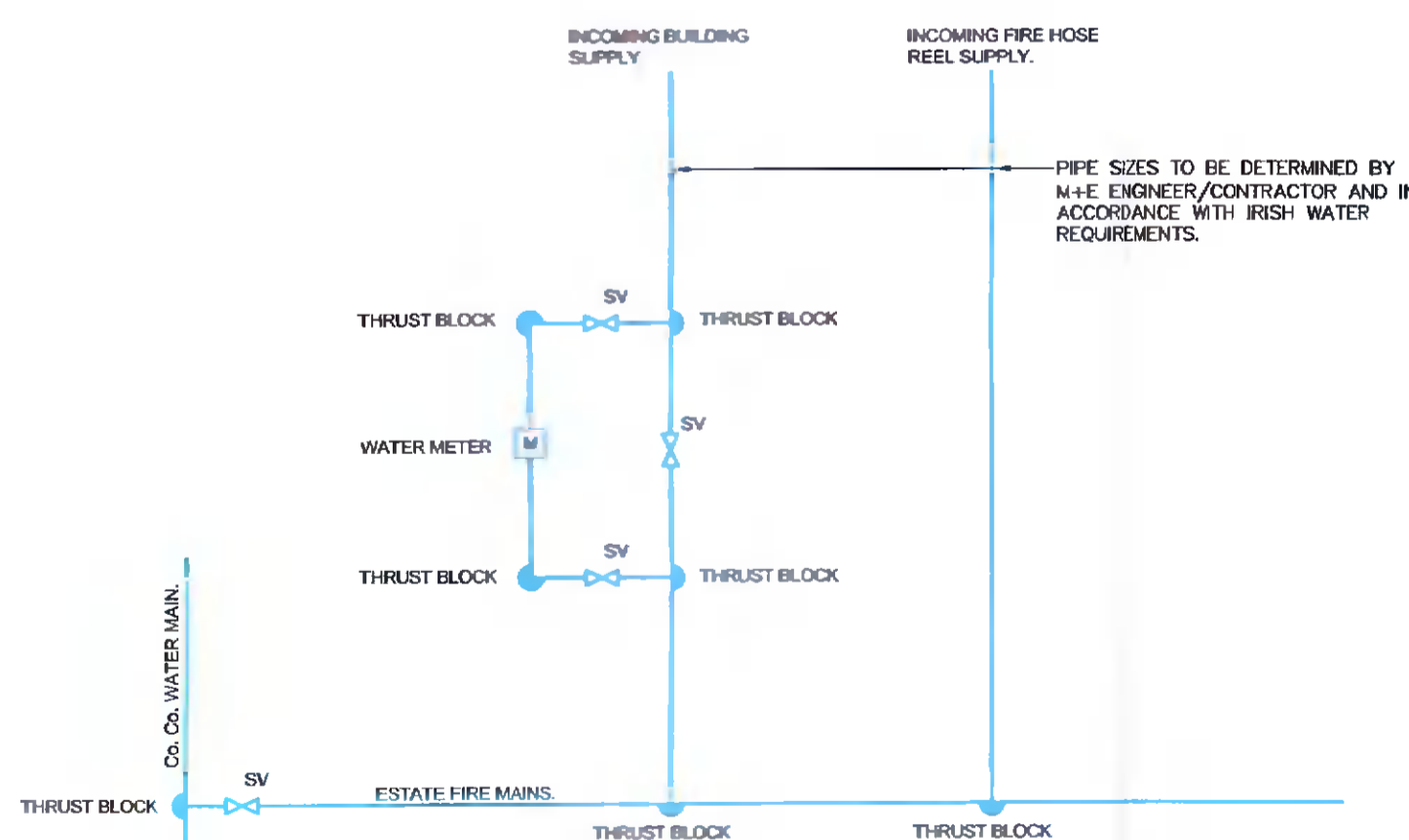
CONCRETE ENCASEMENT DETAIL WHERE MIN. COVER NOT PROVIDED
PROVIDED WHERE COVER TO PIPES < 1.2m IN ROADS OR FOR PIPES UNDER BUILDINGS < 0.9m IN GARDENS / GRASSED AREAS



BOUNDARY BOX SECTION
BOUNDARY BOX DETAILS



TYPICAL WATER CONNECTION TO INDIVIDUAL UNITS



TYPICAL BUILDING CONNECTION DETAIL

NOTES

- THIS DRAWING TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS.
- 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 WORK PROCEEDS.
- 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. GREATER DEPTHS OF COVER AND/OR PIPE STRENGTH AND/OR A HIGHER CLASS OF BEDDING MATERIAL MAY BE REQUIRED WHERE HIGH TRAFFIC LOADINGS ARE ANTICIPATED. THE MAXIMUM COVER SHOULD NOT EXCEED 1200mm WHERE PRACTICABLE.
- PIPE BEDDING SHALL COMPLY WITH WS 4-08-02 AND IGN 4-08-01. GRANULAR MATERIAL SHALL BE 4mm TO 5mm GRADED AGGREGATE OR 10mm SINGLE SIZED AGGREGATE TO ISEN 13242.
- BACKFILL: CLAUSE 804/888 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE WATER MAINS 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 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. CLAUSE 808 MATERIAL IS TO BE USED WITHIN 500mm OF CEMENT BOUND MATERIALS OR CONCRETE PAVEMENTS / STRUCTURES / PRODUCTS.
- SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO THE APPROVAL OF IRISH WATER.
- IN SOFT GROUND CONDITIONS (CBR<6) 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.
- WARNING MESH: MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 12163. 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 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.
- WATERMAIN PIPES JOINTS & FITTINGS SHALL BE SUBJECT TO IRISH WATER REQUIREMENTS. REFER TO DAS200 SITEWORKS SPECIFICATIONS FOR APPROVED WATERMAIN PIPE MATERIAL TYPES.
- SERVICE CONNECTION PIPES SHALL HAVE A MINIMUM 20mm INTERNAL DIAMETER & SHALL BE OF HOPE OR HOPE (PE-80) MATERIAL WITH SDR-11 OR SDR-17 RATING, UNLESS OTHERWISE AGREED WITH IRISH WATER. ALL PLASTIC SERVICE CONNECTION PIPES SHALL BE BLUE IN COLOUR.
- BOUNDARY BOXES: ALL SERVICE CONNECTIONS SHALL INCLUDE AN APPROVED IRISH WATER BOUNDARY BOX WITH INTEGRAL STOP COCK. REFER TO IRISH WATER STD-W-03 FOR DETAILS.
- SERVICE VALVES: SLUICE VALVE CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO I.S. 291 AND B.S. 6534. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER.
- 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 1074 AND THEY SHALL HAVE THE APPROPRIATE CE MARKING.
- 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 APPROVAL FROM IRISH WATER.
- CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 MATERIAL AS PER STD-W-13.
- 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
- THRUST BLOCKS (NOT SHOWN ON DRAWING) TO BE PROVIDED AS PER STANDARD DRAWING STD-W-26 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 I.S. EN 206.
- REFER TO IRISH WATER STD-W-14 AND 15 FOR CONSTRUCTION DETAILS.
- HYDRANTS: HYDRANT CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO I.S. 291 AND B.S. 6534. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO THE APPROVAL OF IRISH WATER.
- ALL HYDRANTS, SURFACE BOX FRAMES AND COVERS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF ISEN 1439, ISEN 1074 AND BS 750. FIRE HYDRANTS SHALL BE TYPE 2. THE HYDRANT INLET SHALL BE 80mm DIAMETER WITH FN16.
- ALL HYDRANTS SHALL BE CLOCKWISE CLOSING.
- HYDRANT CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY, PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO APPROVAL FROM IRISH WATER.
- CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150MM COMPACTED CLAUSE 804 MATERIAL AS PER STD-W-13.
- 200MM ALL AROUND, 100MM DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
- THRUST BLOCKS (NOT SHOWN ON DRAWING) TO BE PROVIDED AS PER STANDARD DRAWING STD-W-26 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 I.S. EN 206.
- REFER TO IRISH WATER STD-W-16 TO 19 FOR CONSTRUCTION DETAILS.
- AIR VALVES: REFER TO IRISH WATER STD-W-20 TO 23 FOR CONSTRUCTION DETAILS.
- INDICATOR PLATES & MARKER POSTS: REFER TO IRISH WATER STD-W-27 FOR DETAILS OF ALL MARKER POSTS/PLATES.
- PRESSURE REDUCING/SUSTAINING VALVE CHAMBER: REFER TO IRISH WATER STD-W-24 FOR CONSTRUCTION DETAILS.
- BOOSTER PUMP STATION ARRANGEMENT: REFER TO IRISH WATER STD-W-25 FOR CONSTRUCTION DETAILS.
- METER CHAMBERS: REFER TO IRISH WATER STD-W-26 FOR CONSTRUCTION DETAILS. REFER TO IRISH WATER STD-W-25 FOR CONSTRUCTION DETAILS.
- THRUST AND SUPPORT BLOCKS: REFER TO IRISH WATER STD-W-28 FOR CONSTRUCTION DETAILS.
- OTHER: REFER TO IRISH WATER STD-W-29 TO 37 FOR DUCT CHAMBER, SCOUR CHAMBER AND HEAD WALL ARRANGEMENT, DUCTS/TRENCH BRIDGE CROSSINGS, SECURITY GATES AND FENCING, PIPE REPAIRS, TELEMETRY AND KIOSK AND LAMP BOLLARD STANDARD CONSTRUCTION DETAILS.

NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS.
- 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 ANY WORK PROCEEDS.
- REFER TO DRAWING JOB NUMBER 000 FOR PROJECT SPECIFICATION.

| Rev | Date | Amendments | by | chkd |
|-----|------|------------|----|------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | | | |
|---|----------------|--------------|------|---------|
| PROJECT | | | | |
| PROPOSED PAINT STORE AT GALCO, BALLYMOUNT | | | | |
| CLIENT | | | | |
| GALCO | | | | |
| DRAWING TITLE | | | | |
| WATERMAIN DETAILS | | | | |
| drawn by: DB | date: 01.04.22 | scale: N.T.S | @ A1 | chk: IC |
| GALC - DOW - 00 - XX-DR-CE | | | | |
| 21183 | 5013 | | | P-01 |
| DOW Project No. | drg. no. | | | rev. |

S4 - FOR STAGE APPROVAL
Stability Status: Code - Description
Cashel Business Centre,
Cashel Road, Kimmage, Dublin 12
T 01 4901611
E admin@downesassociates.ie
www.downesassociates.ie