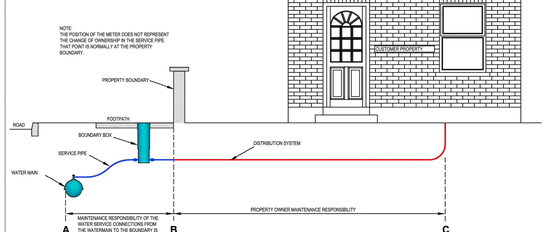
1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.



MAINTENANCE RESPONSIBILITY	
A - B SERVICE PIPE	SEE NOTE ABOVE
METER / BOUNDARY BOX	IRISH WATER
B - C (DISTRIBUTION SYSTEM)	PROPERTY OWNER
INTERNAL PLUMBING	PROPERTY OWNER

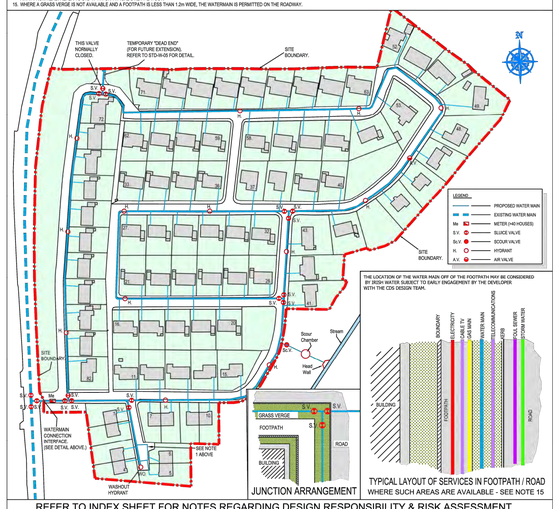
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

No.	Date	Drn	Chk	Description	App
0	09/15	JMC	TOC	Initial Issue	SL
1	07/20	RH	TOC	Responsibility Changed	WD

STANDARD DETAILS - WATER | SCALE NOT TO SCALE | DATE SEPT. 2015

TITLE: WATER SERVICE CONNECTION RESPONSIBILITY | DRAWING No. STD-W- 01 | REV 1

1. WATER MAIN LAYOUTS SHALL BE ARRANGED IN LOOPS OR RINGS SO AS TO AVOID 'DEAD ENDS' OR TERMINAL POINTS. ALL MAINS SHALL TERMINATE IN A LOOP OR RING TO ACCOMMODATE ONE-DIRECTIONAL FLUSHING OF THE NETWORK. LOOPS SHALL HAVE A MINIMUM OF 4 HOUSES AND 1 HYDRANT.
2. THE MINIMUM PIPE SIZE SHALL BE 100mm INTERNAL DIAMETER IN HOUSING DEVELOPMENTS OF 40 AND UP TO 100 HOUSES. DEVELOPMENTS OF 100 HOUSES AND ABOVE SHALL HAVE A MINIMUM PIPE SIZE OF 150mm INTERNAL DIAMETER SPINE AND 100mm BRANCH MAINS. NOMINAL INTERNAL DIAMETERS OF 80mm AND LESS MAY BE ALLOWED IN SMALLER DEVELOPMENTS BUT NOT WHERE HYDRANTS ARE LOCATED AND ONLY AFTER PRIOR WRITTEN AGREEMENT FROM IRISH WATER.
3. 100mm INTERNAL DIAMETER PIPE SHALL BE THE MINIMUM PIPE SIZE FOR COMMERCIAL DEVELOPMENTS.
4. EVERY PREMISE SHOULD HAVE A SEPARATE SERVICE CONNECTION. THE USE OF COMMON SERVICE PIPES IS NOT ALLOWED. SERVICE CONNECTIONS SHALL BE AS SHORT AS REASONABLY POSSIBLE. LONG SERVICE CONNECTIONS (IN EXCESS OF 15m) WILL NOT BE ALLOWED. A RIDER MAIN AT THE OPPOSITE SIDE OF THE ROAD TO THE MAIN WATER MAIN MAY BE REQUIRED SUBJECT TO APPROVAL FROM IRISH WATER. SERVICE CONNECTIONS SHALL BE A MINIMUM PIPE SIZE OF 25mm OUTSIDE DIAMETER, 20mm INTERNAL DIAMETER.
5. WATER MAINS SHOULD BE LAID TO PROVIDE THE OPTIMUM CIRCULATION IN THE LOCAL WATER NETWORK. WATER MAINS SHOULD NOT TERMINATE IN A DEAD END ONLY WITH IRISH WATER APPROVAL, IN WHICH CASE AN ON-LINE WASHOUT HYDRANT SHALL BE PROVIDED AT THE DEAD END, IN ACCORDANCE WITH STD-W-14.
6. VALVES SHALL BE ARRANGED IN SUCH A MANNER TO ALLOW THE NETWORK TO BE MANAGED TO ENSURE THAT NO MORE THAN 40 PROPERTIES LOSE WATER FROM A BURST ON THE SYSTEM, AT ANY ONE TIME.
7. NO DOMESTIC PROPERTY SHALL BE MORE THAN 46m FROM A HYDRANT. HYDRANT DETAILS AND LOCATIONS SHALL BE SUBJECT TO THE APPROVAL OF THE RELEVANT LOCAL AUTHORITY FIRE DEPARTMENT.
8. WATER SUPPLY MAINS SHALL BE LAID IN COMMON AREAS AND NOT THROUGH INDIVIDUAL PRIVATE GARDENS OR DRIVEWAYS ETC.
9. A THREE-WAY VALVE ARRANGEMENT SHALL BE PROVIDED AT ALL JUNCTIONS, AS A MINIMUM.
10. THE DISTRIBUTION PIPEWORK WITHIN THE PREMISES SHOULD BE LOCATED AT THE RIGHT HAND SIDE OF THE ENTRANCE TO THE NEW DEVELOPMENT (WHEN VIEW FACING INTO THE DEVELOPMENT) IF POSSIBLE AND WHERE THE PROPERTIES ARE EQUALLY AND REASONABLY DISTRIBUTED AT BOTH SIDES OF THE ESTATE ROADWAY.
11. AIR VALVES TO BE LOCATED AT POINTS WHERE AIR IS EXPECTED TO BUILD UP.
12. THE DEVELOPER IS TO LIAISE WITH THE FIRE SERVICES AUTHORITY IN ORDER TO ENSURE FREE FLOWS ARE AVAILABLE THROUGHOUT THE DEVELOPMENT.
13. BULK FLOW METERS SHALL BE FITTED IN ALL DEVELOPMENTS WITH A DEMAND IN EXCESS OF 20m³ PER DAY. BULK FLOW METERS SHALL HAVE A FACTORY FITTED AMR AND INSTALLED IN A SUITABLE SIZED CHAMBER. DEVELOPMENTS WITH DEMANDS LESS THAN 20m³ PER DAY SHALL BE PROVIDED WITH A DEDICATED BYPASS PIPEWORK AND CHAMBER IN ACCORDANCE WITH STD-W-26F TO ACCOMMODATE THE INSTALLATION OF A FUTURE METER.
14. WATERMAINS TO BE LOCATED IN GRASS VERGE. IF GRASS VERGE IS NOT AVAILABLE, WATERMAIN TO BE LOCATED UNDER FOOTPATH AWAY FROM KERB. REFER TO STD-W-11 FOR TYPICAL UTILITY LAYOUT.
15. WHERE A GRASS VERGE IS NOT AVAILABLE AND A FOOTPATH IS LESS THAN 1.2m WIDE, THE WATERMAIN IS PERMITTED ON THE ROADWAY.



REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

No.	Date	Drn	Chk	Description	App
0	09/15	JMC	TOC	Initial Issue	SL
1	11/17	JMC	TOC	Tang. 'dead end' & side 1 of valve	WOD
2	07/20	RH	TOC	Connection Interface Detail added, notes added	WOD

STANDARD DETAILS - WATER | SCALE NOT TO SCALE | DATE SEPT. 2015

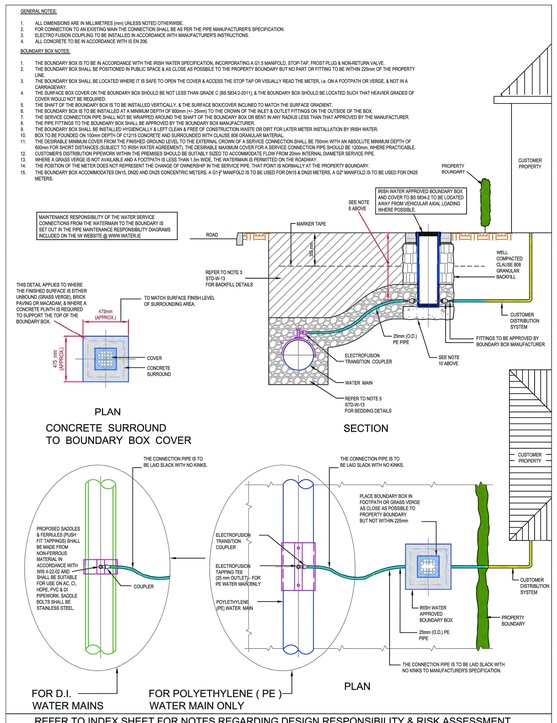
TITLE: TYPICAL LAYOUT FOR WATER MAINS WITHIN DEVELOPMENTS | DRAWING No. STD-W- 02 | REV 2

GENERAL NOTES:

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

BOUNDARY BOX NOTES:

1. THE BOUNDARY BOX IS TO BE IN ACCORDANCE WITH THE IRISH WATER SPECIFICATION, INCORPORATING A G13 MANIFOLD, STOP-TAP, FROST PLUG & NON-RETURN VALVE.
2. 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 BOUNDARY.
3. 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.
4. THE SURFACE BOX COVER ON THE BOUNDARY BOX SHOULD BE NOT LESS THAN GRADE C (B5 SEMI-3 2011) & THE BOUNDARY BOX SHOULD BE LOCATED SUCH THAT HEAVIER GRADES OF COVER WOULD NOT BE REQUIRED.
5. THE SHAFT OF THE BOUNDARY BOX IS TO BE INSTALLED VERTICALLY, & THE SURFACE BOX/COVER INCLINED TO MATCH THE SURFACE GRADIENT.
6. 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.
7. THE BOUNDARY BOX SHALL BE FITTED WITH A FROST PLUG & NON-RETURN VALVE, WHICH SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER, THE PIPE FITTINGS TO THE BOUNDARY BOX SHALL BE APPROVED BY THE BOUNDARY BOX MANUFACTURER.
8. THE BOUNDARY BOX SHALL BE INSTALLED HYGIENICALLY & LEFT CLEAN & FREE OF CONSTRUCTION WASTE OR DIRT FOR LATER METER INSTALLATION BY IRISH WATER.
9. BOX TO BE FOUNDED ON 150mm THICK (DEPTH OF 2) BRIX CONCRETE AND SURROUNDED WITH CLASS B GRANULAR MATERIAL.
10. 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.
11. CUSTOMER'S DISTRIBUTION PIPEWORK WITHIN THE PREMISES SHOULD BE SUITABLY SIZED TO ACCOMMODATE FLOW FROM 25mm INTERNAL DIAMETER SERVICE PIPE.
12. THE BOUNDARY BOX SHOULD BE LOCATED AT POINTS WHERE AIR IS EXPECTED TO BUILD UP.
13. THE POSITION OF THE METER DOES NOT REPRESENT THE OWNERSHIP OF THE SERVICE PIPE. THAT POINT IS NORMALLY AT THE PROPERTY BOUNDARY.
14. THE BOUNDARY BOX ACCOMMODATES UNITS, DN20 AND DN25 CONCENTRIC METERS. A G1 2" MANIFOLD IS TO BE USED FOR DN15 & DN20 METERS, A 1½" MANIFOLD IS TO BE USED FOR DN25 METERS.



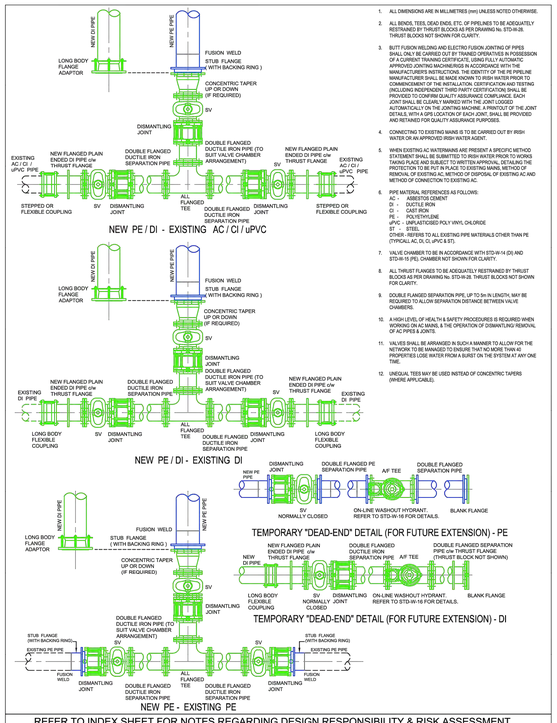
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

No.	Date	Drn	Chk	Description	App
0	09/15	JMC	TOC	Initial Issue	SL
1	04/16	JMC	TOC	Revised D.I. service mapping detail	WOD
2	06/16	JMC	TOC	Revised notes & details	WOD
3	11/17	JMC	TOC	Added dimensions & notes	WOD
4	07/20	RH	TOC	Service connection ownership revised, notes added	WOD

STANDARD DETAILS - WATER | SCALE NOT TO SCALE | DATE SEPT. 2015

TITLE: CUSTOMER CONNECTION AND BOUNDARY BOX (25mm OD PIPE) | DRAWING No. STD-W- 03 | REV 4

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. ALL BENDS, TEES, DEAD ENDS, ETC. OF PIPELINES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DRAWING No. STD-W-28.
3. BUTT FUSION WELDING AND ELECTRO FUSION JOINTING OF PIPES SHALL ONLY BE CARRIED OUT BY TRAINED OPERATIVES IN POSSESSION OF A CURRENT TRAINING CERTIFICATE, USING FULLY AUTOMATIC APPROVED JOINTING MACHINERIES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE IDENTITY OF THE PE PIPELINE MANUFACTURER SHALL BE MADE KNOWN TO IRISH WATER PRIOR TO COMMENCEMENT OF THE INSTALLATION. CERTIFICATION AND TESTING (INCLUDED TRACEABILITY) OF THE JOINTING MACHINERY SHALL BE INDEPENDENT THIRD PARTY CERTIFICATION SHALL BE PROVIDED TO CONFIRM QUALITY ASSURANCE COMPLIANCE. EACH JOINT SHALL BE CLEARLY MARKED WITH THE JOINT LOGGED AUTOMATICALLY ON THE JOINTING MACHINE. A PRINTOUT OF THE JOINT DETAILS, WITH A GPS LOCATION OF EACH JOINT, SHALL BE PROVIDED AND RETAINED FOR QUALITY ASSURANCE PURPOSES.
4. CONNECTING TO EXISTING MAINS IS TO BE CARRIED OUT BY IRISH WATER OR AN APPROVED IRISH WATER AGENT.
5. WHEN EXISTING AC WATERMAINS ARE PRESENT A SPECIFIC METHOD STATEMENT SHALL BE SUBMITTED TO IRISH WATER PRIOR TO WORKS TAKING PLACE AND SUBJECT TO WRITTEN APPROVAL, DETAILING THE PROTECTION TO BE PUT IN PLACE TO EXISTING MAINS, METHOD OF REMOVAL OF EXISTING AC, METHOD OF DISPOSAL OF EXISTING AC AND METHOD OF CONNECTION TO EXISTING AC.
6. PIPE MATERIAL REFERENCES AS FOLLOWS:
   AC - ASBESTOS CEMENT
   DI - DUCTILE IRON
   CI - CAST IRON
   PE - POLYETHYLENE
   uPVC - UNPLASTICISED POLY VINYL CHLORIDE
   ST - STEEL
   OTHER - REFERS TO ALL EXISTING PIPE MATERIALS OTHER THAN PE (TYPICALLY AC, DI, CI, uPVC & ST)
7. SLUICE VALVE CHAMBERS TO BE IN ACCORDANCE WITH STD-W-14 (DI) AND STD-W-15 (PE). CHAMBERS NOT SHOWN FOR CLARITY.
8. ALL THRUST FLANGES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DRAWING No. STD-W-28. THRUST BLOCKS NOT SHOWN FOR CLARITY.
9. DOUBLE FLANGED SEPARATION PIPE, UP TO 5m IN LENGTH, MAY BE REQUIRED TO ALLOW SEPARATION DISTANCE BETWEEN VALVE CHAMBERS.
10. VALVES SHALL BE ARRANGED IN SUCH A MANNER TO ALLOW FOR NETWORK TO BE MANAGED TO ENSURE THAT NO MORE THAN 40 PROPERTIES LOSE WATER FROM A BURST ON THE SYSTEM AT ANY ONE TIME.
11. UNEQUAL TEES MAY BE USED INSTEAD OF CONCENTRIC TAPERS (WHERE APPLICABLE).



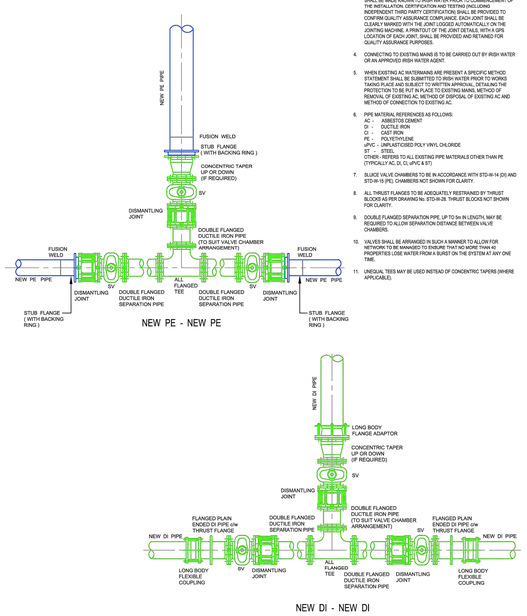
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

No.	Date	Drn	Chk	Description	App
0	09/15	JMC	TOC	Initial Issue	SL
1	07/20	RH	TOC	Added Note 12, separation pipe material added, dismantling joints revised	WOD
2	11/17	JMC	TOC	Added new D.I. pipe to details, added 3 No. details & updated notes	WOD
3	07/20	RH	TOC	Added Note 11	WOD

STANDARD DETAILS - WATER | SCALE NOT TO SCALE | DATE SEPT. 2015

TITLE: GENERAL PIPE CONNECTIONS (Sheet 2 of 7) | DRAWING No. STD-W- 05 | REV 3

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. ALL BENDS, TEES, DEAD ENDS, ETC. OF PIPELINES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DRAWING No. STD-W-28.
3. BUTT FUSION WELDING AND ELECTRO FUSION JOINTING OF PIPES SHALL ONLY BE CARRIED OUT BY TRAINED OPERATIVES IN POSSESSION OF A CURRENT TRAINING CERTIFICATE, USING FULLY AUTOMATIC APPROVED JOINTING MACHINERIES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE IDENTITY OF THE PE PIPELINE MANUFACTURER SHALL BE MADE KNOWN TO IRISH WATER PRIOR TO COMMENCEMENT OF THE INSTALLATION. CERTIFICATION AND TESTING (INCLUDED TRACEABILITY) OF THE JOINTING MACHINERY SHALL BE INDEPENDENT THIRD PARTY CERTIFICATION SHALL BE PROVIDED TO CONFIRM QUALITY ASSURANCE COMPLIANCE. EACH JOINT SHALL BE CLEARLY MARKED WITH THE JOINT LOGGED AUTOMATICALLY ON THE JOINTING MACHINE. A PRINTOUT OF THE JOINT DETAILS, WITH A GPS LOCATION OF EACH JOINT, SHALL BE PROVIDED AND RETAINED FOR QUALITY ASSURANCE PURPOSES.
4. CONNECTING TO EXISTING MAINS IS TO BE CARRIED OUT BY IRISH WATER OR AN APPROVED IRISH WATER AGENT.
5. WHEN EXISTING AC WATERMAINS ARE PRESENT A SPECIFIC METHOD STATEMENT SHALL BE SUBMITTED TO IRISH WATER PRIOR TO WORKS TAKING PLACE AND SUBJECT TO WRITTEN APPROVAL, DETAILING THE PROTECTION TO BE PUT IN PLACE TO EXISTING MAINS, METHOD OF REMOVAL OF EXISTING AC, METHOD OF DISPOSAL OF EXISTING AC AND METHOD OF CONNECTION TO EXISTING AC.
6. PIPE MATERIAL REFERENCES AS FOLLOWS:
   AC - ASBESTOS CEMENT
   DI - DUCTILE IRON
   CI - CAST IRON
   PE - POLYETHYLENE
   uPVC - UNPLASTICISED POLY VINYL CHLORIDE
   ST - STEEL
   OTHER - REFERS TO ALL EXISTING PIPE MATERIALS OTHER THAN PE (TYPICALLY AC, DI, CI, uPVC & ST)
7. SLUICE VALVE CHAMBERS TO BE IN ACCORDANCE WITH STD-W-14 (DI) AND STD-W-15 (PE). CHAMBERS NOT SHOWN FOR CLARITY.
8. ALL THRUST FLANGES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DRAWING No. STD-W-28. THRUST BLOCKS NOT SHOWN FOR CLARITY.
9. DOUBLE FLANGED SEPARATION PIPE, UP TO 5m IN LENGTH, MAY BE REQUIRED TO ALLOW SEPARATION DISTANCE BETWEEN VALVE CHAMBERS.
10. VALVES SHALL BE ARRANGED IN SUCH A MANNER TO ALLOW FOR NETWORK TO BE MANAGED TO ENSURE THAT NO MORE THAN 40 PROPERTIES LOSE WATER FROM A BURST ON THE SYSTEM AT ANY ONE TIME.
11. UNEQUAL TEES MAY BE USED INSTEAD OF CONCENTRIC TAPERS (WHERE APPLICABLE).



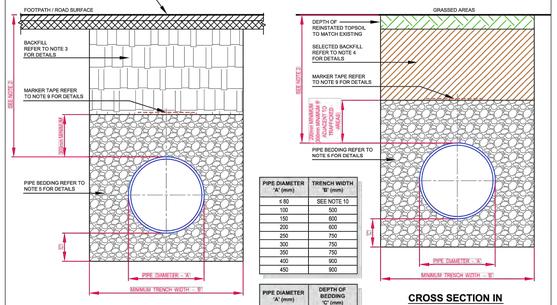
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

No.	Date	Drn	Chk	Description	App
0	09/15	JMC	TOC	Initial Issue	SL
1	11/17	JMC	TOC	Notes added & updated.	WOD
2	07/20	RH	TOC	Added Note 11, separation pipe material added, dismantling joints revised	WOD

STANDARD DETAILS - WATER | SCALE NOT TO SCALE | DATE SEPT. 2015

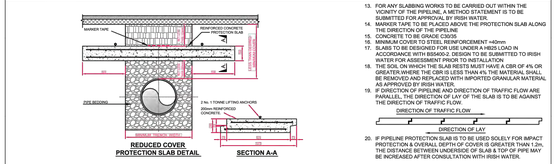
TITLE: GENERAL PIPE CONNECTIONS (Sheet 4 of 7) | DRAWING No. STD-W- 07 | REV 2

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. 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 STRENGTHS 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.
3. CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED 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.
4. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.
5. PIPE BEDDING SHALL COMPLY WITH IS EN 10290 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm ('B' ⅜) GRADED AGGREGATE OR 10mm (B ⅜) STONE SIZE ACCORDING TO IS EN 13242.
6. ALL EXCAVATED MATERIAL SUITABLE FOR BACKFILL 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.
7. 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 AND BACKFILLED WITH CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THE VOID BACKFILL MATERIAL.
8. SHOULD MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE GRADE C8/10 SHALL BE USED AS BACKFILL MATERIAL.
9. MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 12161, 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.
10. TRENCH WIDTHS FOR PIPE SIZES ≤800mm MAY BE ≤500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.
11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
12. 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)
≤ 60	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



13. FOR ANY BLASTING WORKS TO BE CARRIED OUT WITHIN THE VICINITY OF THE PIPELINE, A DETAILED STATEMENT IS TO BE SUBMITTED FOR APPROVAL BY IRISH WATER.
14. MARKER TAPE TO BE PLACED ABOVE THE PROTECTION SLAB ALONG THE DIRECTION OF THE PIPELINE
15. CONCRETE TO BE GRADE C35/35
16. MINIMUM COVER TO STEEL REINFORCEMENT =40mm
17. SLABS TO BE DESIGNED FOR USE UNDER A HB25 LOAD IN ACCORDANCE WITH BS5400 PART 2. SLAB DESIGN SHALL BE SUBMITTED TO IRISH WATER FOR ASSESSMENT PRIOR TO INSTALLATION.
18. THE SOIL ON WHICH THE SLAB RESTS MUST HAVE A CBR OF 4% OR GREATER. WHERE THE CBR IS LESS THAN 4%, THE MATERIAL SHALL BE REMOVED AND REPLACED WITH IMPORTED GRANULAR MATERIAL AS APPROVED BY IRISH WATER.
19. IF DIRECTION OF PIPELINE AND DIRECTION OF TRAFFIC FLOW ARE PARALLEL, THE DIRECTION OF LAY OF THE SLAB IS TO BE AGAINST THE DIRECTION OF TRAFFIC FLOW.

DIRECT