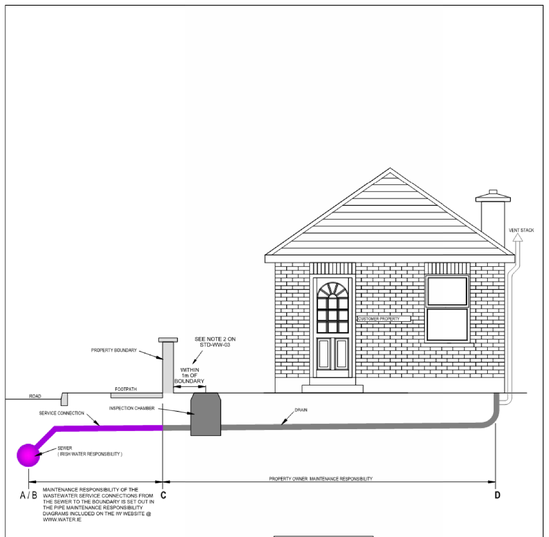


	MAINTENANCE RESPONSIBILITY
(A) SEWER	IRISH WATER
(B-C) SERVICE CONNECTION (INCLUDING KNUCKLE)	SEE NOTE ABOVE
INSPECTION CHAMBER	PROPERTY OWNER
(C-D) DRAIN	PROPERTY OWNER
INTERNAL PLUMBING	PROPERTY OWNER

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

UISCE ÉIREANN : IRISH WATER

STANDARD DETAILS - WASTEWATER | SCALE: NOT TO SCALE | DATE: SEPT. 2015

TITLE: WASTEWATER SERVICE CONNECTION MAINTENANCE RESPONSIBILITY | DRAWING No.: STD-WW-01 | REV: 2

No.	Date	Drn	Chk	Description	App.
2	07/20/RH	TOC		B-C ownership revised	WO
1	11/17	JMC	TOC	Note reference added	WO
0	09/15	JMC	TOC	Initial Issue	SL

1. THE MINIMUM SIZE FOR A GRAVITY FOUL SERVICE CONNECTION SHALL BE 100mm DIAMETER.
2. THE MINIMUM SIZE OF GRAVITY FOUL SEWER SHALL BE 225mm DIAMETER IN GENERAL. GRAVITY SEWERS ON BRANCHES SERVING 20 OR LESS PROPERTIES TO BE 150mm DIAMETER SUBJECT TO AGREEMENT WITH IRISH WATER.
3. THE MINIMUM SIZE FOR RISING MAINS SHALL NOT BE LESS THAN 80mm & THE DESIRED MINIMUM SIZE OF RISING MAIN SHALL BE 150mm DIAMETER.
4. EACH PROPERTY SHALL HAVE A SEPARATE WASTE WATER SERVICE CONNECTION. A CONNECTION SHALL NOT BE TAKEN FROM AN EXISTING SERVICE CONNECTION.
5. FOR SITES WITH HIGH DENSITY DEVELOPMENTS, EARLY ENGAGEMENT IS REQUIRED IN RELATION TO AGREEING A CO-ORDINATED UTILITY SERVICES LAYOUT PLAN TO ENSURE THAT THE REQUIRED SEPARATION DISTANCES ARE ACHIEVED BETWEEN THE VARIOUS SERVICES.

PLAN CO-ORDINATES & I.L. OF PIPE END TBC BY DEVELOPERS DESIGN ENGINEER PRIOR TO COMMENCEMENT OF WORKS

ROCKER PIPE END TO BE CAPPED TO ENSURE PIPE IS KEPT FREE FROM DEBRIS & VERMIN

500

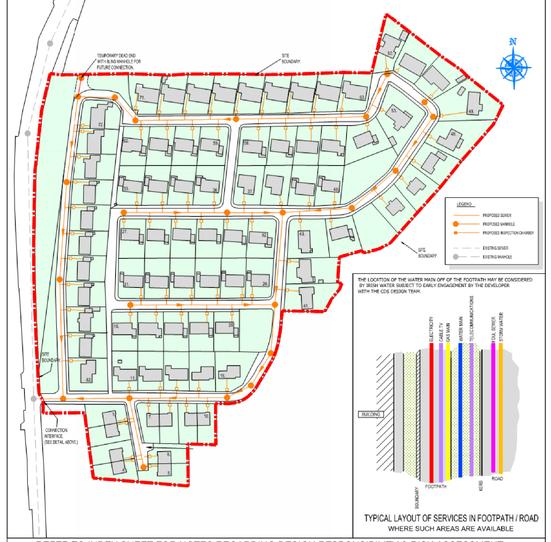
MANHOLE

SITE BOUNDARY

IRISH WATER RESPONSIBILITY

DEVELOPER RESPONSIBILITY

WASTEWATER CONNECTION INTERFACE AT SITE BOUNDARY



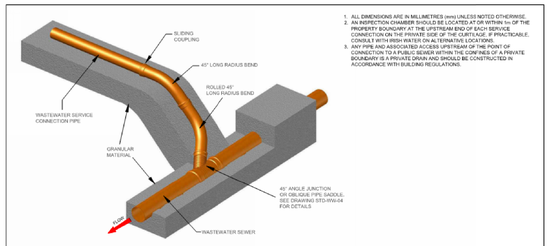
REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

STANDARD DETAILS - WASTEWATER | SCALE: NOT TO SCALE | DATE: SEPT. 2015

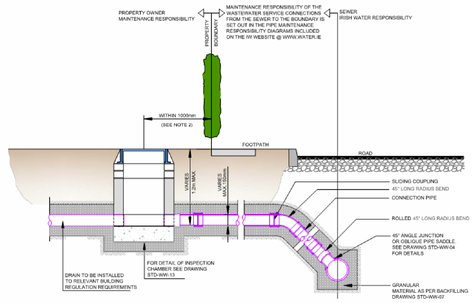
TITLE: TYPICAL LAYOUT FOR SEWER WITHIN NEW DEVELOPMENTS | DRAWING No.: STD-WW-02 | REV: 2

No.	Date	Drn	Chk	Description	App.
2	07/20/RH	TOC		Connection Interface Detail added. Dead-end/Future connection shown. Note deleted.	WO
1	11/17	JMC	TOC	Updated Note 2	WO
0	09/15	JMC	TOC	Initial Issue	SL



3D VIEW SHOWING SERVICE CONNECTION PIPEWORK

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. AN INSPECTION CHAMBER SHOULD BE LOCATED AT OR WITHIN 1m OF THE PROPERTY BOUNDARY AT THE UPSTREAM END OF EACH SERVICE CONNECTION ON THE PRIVATE SIDE OF THE CURTILAGE, IF PRACTICABLE. CONSULT WITH IRISH WATER ON ALTERNATIVE LOCATIONS.
3. ANY PIPE AND ASSOCIATED ACCESS UPSTREAM OF THE POINT OF CONNECTION TO A PUBLIC SEWER WITHIN THE CONFINES OF A PRIVATE ROADWAY OR AFFILIATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH BUILDING REGULATIONS.



SECTION SHOWING DRAIN AND SERVICE CONNECTION PIPEWORK

PIPE SIZE (mm)	GRADIENT
100	1:40 - 1:80

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

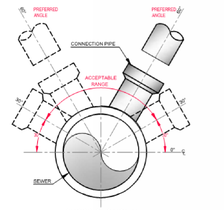
UISCE ÉIREANN : IRISH WATER

STANDARD DETAILS - WASTEWATER | SCALE: NOT TO SCALE | DATE: SEPT. 2015

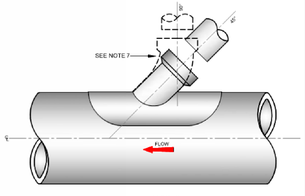
TITLE: DRAIN AND SERVICE CONNECTION PIPEWORK | DRAWING No.: STD-WW-03 | REV: 2

No.	Date	Drn	Chk	Description	App.
2	07/20/RH	TOC		Service connection responsibility revised. Cascine remnant of public remained. Drawing added.	WO
1	11/17	JMC	TOC	Updated Notes	WO
0	09/15	JMC	TOC	Initial Issue	SL

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. AS FAR AS PRACTICABLE, JUNCTIONS AND SERVICE CONNECTIONS SHALL BE BUILT IN FOR ALL PLANNED USERS WHEN THE SEWER IS BEING CONSTRUCTED. WHERE IT IS NECESSARY TO MAKE A POST-CONSTRUCTION CONNECTION THE DEVELOPER SHALL BRING THE SERVICE CONNECTION TO THE INSPECTION CHAMBER, INSTALL THE INSPECTION CHAMBER AND SEAL THE UPSTREAM END UNTIL THE CONNECTION IS REQUIRED.
3. THE VERTICAL ANGLE BETWEEN THE SERVICE CONNECTING PIPE AND THE HORIZONTAL SHALL BE WITHIN THE ACCEPTABLE RANGE OF 30° to 90°.
4. WHERE THE SERVICE PIPE CONNECTION WITHIN THE FOOTPRINT OF THE SELF LAY AGREEMENT IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER OF 300mm DIAMETER OR LESS, CONNECTIONS SHALL BE MADE USING 45° ANGLE JUNCTIONS.
5. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER GREATER THAN 300mm, THE FOLLOWING SHALL APPLY :
   - A. WHERE THE DIAMETER OF THE CONNECTING PIPE IS GREATER THAN HALF THE DIAMETER OF THE SEWER, AN ACCESS MANHOLE SHALL BE CONSTRUCTED TO FORM THE CONNECTION POINT. OR,
   - B. WHERE THE DIAMETER OF THE CONNECTION PIPE IS LESS THAN OR EQUAL TO HALF THE DIAMETER OF THE SEWER, THEN THE CONNECTION SHALL BE MADE USING A PREFORMED Y-BRANCH FITTING WITH A 45 DEG. SLOW BEND TO FORM THE CONNECTION TO THE WORKS.
6. CONNECTION USING SADDLES MAY ONLY BE USED IN EXCEPTIONAL CIRCUMSTANCES AND ONLY TO WHERE THE SEWER IS GREATER THAN 600mm DIAMETER. CONNECTIONS MADE WITH SADDLE FITTINGS SHALL BE MADE BY CUTTING AND SAFELY REMOVING A CORE FROM THE PIPE AND JOINTING THE SADDLE FITTING TO THE PIPE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ENSURE A WATERTIGHT JOINT. THE CONNECTING PIPE SHALL NOT PROTRUDE INTO THE SEWER.
7. THE USE OF 90° "Y"-BRANCH OR SADDLE CONNECTIONS TO THE SEWER MAY BE ALLOWED, PROVIDED THE SADDLE OR BRANCH INCORPORATES A SWEPT TEE CONNECTION TOWARDS THE DIRECTION OF FLOW OF THE SEWER.

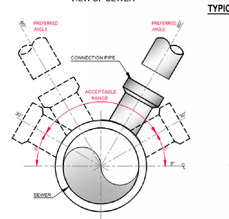


CROSS-SECTIONAL VIEW OF SEWER

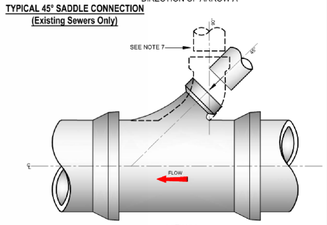


VIEW IN DIRECTION OF ARROW A

TYPICAL 45° SADDLE CONNECTION (Existing Sewers Only)



CROSS-SECTIONAL VIEW OF SEWER



VIEW IN DIRECTION OF ARROW A

45° "Y" BRANCH

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

UISCE ÉIREANN : IRISH WATER

STANDARD DETAILS - WASTEWATER | SCALE: NOT TO SCALE | DATE: SEPT. 2015

TITLE: TYPICAL SEWER / SERVICE PIPE CONNECTION | DRAWING No.: STD-WW-04 | REV: 2

No.	Date	Drn	Chk	Description	App.
2	07/20/RH	TOC		Updated connection detail & notes	WO
1	11/17	JMC	TOC	Updated connection detail & notes	WO
0	09/15	JMC	TOC	Initial Issue	SL

1. SEPARATION DISTANCES BETWEEN SEWERS ASSOCIATED WITH THE WORKS FROM OTHER UTILITY PIPES AND ACCESSORIES SHALL BE IN ACCORDANCE WITH SECTION 3.5.9 TO 3.5.21 OF THE CODE OF PRACTICE. SEPARATION DISTANCES FOR ALL NEW INSTALLATIONS FROM EXISTING WATER PIPES SHALL BE AS OUTLINED IN SECTION 3.25 OF THE CODE OF PRACTICE.
2. SPECIFIC SEPARATION CLEARANCE DISTANCES IN EXCESS OF THESE MINIMA SHALL BE PROVIDED FOR SERVICES SUCH AS GAS, ELECTRIC FIBRE-OPTIC CABLES, FILLED CABLES, FAILURE WHERE THE PARTICULAR UTILITY PROVIDERS SHALL BE CONSULTED TO DETERMINE THESE MINIMUM SEPARATION DISTANCES AND EVIDENCE OF THIS CONSULTATION WITH THE SPECIFIED SEPARATION DISTANCES SHALL BE PROVIDED TO IRISH WATER AT DESIGN STAGE.
3. NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN THE FOLLOWING DISTANCES FROM AN EXISTING WATER MAIN OR WASTEWATER RISING MAIN WHERE THE DEPTH OF THE EXISTING INFRASTRUCTURE DOES NOT EXCEED 1.5m :-

HORIZONTAL
3m ATEITHER SIDE OF AN EXISTING PIPE LESS THAN 200mm IN DIAMETER.
2m ATEITHER SIDE OF AN EXISTING PIPE OF 200mm TO 450mm IN DIAMETER.
5m ATEITHER SIDE OF AN EXISTING PIPE OF 300mm OR GREATER IN DIAMETER.

WHERE DUCTS OR PIPES ARE TO BE LAID CLOSE TO AN EXISTING WATERMAIN OR SEWER IN THE OWNERSHIP OF IRISH WATER. NOTIFICATION IN WRITING SHALL BE PROVIDED A MINIMUM OF 10 DAYS AHEAD OF THE COMMENCEMENT OF THE WORK. THIS ALSO APPLIES WHERE THE DEPTH OF THE IRISH WATER WATERMAIN OR SEWER EXCEEDS 1.5m. IN ALL OF THESE INSTANCES, SPECIFIC WRITTEN APPROVAL WILL BE REQUIRED FROM IRISH WATER BEFORE PROCEEDING WITH THE WORK.

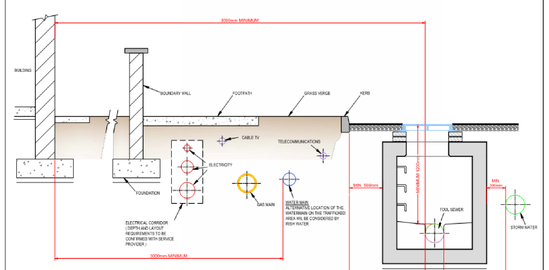
NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN 1.5m DISTANCE OF A WASTEWATER SEWER.

REQUIREMENTS SHALL ALSO APPLY TO TRIAL HOLES OR SLIT TRENCHES TO LOCATE THE MAIN OR GAIN GROUND INFO DATA.

LARGER DIAMETER 150mm DISTRIBUTION AND TRUNK MAINS, IRISH WATER MUST BE NOTIFIED AT LEAST 1 MONTH IN ADVANCE.

DEVELOPERS SHALL ALSO COMPLY WITH ANY NOTIFICATION REQUIREMENTS OF OTHER UTILITY PROVIDERS (ESB, GAS MAIN, TELECOMMUNICATION ETC.).

4. DETAILED PROPOSALS, INCLUDING WORK METHOD STATEMENTS, INSURANCE CONFIRMATION AND DETAILS OF WORK COMPLETED OF A SIMILAR NATURE MUST BE SUBMITTED TO IRISH WATER FOR ITS CONSIDERATION BEFORE AGREEMENT WILL ISSUE. ALL SUCH WORKS IN THE VICINITY OF ARTERIAL WATERMAINS AND SEWERS (MAINS GREATER THAN 400mm) SHALL BE SUBJECT TO WRITTEN AGREEMENT WITH IRISH WATER BEFORE CONSTRUCTION COMMENCES ON SITE. THIS AGREEMENT SHALL ALSO INCLUDE ANY NECESSARY PROTECTION FOR WATER MAINS.
5. ANY DAMAGE SHALL BE NOTIFIED IMMEDIATELY TO IRISH WATER. THE PERSON WHO CAUSES THE DAMAGE TO A SEWER MAIN OR FITTING WILL BE DEEMED TO HAVE COMMITTED AN OFFENCE UNDER SECTION 45 OF THE WATER SERVICES ACT 2007.
6. UNDER NO CIRCUMSTANCES SHALL IRISH WATER ACCEPT SEWER MAIN INSTRUCTIONS UNDER STRUCTURES, EXISTING OR PROPOSED, OR IN CLOSE PROXIMITY TO ANY EXISTING STRUCTURES OR FEATURES THAT WILL INHIBIT ACCESS FOR POST INSTALLATION MAINTENANCE AND ACCESS.
7. THE MINIMUM CLEAR HORIZONTAL DISTANCES SHOWN BELOW WILL BE INCREASED IF THE DEPTH OF THE SEWER EXCEEDS 3M OR IF THE DIAMETER IS GREATER THAN 375mm. THE MINIMUM CLEAR DISTANCES FOR PIPE DIAMETERS OF 450mm AND GREATER OR FOR DEPTHS IN EXCESS OF 3M REQUIRE CONSULTATION WITH IRISH WATER. THESE SEPARATION DISTANCES SHALL ALSO APPLY TO SEPARATION FROM EXISTING STRUCTURES, INCLUDING ATTENUATION TANKS AND SHALES.
8. THE EXTERNAL FACES OF MANHOLES SHALL BE AT LEAST 2.5m FROM THE EXTERNAL FACE OF THE KERB LINE.
9. THE EXTERNAL WALL OF THE SEWER IS TO BE AT LEAST 1.6m FROM THE EXTERNAL FACE OF THE KERB LINE.
10. WHERE DESIGN DEVIATES FROM TYPICAL DETAILS, THE LAYOUT SHALL BE SUBMITTED TO IRISH WATER FOR REVIEW AND AGREEMENT, WHICH IS TO BE OBTAINED IN WRITING BEFORE WORK COMMENCES .



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

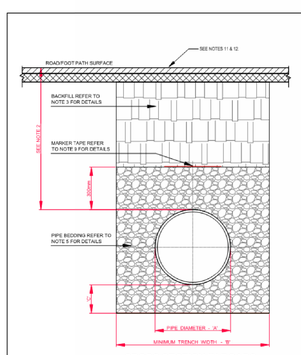
UISCE ÉIREANN : IRISH WATER

STANDARD DETAILS - WASTEWATER | SCALE: NOT TO SCALE | DATE: SEPT. 2015

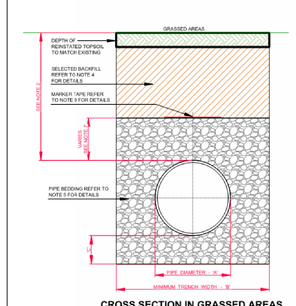
TITLE: TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES | DRAWING No.: STD-WW-05 | REV: 2

No.	Date	Drn	Chk	Description	App.
2	07/20/RH	TOC		Separation distances to sewers added, updated notes	WO
1	11/17	JMC	TOC	Updated notes	WO
0	09/15	JMC	TOC	Initial Issue	SL

1. ALL DIMENSIONS ARE IN MILLIMETRES (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 900mm (SEE NOTE 11 & 12 BELOW FOR PIPES LAID IN PRIVATE PROPERTY).
   - B) DRIVEWAYS, FOOTWAYS, PARKING AREAS AND YARDS WITH LIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 1.2m.
   - C) DRIVEWAYS, FOOTWAYS, 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) ROADWAYS, ROADS AND PUBLIC OPEN SPACE - DEPTH NOT LESS THAN 0.9 M.
   - F) OTHER ROADWAYS, HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 1.2m.
3. CLAUSE 804 / 806 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS TO BE USED AS BACKFILL ABOVE THE CROWN OF THE PIPE FOR ALL PIPES LAID UNDER FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CLAUSE 804 / 806 IS TO BE COMPACTED AS PER CLAUSE 812 OF THE TRANSPORT INFRASTRUCTURE IRELAND 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 IN CLAUSE 804 / 806 MAY BE USED IN AREAS OF SOFT GROUND, BUT MUST BE APPROVED BY IRISH WATER AND WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS LOCATED, PROVIDES **WRITTEN APPROVAL** TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL EVIDENCE OF THIS WRITTEN APPROVAL TO BE PROVIDED TO IRISH WATER IN ADVANCE OF THE COMMENCEMENT OF WORKS.
4. SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED IN CLAUSE 601 OF THE TII SPECIFICATION FOR ROADWORKS, TABLE 6/1 (EXCLUDING CLASS 1 AND CLASS 2 MATERIALS) MAY BE USED AS BACKFILL ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.
5. PIPE BEDDING SHALL COMPLY WITH W/S 4-06-02 AND IGN 4-06-01. THE PIPE BEDDING GRANULAR MATERIAL SHALL BE 14mm TO 5mm (5/16 GRADED AGGREGATE OR 10mm (3/8 SQ.) SINGLE SIZED AGGREGATE TO IS EN 13242. CONCRETE BED, HAUNCH & SURROUND, WHERE REQUIRED, SHALL BE ST5 STC35/40-XF3.
6. IN SOFT GROUND CONDITIONS, THE BEDDING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR ACCORDANCE WITH THE IRISH WATER MANAGEMENT AND CLAUSE 601 / 804 / 808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND 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 DESIGNED BY A CHARTERED ENGINEER WITH EXPERIENCE IN ADVANCING WITH THE WORKS.
7. IN GREEN FIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED ON CLAUSE 601 OF THE TII SPECIFICATION FOR ROADWORKS, TABLE 6/1 (EXCLUDING CLASS 1 AND CLASS 2 MATERIALS) MAY BE USED AS BACKFILL ABOVE THE MATERIAL IN THE CASE OF RIGID PIPES, A GRANULAR SURROUND OF A MINIMUM DEPTH OF 150mm 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 900mm OF GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE. PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY HARD MATERIAL. THE TRENCH SHALL BE OVER-DUG AND SHALL BE EXCAVATED TO A DEPTH OF 100mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 804 / 806 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
8. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT THE TOP OF THE GRANULAR PIPE SURROUND MATERIAL AND SHALL RUN THE FULL & CONTINUOUS V AROUND MANHOLES. IN THE CASE OF NON METAL PIPE MATERIAL, THE MARKER TAPE SHOULD INCORPORATE A TRACE WIRE WHICH IS LINKED TO FITTINGS AND TERMINATED AT THE WASTE WATER PUMPING STATION (IF PROVIDED) AND THE DISCHARGE MANHOLE.
9. TRENCH WIDTHS FOR PIPE SIZES 630mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY REQUIREMENTS & CODE REQUIREMENTS.
10. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
11. 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.



CROSS SECTION IN ROADS



CROSS SECTION IN GRASSED AREAS

PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
≤ 80 RISING MAIN	SEE NOTE 10.
100	500
150 - 299	600
300 - 399	750
>399 - 699	900

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
9169	100
150 - 450	200

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

UISCE ÉIREANN : IRISH WATER

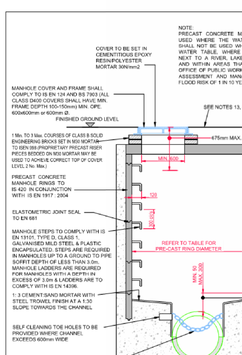
STANDARD DETAILS - WASTEWATER | SCALE: NOT TO SCALE | DATE: SEPT. 2015

TITLE: TRENCH BACKFILL AND BEDDING | DRAWING No.: STD-WW-07 | REV: 2

No.	Date	Drn	Chk	Description	App.
2	07/20/RH	TOC		Modified trench with table. Minor edit to note 5. Note 6 moved to normal case.	WO
1	11/17	JMC	TOC	Updated & Added Notes	WO
0	09/15	JMC	TOC	Initial Issue	SL

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. PRE-CAST MANHOLES UNITS COMPLY WITH REQUIREMENTS OF IS EN 1917 AND BI 420.
3. THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM BASE.
4. APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH DEN 1713 AND IS 420.
5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
6. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED DESIGN BY A CHARTERED ENGINEER WITH EXPERIENCE IN SUCH WORKS.
7. MANHOLE ROOFS SHALL CONSIST OF A 150 REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37. WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS. ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH DEN 1713.
8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC LOADING AND SHALL COMPLY WITH BS EN 124.
9. 200mm ALL AROUND + 150mm DEEP, C25/30 CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH AND TO BE PROVIDED COMPLETE WITH MS STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.
10. ALL CHANGERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOTATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
12. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY REQUIREMENTS.
13. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
14. 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.
15. IF DEPTH FROM GROUND TO PIPE SOFFIT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
16. PROPRIETARY INTERTIGHT PCC MANHOLE RING SYSTEMS WITH A WALL THICKNESS > 125mm, & A WATER TIGHT JOINT SEALING SYSTEM MAY BE USED SUBJECT TO IRISH WATER REVIEW AND AGREEMENT. THE TOP OF COVER LEVEL AT THE MANHOLE RISING 0.5m, & SUBJECT TO REVIEW BY IRISH WATER.
17. THE INTERNAL MANHOLE DIAMETERS SHOWN IN THE TABLE BELOW ARE MINIMUM DIMENSIONS AND WILL INCREASE DEPENDING ON THE NUMBER AND DIAMETER OF ADDITIONAL INLETS AND PIPES ENTERING. SAND/CEMENT FINISH TO SUIT FLOW OF INLETS AND OUTLET.

NOTE:
PRECAST CONCRETE MANHOLES SHALL ONLY BE USED WHERE THE WATER TABLE IS LOW. THEY SHALL NOT BE USED WHERE THERE IS A PERCHED WATER TABLE, WHERE THE SEWER IS LOCATED NEXT TO A RIVER, LAKE OR OTHER WATER BODY OR WHERE THE SEWER IS LOCATED IN AN AREA OF OFFICE OF PUBLIC WORKS CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT (CFRAM) WITH A FLOOD RISK OF 1 IN 10 YEARS.


COVER TO BE SET IN CEMENT/RESIN EPOXY RESIN/POLYESTER MORTAR 30N/mm2
MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 150-155mm) MIN. OPE. 600x600mm or 600mm Ø.
FINISHED GROUND LEVEL
SEE NOTES 13, 14 & 15.
475mm MAX. TO FIRST STEP
MIN 900
MAX 1800
PRECAST CONCRETE MANHOLE RINGS TO BS 420 IN CONJUNCTION WITH IS EN 1917 : 2004
ELASTOMETRIC JOINT SEAL TO EN 681
MANHOLE STEPS TO COMPLY WITH IS EN 13101, TYPE S, CLASS C GALVANISED MILD STEEL & PLASTIC ENCAPSULATED. STEPS ARE REQUIRED IN MANHOLES UP TO A GROUND TO PIPE SOFFIT DEPTH OF LESS THAN 3.0m. MANHOLE LADDERS ARE REQUIRED IN MANHOLES WITH A DEPTH IN E