Wastewater Infrastructure Standard Details

Connections and Developer Services

Construction Requirements for Self-Lay Developments

December 2017 (Revision 03)

Document IW-CDS-5030-01
<table>
<thead>
<tr>
<th>Date</th>
<th>Details of Revision</th>
<th>Revision</th>
<th>Author</th>
<th>Approver</th>
</tr>
</thead>
<tbody>
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<td>April 2016</td>
<td>General revisions</td>
<td>01</td>
<td>T’OC</td>
<td>M’OD</td>
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<td>August 2016</td>
<td>General revisions &amp; drawing added</td>
<td>02</td>
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<td>General revisions &amp; drawing added</td>
<td>03</td>
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Background

Technical Documentation has been developed by Irish Water’s Connections and Developer Services which outlines the requirements for wastewater services infrastructure within developments.

These standard details have been developed to outline to developers Irish Water’s requirements for the provision of wastewater infrastructure that is to be installed in developments and that would be connected to Irish Water’s networks and subsequently vested in Irish Water.

The standard details outline design and construction requirements to ensure consistency in the provision of materials, equipment and workmanship, etc. They also provide the basis for developers’ detailed design proposals for wastewater infrastructure, leading to the provision of infrastructure that is suitable for connection to Irish Water’s networks and easy operation and maintenance of the new infrastructure.

The standard details are based on best practice within the water industry. They take account of the experience of Local Authorities in the provision of these services to new developments. They have been successfully used by Irish Water’s own internal functions for a variety of projects and they are in line with water utility industry norms.

There are 36 No Standard Details dealing with wastewater infrastructure covering all aspects of such infrastructure.

These standard details are accompanied by a Design Risk Assessment (DRA) (document number IW-CDS-5030-02), which outlines the residual health and safety responsibilities of developers and their designers/contractors in the provision of such infrastructure.

The use of the standard details is mandatory in all new Irish Water Connection Agreement Offers issued after 1st June 2016.
Standard Details for Wastewater Networks

Index Sheet

<table>
<thead>
<tr>
<th>Drawing No.</th>
<th>Drawing Title</th>
<th>Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD-WW-01</td>
<td>Waste water service connection responsibility</td>
<td>1</td>
</tr>
<tr>
<td>STD-WW-02</td>
<td>Typical layout for sewer within new developments</td>
<td>1</td>
</tr>
<tr>
<td>STD-WW-03</td>
<td>Drain &amp; service connection pipework</td>
<td>1</td>
</tr>
<tr>
<td>STD-WW-04</td>
<td>Typical sewer / service pipe connection</td>
<td>1</td>
</tr>
<tr>
<td>STD-WW-05</td>
<td>Typical service layout indicating separation distances</td>
<td>1</td>
</tr>
<tr>
<td>STD-WW-06</td>
<td>Restrictions on wastewater infrastructure adjacent to trees</td>
<td>2</td>
</tr>
<tr>
<td>STD-WW-06A</td>
<td>Restrictions on new trees/shrubs planting adjacent to sewers</td>
<td>0</td>
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<tr>
<td>STD-WW-07</td>
<td>Trench backfill &amp; bedding</td>
<td>1</td>
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<tr>
<td>STD-WW-08</td>
<td>Concrete bed, haunch &amp; surround to wastewater pipes</td>
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<tr>
<td>STD-WW-09</td>
<td>Blockwork manhole (&lt;450mm dia.)</td>
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</tr>
<tr>
<td>STD-WW-10</td>
<td>Pre-cast concrete manhole</td>
<td>2</td>
</tr>
<tr>
<td>STD-WW-11</td>
<td>In-situ concrete manhole</td>
<td>2</td>
</tr>
<tr>
<td>STD-WW-12</td>
<td>Backdrop manholes</td>
<td>2</td>
</tr>
<tr>
<td>STD-WW-13</td>
<td>Private side inspection chamber</td>
<td>2</td>
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<tr>
<td>STD-WW-14</td>
<td>Thrust blocks for rising mains</td>
<td>1</td>
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<tr>
<td>STD-WW-15</td>
<td>Scour valve chamber (foul rising main &lt;200mm dia.)</td>
<td>2</td>
</tr>
<tr>
<td>STD-WW-16</td>
<td>Sluice valve details for rising mains ductile iron (D.I.) pipe (&lt;200mm dia.) (sheet 1 of 2)</td>
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<tr>
<td>STD-WW-17</td>
<td>Sluice valve details for rising mains polyethylene (P.E.) pipe (&lt;200mm dia.) (sheet 2 of 2)</td>
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<tr>
<td>STD-WW-18</td>
<td>Air valve chamber (foul rising main &lt;200mm dia.)</td>
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<tr>
<td>STD-WW-19</td>
<td>Duct chamber</td>
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<tr>
<td>STD-WW-20</td>
<td>Emergency overflow structure</td>
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<tr>
<td>STD-WW-21</td>
<td>Typical ditch/stream crossing for gravity main (sheet 1 of 2)</td>
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<tr>
<td>STD-WW-22</td>
<td>Typical ditch/stream crossing for rising main (sheet 2 of 2)</td>
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<td>STD-WW-23</td>
<td>Typical bridge crossing for rising main (sheet 1 of 2)</td>
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<tr>
<td>STD-WW-24</td>
<td>Typical bridge crossing for rising main (sheet 2 of 2)</td>
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<tr>
<td>STD-WW-25</td>
<td>Security gate &amp; fencing</td>
<td>2</td>
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<td>STD-WW-26</td>
<td>Indicative pumping station layout</td>
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<tr>
<td>STD-WW-27</td>
<td>Flow meter chamber (foul rising main &lt;200mm dia.)</td>
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<tr>
<td>STD-WW-28</td>
<td>Indicative submersible pumping station</td>
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<tr>
<td>STD-WW-28A</td>
<td>Indicative pre-cast concrete submersible pumping station</td>
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<tr>
<td>STD-WW-29</td>
<td>Rising main discharge manhole</td>
<td>2</td>
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<td>STD-WW-30</td>
<td>Kiosk type 1 pumping station &amp; wet kiosk (sheet 1 of 2)</td>
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<tr>
<td>STD-WW-31</td>
<td>Kiosk type 2 + 3 pumping station &amp; wet kiosk (sheet 2 of 2)</td>
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<tr>
<td>STD-WW-32</td>
<td>Hardstanding area pumping station (permeable &amp; impermeable)</td>
<td>1</td>
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<tr>
<td>STD-WW-33</td>
<td>Lamp bollard &amp; lamp standard</td>
<td>1</td>
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<tr>
<td>STD-WW-34</td>
<td>Vent stack</td>
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These Standard Details show the acceptable typical details and outline the minimum standards that are required by Irish Water for the provision of wastewater pipes and related infrastructure which are to be connected to the Irish Water Network. They shall be used in conjunction with the associated Design Risk Assessments that have been developed which identify the risks that designers shall take into account in the detailed design of the wastewater pipes and related infrastructure to be connected to the Irish Water Network. The pipes and related infrastructure to be put in place within developments shall comply fully with these Standard Details. Ultimate responsibility (including, but not limited to, any losses, costs, demands, damages, actions, expenses, negligence and claims) for the detailed design, construction and provision of such pipes and related infrastructure shall rest entirely with the Developer, his/her Designer(s), Contractor(s) or other connected party. Irish Water assumes no responsibility for and gives no guarantees, undertakings or warranties in relation to the pipes and related infrastructure to be provided in accordance with these Standard Details.

No part of the Standard Details shall be reproduced or transmitted in any form or stored in any retrieval system of any nature without the prior written permission of Irish Water as copyright holder, except as agreed for use.

These Standard Details shall be used in conjunction with current Irish Water Codes of Practice, which will take precedence over the Standard Details.

These Standard Details may also be used for the installation of wastewater infrastructure for Asset Delivery Works & Capital Project Works Programmes at the discretion of Irish Water.

DEC. 2017
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 less than 20 properties may 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 100mm diameter.

4. Each property shall have a separate waste water service connection. A connection shall not be taken from an existing service connection.
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 boundary is a private drain and should be constructed in accordance with building regulations.

<table>
<thead>
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<th>Pipe Size (mm)</th>
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<tr>
<td>100</td>
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<tr>
<td>150 to 225</td>
<td>1:100 minimum</td>
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</table>

Refer to index sheet for notes regarding design responsibility & risk assessment.
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 sewer 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 greater than 0° and not more than 60°.
4. Where the connection 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:
   a) If 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) If the diameter of the connecting pipe is less than or equal to half the diameter of the sewer, then the connection shall be made using a preformed saddle fitting with a slow bend between the saddle and the connecting sewer/drain.
6. 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° connections to the sewer may be allowed subject to Irish Water review, provided the saddle or branch incorporates a swept tee connection towards the direction of flow.
1. The separation distances outlined are minimum requirements.

2. Specific separation clearance distances in excess of these minima shall be provided for services such as gas, electricity, fibre-optic or oil filled cables as the case may be. 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:

HORIZONTAL
- 1m at either side of an existing main less than 200mm in diameter.
- 2m at either side of an existing main of 200mm to 350mm in diameter.
- 5m at either side of an existing main of 350mm 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 advancement of 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 diameters >350mm 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, telecommunications 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 water mains 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 will Irish Water accept sewer main installations 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 distance will be increased if the sewer is greater than 3m deep or if the diameter is greater than 375mm. The minimum clear distance in these situations shall be depth to invert or 10 times the sewer diameter, whichever is greater.

8. The external faces of manhole shall be at least 0.5m from kerb line.

9. Where design deviates from typical details, the layout is subject to review by Irish Water.

Refer to index sheet for notes regarding design responsibility & risk assessment.
METHOD STATEMENTS:
ALL WORKS SHALL BE CARRIED
OUT IN ACCORDANCE WITH BS 5837 AND INFORMED BY
NJUG VOLUME 4

PRECAUTION AREA:

EXCAVATIONS FOR PIPEWORK SHOULD NOT BE
UNDERTAKEN WITHIN THIS AREA, UNLESS AGREED WITH
IRISH WATER.

WORKS WITHIN THE PRECAUTION ZONE MUST BE
SUPERVISED BY A QUALIFIED ARBORIST. WORKS SHALL BE
SUBJECT OF A CLEAR METHOD STATEMENT OUTLINING ALL
WORKS ADJACENT TO THE TREES/SHRUBS WHICH IS TO BE
PREPARED & AGREED IN ADVANCE OF THE WORKS.

MATERIAL, PLANT & SPOIL SHALL NOT BE STORED WITHIN
THIS ZONE.

EXCLUSION AREA:

WORKS IN THIS AREA ARE TO BE AVOIDED, UNLESS
ABSOLUTELY NECESSARY & AGREED WITH IRISH WATER.

EXCAVATIONS FOR PIPEWORK SHOULD NOT BE
UNDERTAKEN WITHIN THIS AREA, UNLESS NECESSARY AND
NO OTHER OPTIONS AVAILABLE. WORKS WITHIN THE
EXCLUSION ZONE MUST BE SUPERVISED BY A QUALIFIED
ARBORIST AND AGREED WITH IRISH WATER. WORKS SHALL
BE SUBJECT OF AN ARBOCULTURAL IMPACT
ASSESSMENT AS PER BS 5837 & A CLEAR METHOD
STATEMENT OUTLINING ALL WORKS ADJACENT TO THE
TREE/SHRUBS IS TO BE PREPARED AND AGREED IN
ADVANCE OF THE WORKS.

MATERIAL, PLANT & SPOIL SHALL NOT BE STORED WITHIN
THIS ZONE.

GIRTH (CIRCUMFERENCE OF TREE
MEASURED AT 1.5m ABOVE GROUND LEVEL)

OUTSIDE RADIUS OF PRECAUTION AREA = 4 x
Girth of Tree

EXISTING PLANTING:

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

STANDARD DETAILS - WASTEWATER

RESTRICTIONS ON WASTEWATER INFRASTRUCTURE WORKS ADJACENT TO TREES

DRAWING No. STD-WW-06 REV. 2
Examples of Small Size Amenity Trees
- Field Maple
- Wild Cherry
- Crab Apple
- Cobnut
- Birch
- Elder
- Ornamental Pear
- Mountain Ash
- Whitebeam
- Cockspur Thorn
- False Acacia
- Hornbeam CV
- Poplar
- Willow

Examples of Large Growing Species
- Scots Pine
- Black Pine
- Cedar
- Larch
- Lawson’s Cypress
- Ash
- Beech
- Sycamore
- Horse Chestnut
- Sweet Chestnut
- London Plane
- Lime
- Alder
- Elm
- Oak

Examples of shrubs and bushes
- Holly
- Laurel
- Rhododendron
- Dogwood
- Christmas Tree
- Magnolia
- Fruit bushes
- Spindle Tree
- Guelder rose
- Roses

Examples of hedge plants and ground covers including
- Herbaceous and annuals
- Hedge plants and ground covers may be placed over the pipeline
- Privet, Blackthorn, Snowberry, Berberis, Heathers, Cotoneaster & Groundcovers, Herbaceous & Annals

NOTE: OTHER SPECIES NOT NAMED TO BE PLANTED TO THE SAME SPACINGS DEPENDING ON ROOT FORMATION.

THE DISTANCES GIVEN IN TABLE A.1. OF BS 5837 MUST BE FURTHER INFORMED BY THE SPECIES & IN DIAGRAM 2 BELOW. DIAGRAM 1 ABOVE PROVIDES A FLOW CHART TO THE DECISION PROCESS Whilst DIAGRAM 2 IS TO BE USED TO PLAN THE FLOWING REGIMES.

THE DESIGN OF LANDSCAPING SHALL BE UNDERTAKEN IN CONJUNCTION WITH THE DESIGN OF WASTEWATER INFRASTRUCTURE, ETC. THE TREE/BUSH/SHRUB SHALL NOT BE LOCATED CLOSER TO THE WASTEWATER INFRASTRUCTURE THAN INDICATED ABOVE, EXCEPT WHERE SPECIAL PROTECTION MEASURES ARE PROVIDED. WHERE THERE IS A RISK OF TREE/ROOT INTRUSION, THE WASTEWATER INFRASTRUCTURE SHALL BE RESISTANT TO TREE ROOT INGRESS (e.g. BY USE OF APPROPRIATE BARRIERS, HIGH PERFORMANCE JOINTS, OR BY USE OF POLYETHYLENE WITH WELDED JOINTS FOR RISING MAINS). THE LANDSCAPE DESIGN AND DETAILS OF THE SPECIAL PROTECTION MEASURES MUST BE AGREED WITH IRISH WATER.

Please ensure that these distances are adhered to in order to protect the trees from any future maintenance. Reference should also be made to BS 5837, BS 8545 and the NJUG GUIDELINES VOLUME 4 for further information.
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 0.5 m. (This would normally relate to drains in private property. Shallow pipes of this nature are undesirable and should be installed in accordance with the current building regulations).
   B) DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.75 m.
   C) DRIVEWAYS, 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 1.2 m.

3. CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE SEWER 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 806 IS TO BE USED WITHIN 800 mm 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 806) OF THE PIPE TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN VINEED 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 W5-4-08-02 AND IGN 4-08-01. GRANULAR MATERIAL SHALL BE 1.4m TO 5mm GRADED AGGREGATE OR 10mm SINGLE SIZED AGGREGATE IS EN 13324. CONCRETE BED, HAUNCH & SURROUND, WHERE REQUIRED, SHALL BE TO STD-WW-08.

6. IN SOFT GROUND CONDITIONS CB(s) = 5) THE MATERIAL SHOULD BE EXCAVATED 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 PLUMBING 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. IN GREENFIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL) WILL BE ALLOWED ABOVE THE SIDE HAUNCH GRANULAR 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 300mm OF GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE.

8. PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY HARD OBJECTS 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.

9. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER. 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 STATION AND THE DISCHARGE MANHOLE.

10. TRENCH WIDTHS FOR PIPE SIZES 50mm TO 500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.

11. NON ROAD CONSTRUCTION (SPACE PRIOR TO ROADS) REQUIREMENTS.

12. EXISTING ROAD RESCATEMENT 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.

<table>
<thead>
<tr>
<th>PIPE DIAMETER 'A' (mm)</th>
<th>TRENCH WIDTH 'B' (mm)</th>
<th>DEPTH OF BEDDING 'C' (mm)</th>
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SEE NOTE 10.

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

STANDARD DETAILS - WASTEWATER

TRENCH BACKFILL AND BEDDING

STD-WW-07

1
1. All dimensions are in metres (m) unless noted otherwise.

2. Concrete pipe beds and haunches may be required to address minimum cover situations, and shall be subject to submission and assessment by Irish Water before advancing with the works.

3. Concrete pipe beds and haunches shall have a minimum thickness of 150mm with an absolute minimum depth of cover above the external crown of the pipe of 150mm.

4. Concrete to be in accordance with BS EN 206 and to be Class C1525

5. The haunches and surrounds to be formed using form work to provide a rough cast finish.

6. Expansion joints in the concrete shall be provided at all pipe joints to allow for pipe flexibility, compressible filler board to be in accordance with BS EN 627-1 and BS EN 422-A, and to be 10mm thick.

7. Polyethylene pipes shall be wrapped in plastic sheeting having a composition in accordance with BS 608 before being cast into concrete.

8. Bituminous material shall not be put in contact with PE or PVC pipes.

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**Type A**

**Type B**

**Type C**

**Type D**

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**Spigot and Socket Joint**

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Refer to Index Sheet for Notes regarding Design Responsibility & Risk Assessment

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**STANDARD DETAILS - WASTEWATER**

**Title:** Concrete Bed, Haunch and Surround to Wastewater Pipes

**Scale:** Not to Scale

**Date:** Sept. 2015

**Drawing No.:** STD-WW-08

**Rev.:** 0
MINIMUM WIDTH OF BENCHING FOR LANDING AREA TO BE 500mm

1:3 SAND:CEMENT MORTAR WITH STEEL TROWEL FINISH AT A 1:30 SLOPE TOWARDS THE CHANNEL

75mm GRADE C12/15 BLINDING CONCRETE

REINFORCED CONCRETE BASE GRADE C30/37

SECTION A-A

FLEXIBLE JOINT

ENGINEERING BRICK WORK LINING 1000mm ABOVE BENCHING

1:10 TO 1:30

1 No. COURSE MIN. / 3 No. COURSES MAX. OF CLASS B ENGINEERING BRICKS SET IN C50/60 MORTAR

MANHOLE COVER AND FRAME SHALL COMPLY TO EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm) MIN. OPE. 600 x 600mm

1 No. COURSE MIN. / 3 No. COURSES MAX. OF CLASS B ENGINEERING BRICKS SET IN C50/60 MORTAR

20N/mm² CONCRETE BLOCKS TO COMPLY WITH IS EN 771-3

COVER TO BE SET IN C50/60 MORTAR

1:3 SAND CEMENT MORTAR WITH STEEL TROWEL FINISH AT A 1:3 SLOPE TOWARDS THE CHANNEL

REINFORCED CONCRETE BASE GRADE C30/37

75mm GRADE C12/15 BLINDING CONCRETE

SECTION B-B

FLEXIBLE JOINT

ROCKER PIPE (SEE TABLE OVER)

ROCKER PIPE (SEE TABLE OVER)

ROCKER PIPE (SEE TABLE OVER)

MINIMUM WIDTH OF BENCHING FOR LANDING AREA TO BE 500mm

MANHOLE COVER & FRAME SHALL COMPLY TO EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm) MIN. OPE. 600 x 600mm

COVER TO BE SET IN C50/60 MORTAR

1 No. COURSE MIN. / 3 No. COURSES MAX. OF CLASS B ENGINEERING BRICKS SET IN C50/60 MORTAR

ENGINEERING BRICK WORK LINING 1000mm ABOVE BENCHING

1:10 TO 1:30

BENCHING SLOPE TO BE 1:30 TO 1:10

20N/mm² CONCRETE BLOCKS TO COMPLY WITH IS EN 771-3

MAX. 600

MAX. 600

MAX. 600

MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm) MIN. OPE. 600 x 600mm

1 No. COURSE MIN. / 3 No. COURSES MAX. OF CLASS B ENGINEERING BRICKS SET IN C50/60 MORTAR

REINFORCED CONCRETE BASE GRADE C30/37

75mm GRADE C12/15 BLINDING CONCRETE

ENGINEERING BRICK WORK LINING 1000mm ABOVE BENCHING

1:10 TO 1:30

ROCKER PIPE LENGTH

PIPE DIAMETER (mm)

ROCKER PIPE LENGTH (mm)

156 TO 600

900

GREATER THAN 600 TO 750

1030

GREATER THAN 750

1290

ROCKER PIPE

SEE TABLE OVER
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. PRE-CAST MANHOLE UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND BS 5911-PART 3.
3. THICKER MANHOLE BASES REQUIRED FOR SEwers IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
6. MANHOLE BASES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.
7. MANHOLE ROOFS SHALL CONSIST OF A RE-INFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 125mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS. ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH BS 5911-PART 4. 2002.
8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.
9. 200mm ALL AROUND, 150mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.
10. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANY FLOTACTION 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 SPECIFIC ROAD REINSTATEMENT AROUND COVERS & 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 WATERPROOF PC MANHOLE RING SYSTEMS WITH A WALL THICKNESS > 125mm, & A WATER TIGHT JOINT SEALING SYSTEM, MAY BE USED WITHOUT CONCRETE SURROUND SUBJECT TO THE GROUND WATER LEVEL AT THE MANHOLE BEING LOW, & A SUBJECT TO REVIEW BY IRISH WATER.

MINIMUM MANHOLE DIAMETERS

<table>
<thead>
<tr>
<th>Diamenter of Largest Pipe in Manhole (mm)</th>
<th>Internal Diameter of Manhole (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LESS THAN 750</td>
<td>1200</td>
</tr>
<tr>
<td>750 TO 900</td>
<td>1500</td>
</tr>
<tr>
<td>900 TO 1200</td>
<td>1800</td>
</tr>
</tbody>
</table>

PIECE PIPE LENGTH

<table>
<thead>
<tr>
<th>Pipe Diameter (mm)</th>
<th>Rocker Pipe Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>190 TO 600</td>
<td>600</td>
</tr>
<tr>
<td>GREATER THAN 600</td>
<td>1200</td>
</tr>
</tbody>
</table>

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

STANDARD DETAILS - WASTEWATER

PRE-CAST CONCRETE MANHOLE
MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm) MIN. OPE 600x600mm

COVER TO BE SET IN C50/60 MORTAR

FINISHED GROUND LEVEL

675mm MAX. TO FIRST STEP

MIN. 600mm

CHAMFER

MIN. 600

INVERT SHOULD BE FORMED WITH CAST IN-SITU CONCRETE C25/30 20mm AGGREGATE FINISHED WITH A 1:3 CEMENT SAND MORTAR 75mm GRADE C12/15 BLINDING CONCRETE

STAINLESS STEEL CHAIN IN "DOWN" POSITION SECURED TO RESTRAINING HOOK, WHEN CHAMBER IS OCCUPIED WHERE THE PIPE DIAMETER IS 450mm OR MORE

SECTION A-A

PLAN

MIN. 600mm x 600mm SQUARE OPE

MIN. 600mm x 600mm OPE

LADDERS IN MANHOLES TO COMPLY WITH IS EN 14396

MIN. 600mm CLEAR ACCESS BEHIND LADDER

REDUCING SLAB

MANHOLE DETAIL > 3m & < 6m GROUND TO PIPE SOFFIT DEPTH

(NOTE: ON MANHOLES <1.5m SHAFT DIMENSION, REDUCING SLAB NOT TO BE USED & SHAFT TO CONTINUE UP TO COVER SLAB)

MANHOLE STEPS TO COMPLY WITH IS EN 12431, TYPE D, CLASS 1, GALVANISED MILD STEEL & PLASTIC ENCAPSULATED. STEPS ARE REQUIRED IN MANHOLES WITH A GROUND TO PIPE SOFFIT DEPTH OF LESS THAN 3m. MANHOLE LADDERS ARE REQUIRED FOR MANHOLES WITH A DEPTH IN EXCESS OF 3.0m & ARE TO COMPLY WITH IS EN 14396.

1:3 CEMENT:SAND MORTAR WITH STEEL TROWEL Finish AT A SLOPE OF 1:30 TOWARDS THE CHANNEL

MIN. 600mm x 600mm SQUARE OPE

STANDARD DETAILS - WASTEWATER

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

IN-SITU CONCRETE MANHOLE

PIPE DIAMETER

ROCKER PIPE LENGTH

<table>
<thead>
<tr>
<th>PIPE DIAMETER (mm)</th>
<th>ROCKERP PIPE LENGTH (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 TO 450</td>
<td>600</td>
</tr>
<tr>
<td>GREATER THAN 450 TO 750</td>
<td>1000</td>
</tr>
<tr>
<td>GREATER THAN 750</td>
<td>1250</td>
</tr>
</tbody>
</table>

MINIMUM MANHOLE DIMENSION "D"

DIAMETER OF LARGEST PIPE IN MANHOLE (mm)

<table>
<thead>
<tr>
<th>DIAMETER OF LARGEST PIPE IN MANHOLE (mm)</th>
<th>INTERNAL DIMENSION OF MANHOLE (mm)</th>
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</thead>
<tbody>
<tr>
<td>LESS THAN 750</td>
<td>1250</td>
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<tr>
<td>750 TO 450</td>
<td>1350</td>
</tr>
<tr>
<td>GREATER THAN 450</td>
<td>1500</td>
</tr>
</tbody>
</table>

STANDARD DETAILS - WASTEWATER

DRAWING No. STD-WW-11 REV 2

IN-SITU CONCRETE MANHOLE
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. RODDING EYE CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.
3. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
5. MANHOLE DETAILS TO BE IN ACCORDANCE WITH STD-WW-09, 10 AND 11

**Type No. 1**

- 150mm - 450mm Dia. (Incl.) Drop Greater than 1700mm
- 500mm - 900mm Dia. (Incl.) Drop Greater than 2300mm

**Type No. 2**

- 150mm - 450mm Dia. (Incl.) Drop Greater than 800mm and less than 1700mm
- 500mm - 900mm Dia. (Incl.) Drop Greater than 1300mm and less than 2300mm

**Type No. 3**

- 150mm - 450mm Dia. (Incl.) Drop Greater than 800mm and less than 1300mm
- 500mm - 900mm Dia. (Incl.) Drop Greater than 800mm and less than 1300mm

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

STANDARD DETAILS - WASTEWATER

<table>
<thead>
<tr>
<th>DRAWING No.</th>
<th>STD-WW-12</th>
<th>REV</th>
<th>DATE</th>
<th>SCALE</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>SEPT. 2015</td>
<td>NOT TO SCALE</td>
</tr>
</tbody>
</table>
1. All dimensions are in millimetres (mm) unless noted otherwise.
2. An inspection chamber should be located at or within 1 m 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 is a private drain and should be constructed in accordance with the building regulations.
4. Access points should be located so that they are accessible and apparent to the maintainer at all times for use. They should avoid rear gardens or enclosed locations and they should never be overlain with surface dressing, topsoil, etc.
5. Covers and frames shall be suitable for road and traffic conditions subject to review by Irish Water.
6. 200 mm all around, 100 mm deep concrete plinth around covers in green areas.
7. Proprietary prefabricated chamber units may also be used, subject to review by Irish Water.
8. Chambers shall be surrounded by a minimum of 150 mm compacted clause 804 or clause 808 material as per STD-WW-07.

SECTION

FLOOR PLAN

INTEGRATION CHAMBER

(PRECISE CONCRETE CONSTRUCTION)

Cover to be set as per manufacturer’s specification

Sealed manhole cover to suit IS EN 124 loading minimum 600 mm diameter or 600 mm x 800 mm

Minimum internal dimensions 800 mm diameter or 600 mm x 800 mm

Flow

Flow

Flow

Flow

Benching

Benching

Benching

Benching

Flow

Flow

Flow

Flow

215 THICK 20 N/mm² CONCRETE BLOCK WORK IN ACCORDANCE WITH IS EN 771-3

215 THICK 20 N/mm² CONCRETE BLOCK WORK IN ACCORDANCE WITH IS EN 771-3

225mm PRECAST BASE OR 225 mm IN-SITU CONCRETE C25/30

215 (THICK 20 N/mm² CONCRETE BLOCK WORK IN ACCORDANCE WITH IS EN 771-3)

50mm CROSS FALL

50mm CROSS FALL

PRECAST UNITS (REFER TO NOTE 7)

PRECAST UNITS (REFER TO NOTE 7)

PRECAST UNITS (REFER TO NOTE 7)

PRECAST UNITS (REFER TO NOTE 7)

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 IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING REGULATIONS.
4. ACCESS POINTS SHOULD BE LOCATED SO THAT THEY ARE ACCESSIBLE AND APPARENT TO THE MAINTAINER AT ALL TIMES FOR USE. THEY SHOULD AVOID REAR GARDENS OR ENCLOSED LOCATIONS AND THEY SHOULD NEVER BE OVERLAIN WITH SURFACE DRESSING, TOPSOIL, ETC.
5. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.
6. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.
7. PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO REVIEW BY IRISH WATER.
8. CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 OR CLAUSE 808 MATERIAL AS PER STD-WW-07.
1. **All dimensions in millimeters (mm)** unless noted otherwise.
2. **Value surface box to be in accordance with IS 2501 of BS 88**.
3. **Sewing chambers shall be covered with approved heavy duty metal covers to IS 124 rating data**.
4. **Valves shall be flexible joint with ductile iron resilient lead gaskets and suit for use in rising mains. They shall comply with the requirements for IS 124 and have the appropriate CE marking.**
5. **Structural design and reinforcement details to be provided by the developer and submitted to Irish Water for review.**
6. **All ductile iron pipes are subject to IS 566 and IS EN 1720.**
7. **All chambers to be checked for uplift by the developer based on ground conditions within the site.**
8. **Any special road reinstatement around cover & frame shall be to road authority’s requirements.**
9. **All concrete to be in accordance with IS EN 206.**
10. **All ductile iron pipe finishing and fittings to be in accordance with IS 566.**
11. **All chambers shall be subject to review by Irish Water.**
12. **All ductile iron pipe fittings are subject to IS 566.**
13. **All ductile iron pipe fittings are subject to IS 566.**
14. **All chambers shall be subject to review by Irish Water.**

**Section A-A**

**Section B-B**

**Plan (Ductile Iron Rising Main)**

**Plan (Polyethylene Rising Main)**

**Scour Chamber Roof Plan**

**Standard Details - Wastewater**

**Refer to Index Sheet for Notes Regarding Design Responsibility & Risk Assessment**
1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. SLUICE VALVE CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND BS 3834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.
3. SLUICE VALVES SHALL BE DOUBLE FLANGED WITH DUCTILE IRON RESILIENT SEAT. DATE VALUES, SUITABLE FOR USE IN RISING MAINS. THEY SHALL COMPLY WITH THE REQUIREMENTS OF IS EN 1024 AND THEY SHALL HAVE THE APPROPRIATE CE MARKINGS.
4. ALL SLUICE VALVES SHALL BE CLOCKWISE CLOSING.
5. 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. A CONSIST OF A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, GRADE C33/37, WITH A MINIMUM THICKNESS OF 100mm. ALTERNATIVELY, PRECAST CONCRETE ROOFS MAY BE USED. SUBJECT TO IRISH WATER REVIEW. REFER TO IS 261.
6. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAY BLOCK. REFER TO STD-WW-07.
7. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
8. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 598.
9. PE PIPES TO BE IN ACCORDANCE WITH IS EN 12201.
10. 300mm ALL AROUND, 100mm DEEP CONCRETE PUMPS AROUND COVERS IN PUBLIC AREAS.
11. THRUST BLOCKS NOT SHOWN ON DRAWING. TO BE PROVIDED AS PER STANDARD DRAWING STD-WW-14. ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPE AT STEEP SLOPES.
12. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
13. THRUST BLOCKS (NOT SHOWN ON DRAWING), TO BE PROVIDED AS PER STANDARD DRAWING STD-WW-14 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
14. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
15. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
16. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
17. 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

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. SLUICE VALVE CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND BS 5934. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.
3. SLUICE VALVES SHALL BE DOUBLE FLANGED WITH DUCTILE IRON RESILIENT SEAL GATE VALVES. SUITABLE FOR USE IN RISING MAINS. THEY SHALL COMPLY WITH THE REQUIREMENTS OF IS EN 771-2 AND THEY SHALL HAVE THE APPROPRIATE CE MARKINGS.
4. ALL SLUICE VALVES SHALL BE DISMANTLED CLOSING.
5. 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 C25/30, WITH A MINIMUM THICKNESS OF 100mm. PRECAST CONCRETE ROOF SLABS MAY BE USED. SUBJECT TO REVIEW BY IRISH WATER. A COMPLIANCE WITH BS 5934, PART 4.
6. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER STD-WW-07.
7. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
8. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 598.
9. IP PIPES TO BE IN ACCORDANCE WITH IS EN 12201 : 2011.
10. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.
11. THRUST BLOCKS (NOT SHOWN ON DRAWING), TO BE PROVIDED AS PER STANDARD DRAWING STD-WW-14 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
12. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
13. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
14. ANY SPECIAL ROAD RENATURATION AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
15. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
16. EXISTING ROAD RENATURATION 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.

17. POLYETHYLENE (P.E.) PIPE (< 200mm DIA.)

18. STANDARD DETAILS - WASTEWATER

SLUICE VALVE DETAILS FOR RISING MAINS
POLYETHYLENE (P.E.) PIPE (< 200mm DIA.)
(Sheet 2 of 2)
1. All dimensions are in millimetres (mm) unless noted otherwise.
2. Ventilation stack to be provided in sensitive areas and Odour unit may be required depending on location.
3. Isolating valve to be in accordance with IS EN 1074-2.
4. Structural design and reinforcement details to be provided by the developer and submitted to Irish Water for review. 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 225mm. Alternatively, pre-cast concrete roofs may be used, subject to Irish Water review & compliance with BS 5911, Part 4.
5. Double air valve chamber shall be covered with approved heavy duty ventilated metal cover to IS EN 124 Rating D400. Covers and frames shall be suitable for road and traffic conditions subject to review by Irish Water.
6. 200mm all around, 100mm deep concrete plinth around covers in green areas.
7. Thrust blocks (not shown on drawing), to be provided as per standard drawing STD-WW-14 at all tees, bends, tapers, dead ends and pipes at steep slopes.
8. Pre-cast units may be used subject to review by Irish Water.
9. Anti-corrosion tape to be provided around all buried flanges.
10. All concrete to be in accordance with IS EN 206.
11. All ductile iron pipe work and fittings to be in accordance with IS EN 598.
12. All PE, pipe and fittings to be in accordance with IS EN 12201:2011.
13. All chambers to be checked for uplift by the developer based on ground conditions within the site. Should anti-flostation measures be required they shall be subject to review by Irish Water.
14. Any special road reinstatement around cover & frame shall be to road authority's requirements.
15. New road/construction & surface finish to be to road authority requirements. New chambers to be covered with approved heavy duty ventilated metal cover to IS EN 124 RATING D400. Covers and frames shall be suitable for road and traffic conditions subject to review by Irish Water.
16. 200mm around, 100mm deep concrete plinth around covers in green areas.
17. Thrust blocks (not shown on drawing), to be provided as per standard drawing STD-WW-14 at all tees, bends, tapers, dead ends and pipes at steep slopes.
18. Pre-cast units may be used subject to review by Irish Water.
19. Anti-corrosion tape to be provided around all buried flanges.
20. All concrete to be in accordance with IS EN 206.
21. All ductile iron pipe work and fittings to be in accordance with IS EN 598.
22. All PE, pipe and fittings to be in accordance with IS EN 12201:2011.
23. All chambers to be checked for uplift by the developer based on ground conditions within the site. Should anti-flostation measures be required they shall be subject to review by Irish Water.
24. Any special road reinstatement around cover & frame shall be to road authority's requirements.
25. New road/construction & surface finish to be to road authority requirements. New chambers to be covered with approved heavy duty ventilated metal cover to IS EN 124 RATING D400. Covers and frames shall be suitable for road and traffic conditions subject to review by Irish Water.

Refer to Index Sheet for Notes regarding design responsibility & risk assessment.
1. All dimensions are in millimetres (mm) unless noted otherwise.
2. Structural design and reinforcement details to be provided by the developer and submitted to Irish Water for review.
3. Duct arrangement may vary depending on requirements.
4. Cable ducts to be in accordance with BS 4460 and BS EN 1401. Ducts for ESB use to be in accordance with ESB specification.
5. Proprietary duct chamber may be used subject to review by Irish Water.
6. Long radius bends may be used for changes in direction of up to 45°. Duct chambers shall be provided for all bends greater than 45°.
7. Duct chambers to be located at 50m intervals maximum.
8. Appropriate marker tape shall be laid 250mm above the external crown of the duct and should incorporate reinforced tracing wire. Tracing wires shall be connected across chambers.
9. Electrical marker tape to be used in accordance with ESB specification.
10. All concrete to be in accordance with IS EN 206.
11. All ducting to be installed with draw cords/ropes, to allow the pull-through of cables.
12. Cable duct interface with chamber wall to be sealed to prevent ingress of groundwater to chamber.

Refer to index sheet for notes regarding design responsibility & risk assessment.

\[\text{PLAN}\]

\[\text{SECTION A - A}\]

\[\text{SECTION B - B}\]
SIDE WALL SLOPES TO MATCH EXISTING EMBANKMENT

1000 PIPE DIA. + 450

225

225

219

219

244

300

1000

75 BLINDING C12/15

CONCRETE GRADE C 30/37

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. STRUCTURAL DESIGN & REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
3. FULL FINAL DETAIL MUST BE REVIEWED BY IRISH WATER AND RELEVANT REGULATORY AUTHORITIES.
4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
5. BACKFILL AND REINSTATEMENT OF THE RIVER BED AND BANK TO BE SUBJECT TO AGREEMENT WITH RELEVANT AUTHORITY & IRISH WATER.

HANDRAILING MAY BE REQUIRED TO DESIGNER'S RISK ASSESSMENT

SECTION

PLAN

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

STANDARD DETAILS - WASTEWATER

EMERGENCY OVERFLOW STRUCTURE

NOT TO SCALE

IW-CDS-5030-01 Rev. 03 December 2017
1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. O.D. REFERS TO OUTSIDE DIAMETER OF PIPES OR COLLARS.
3. TWO FLEXIBLE JOINTS SHALL BE PROVIDED WITHIN A DISTANCE OF 1000mm OR 2x DIAMETER OF PIPE (WHICHEVER IS THE GREATER) FROM BOTH ENDS OF CONCRETE SURROUND.
4. ALL DUCTILE IRON PIPE WORK AND FITTINGS TO BE IN ACCORDANCE WITH EN 598.
5. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
6. ALL MANHOLES TO BE LOCATED A MINIMUM OF 5000mm FROM THE BANK EDGE TO ALLOW FOR FUTURE ACCESS.
7. BACKFILL AND REINSTATEMENT OF THE RIVER BED AND BANK TO BE SUBJECT TO AGREEMENT WITH RELEVANT AUTHORITY & IRISH WATER.
8. PIPE BETWEEN MANHOLES AT DITCH / STREAM CROSSING TO BE DUCTILE IRON.
1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. O.D. REFERS TO OUTSIDE DIAMETER OF PIPES OR COLLARS.
3. BENDS AT RESPECTIVE CROSSINGS SHALL BE INDICATED ON THE LONGITUDINAL SECTION DRAWING.
4. PIPEWORK THROUGH CROSSING TO BE POLYETHYLENE & JOINED USING BUTT FUSION WELDING.
5. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
6. THRUST BLOCKS TO BE PROVIDED AS PER STD-WW-14 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
7. ALL DUCTILE IRON PIPEWORK AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 598.
8. ALL PE PIPEWORK AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2011.
9. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206:2013.
10. ALL MANHOLES TO BE LOCATED A MINIMUM OF 1000mm FROM THE BANK EDGE TO ALLOW FOR FUTURE ACCESS. MANHOLE LOCATIONS MUST BE REVIEWED BY IRISH WATER & READILY ACCESSIBLE BY ALL OPERATION & MAINTENANCE EQUIPMENT, INCLUDING A VACUUM TANKER.
11. PIPEWORK OF RISING MAIN CAN BE EITHER DUCTILE IRON OR POLYETHYLENE. PIPEWORK AT CROSSINGS TO BE PE IN BOTH CASES.
12. BACKFILL AND REINSTATEMENT OF RIVER BED AND BANK TO BE SUBJECT TO AGREEMENT WITH RELEVANT REGULATORY AUTHORITIES & IRISH WATER.

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

TYPICAL DITCH / STREAM CROSSING FOR RISING MAIN

(Sheet 2 of 2)
1. All dimensions in millimetres (mm) unless noted otherwise.
2. At Bridge Crossing Ductile iron pipe work and fittings to be in accordance with IS EN 598.
3. O.D. refers to outside diameter of pipes or collars.
4. Bends at respective crossings shall be indicated on the longitudinal section drawing.
5. The developer is to seek advice from Irish Water as to whether a duplicate rising main is to be provided through the bridge crossing.
6. Thrust blocks to be provided as per STD-WW-14 at all tees, bends, tapers, dead-ends and pipes at steep slopes.
7. The quality of the kiosk construction shall ensure that the following is achieved:
   A) A thermal transmittance of 1.5W per m²K.
   B) A fire resistance retention of stability, integrity and insulation equivalent to class 2 of BS 476, when tested in accordance with BS 476 for a period exceeding 30 minutes.
8. Kiosk (min. 600 high x 450 wide x 300mm deep) to be constructed from thermosetting U.V. & weather resistant plastic powder coated & hot dipped galvanised steel (min. 4mm thickness) to BS EN 1417 - Stainless steel or non-metallic materials such as glass reinforced plastic (GRP) may be used as an alternative kiosk material, particularly in severe environments, subject to agreement with Irish Water. Colour to be Holly Green BS 8440 14 C 39, to have hinged, lockable access door (hinges and locks to be stainless steel).
9. The kiosk shall be located off the footpath so as not to impede pedestrians and positioned so as to facilitate safe access for maintenance personnel.
10. Kiosk to be fitted with a vent stack to manufacturer’s detail in sensitive areas.
11. All concrete to be in accordance with IS EN 206.
12. In insensitive areas a vent stack is not required. Louvre vent to be provided in kiosk.
13. Detail for rising main for PE pipe work to be as per this detail. Bridge crossing pipework to be ductile iron in both cases.
14. The location of the scour chamber must be reviewed by Irish Water and readily accessible by all operation & maintenance equipment, including a vacuum tanker.
1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. O.D. REFERS TO OUTSIDE DIAMETER OF PIPES OR COLLARS.
3. BENDS AT RESPECTIVE CROSSINGS SHALL BE INDICATED ON THE LONGITUDINAL SECTION DRAWING.
4. PIPEWORK THROUGH CROSSING TO BE POLYETHYLENE & JOINED USING BUTT FUSION WELDING.
5. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
6. THRUST BLOCKS TO BE PROVIDED AS PER STD-WW-14 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
7. ALL DUCTILE IRON PIPEWORK AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 598.
8. ALL PE PIPEWORK AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2011.
9. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206:2013.
10. ALL DUCTILES TO BE LOCATED A MINIMUM OF 500mm FROM THE BANK EDGE TO ALLOW FOR FUTURE ACCESS.
11. BACKFILL AND REINSTATEMENT REQUIREMENTS OF THE RIVER BED AND BANK IS SUBJECT TO AGREEMENT WITH RELEVANT REGULATORY AUTHORITIES & IRISH WATER.
12. THE DEVELOPER IS TO SEEK ADVICE FROM IRISH WATER AS TO WHETHER A DUPLICATE RISING MAIN IS TO BE PROVIDED THROUGH THE BRIDGE CROSSING. IF NECESSARY THE DEVELOPER WILL SUBMIT A DESIGN TO IRISH WATER FOR REVIEW.
13. PIPEWORK OF RISING MAIN CAN BE EITHER DUCTILE IRON OR POLYETHYLENE. PIPE AT CROSSING POINT TO BE PE IN BOTH CASES.
14. THE LOCATION OF THE SCOUR CHAMBER MUST BE REVIEWED BY IRISH WATER & READILY ACCESSIBLE BY ALL OPERATION & MAINTENANCE EQUIPMENT, INCLUDING A VACUUM TANKER.

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**TYPICAL BRIDGE CROSSING FOR RISING MAIN**

(Sheet 2 of 2)
1. All dimensions in millimetres (mm) unless noted otherwise.
2. Security fencing shall comprise 2.4m high, corrosion resistant mild steel fencing, galvanised and plastic coated finished, with similar type access gates.
3. The access gates shall be of sufficient width to accommodate maintenance vehicles, tankers, etc. The security gates shall be provided with side bolts, shooting bolts and padlocks. If opening outwards, the access gates shall be set back from parking and access areas by the width of the leaf of the gate.
4. Bolts - unless tamper resistant fixings are used, all bolts to the access gates & fencing shall be buried over.
5. Gate hinges shall be designed so that it is impossible to remove the gate by lifting when it is in a closed & locked position. Drop bolts shall be fitted to each gate leaf in such a way that they cannot be removed but allow the gate to be secured in both the open & closed position.
6. The security rating shall be either basic +, enhanced or enhanced +. The fence standard shall be based on the security rating of the site & is to be agreed with Irish Water.
7. Corner bracing and post detail to manufacturers specification.
8. All concrete to be in accordance with IS EN 206.
9. All fence materials and workmanship to be in accordance with IS EN 1722-1: 2006.
10. Dimensions of gate pillars, gate frame, fence pillars, fence runners, diagonals, etc. to be to manufacturers specification.
11. Fence/gate design and details to be provided to Irish Water for review/vetting before manufacture.
12. Pedestrian gate shall be provided if deemed necessary by Irish Water.
13. Colour to be holly green 14 C 39 in accordance with BS 4800: 2011.
14. A 125mm wide x 150mm deep concrete sill grade C30/37 concrete shall be provided to Irish Water’s requirements (enhanced + security rating only).

**Panel - Elevation**

<table>
<thead>
<tr>
<th>Security Rating</th>
<th>Mesh Spacing A x B</th>
<th>Bar Thickness</th>
<th>Height</th>
<th>Additional Features</th>
</tr>
</thead>
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<td>Type 865 9ms</td>
<td>2.4m</td>
<td>Anti-climb</td>
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<tr>
<td>Enhanced</td>
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<td>Anti-climb</td>
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<tr>
<td>Enhanced +</td>
<td>50 x 50</td>
<td>Type 865 4ms</td>
<td>2.4m</td>
<td>Anti-climb &amp; anti-burrow</td>
</tr>
</tbody>
</table>

Security Rating:
- Basic +
- Enhanced
- Enhanced +

Mesh Spacing:
- 100 x 50
- 50 x 50

Bar Thickness:
- Type 865 9ms
- Type 865 4ms

Height:
- 2.4m

Additional Features:
- Anti-climb
- Anti-climb & anti-burrow

**Entrance Gate Details**

- Gate pillars, gate frame, fence pillars, fence runners, diagonals, etc. to be to manufacturer’s specification.
- Foundation details to manufacturer’s specification.
- 75mm concrete blinding grade C12/15
- Gate hinges shall be designed so that it is impossible to remove the gate by lifting when it is in a closed & locked position.
- Drop bolts shall be fitted to each gate leaf in such a way that they cannot be removed but allow the gate to be secured in both the open & closed position.
- The security rating shall be either basic+, enhanced or enhanced+.
- All concrete to be in accordance with IS EN 206.
- All fence materials and workmanship to be in accordance with IS EN 1722-1:2006.
- Dimensions of gate pillars, gate frame, fence pillars, fence runners, diagonals, etc. to be to manufacturer’s specification.
- Fence/gate design and details to be provided to Irish Water for review/vetting before manufacture.
- Pedestrian gate shall be provided if deemed necessary by Irish Water.
- Colour to be holly green 14 C 39 in accordance with BS 4800:2011.
- A 125mm wide x 150mm deep concrete sill grade C30/37 concrete shall be provided to Irish Water’s requirements (enhanced + security rating only).
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. TYPE 1 PUMPING STATIONS TO BE LOCATED NO CLOSER THAN 5.0 METRES TO A PROPERTY BOUNDARY.
3. TYPE 2 PUMPING STATIONS TO BE LOCATED NO CLOSER THAN 10.0 METRES TO A PROPERTY BOUNDARY.
4. TYPE 3 PUMPING STATIONS TO BE LOCATED NO CLOSER THAN 15.0 METRES TO A PROPERTY BOUNDARY.
5. THERE SHALL BE A CLEAR OPENING IN FRONT OF THE GATES TO ENSURE ADEQUATE ACCESS.
6. THIS DETAIL IS INDICATIVE ONLY AND THE DEVELOPER SHALL SUBMIT A SITE SPECIFIC LAYOUT TO IRISH WATER FOR REVIEW.
8. FENCE AND GATE TO STD-WW-25.
9. REFER TO STD-WW-32 FOR PERMEABLE, IMPERMEABLE ROADWAY AND HARDSTANDING AREA DETAIL.
10. INDICATIVE LAYOUT RELATES TO SMALL PUMPING STATIONS AS PER TYPE 1, TYPE 2 AND TYPE 3 IN THE IRISH WATER CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE.
11. LAMP STANDARD & LAMP BOLLARD LOCATIONS TO BE SITE SPECIFIC & TO IRISH WATER AGREEMENT. REFER TO STD-WW-33 FOR DETAILS.
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.

2. STRUCTURAL DESIGN AND REINFORCEMENT DETAIL TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW. 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 225mm. ALTERNATIVELY, PRE-CAST CONCRETE ROOFS MAY BE USED, SUBJECT TO IRISH WATER APPROVAL, & COMPLIANCE WITH BS 5911, Part 4.

3. METER CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVER TO IS EN 124 RATING D400. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.

4. 200mm ALL AROUND. 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.

5. METER CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVER TO IS EN 124 RATING D400. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.

6. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 598. PE PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2011.

7. ANTI CORROSION TAPE TO BE PROVIDED AROUND ALL BURIED FLANGES.

8. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.

9. FLOW METERS REQUIRE A MINIMUM LENGTH OF PIPE ON EACH SIDE OF THE VALVE TO BE COMPLETELY FREE OF FITTINGS, VALVES, REDUCERS ETC., AS PER THE MANUFACTURERS INSTRUCTIONS.

10. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.

11. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY’S REQUIREMENTS.

12. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.

13. 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.
1. **All dimensions are in millimetres (mm) unless noted otherwise.**

2. **Pumps shall be installed to Irish Water requirements. Refer to Part 5 of the Code of Practice for Wastewater Infrastructure.**

3. **All ductile iron pipe work and fittings to be in accordance with IS EN 598.**

4. **Pre-cast concrete chambers may be used subject to review by Irish Water.**

5. **All gate valves to be clockwise closing.**

6. **Ventilation stack to be provided in sensitive areas.**

7. **Covers to be sized to allow adequate space for pump removal (minimum 1400 x 800mm).**

8. **Chamber access covers with a clear opening exceeding 1m shall conform to BS 9124.**

9. **Pre-cast manhole units, complying with requirements of IS EN 1917 and BS 5911 Part 3, roof slabs shall be designed to carry all loads & dead loads, a consist of a reinforced concrete slab of in-situ concrete, grade C30/37, with a minimum thickness of 225mm, alternatively, pre-cast concrete roofs may be used, subject to Irish Water review, & compliance with BS 5911 Part 4.**

10. **The pumping station should not be located in areas that are susceptible to flooding at more than a 1:30 year recurrence. The pumping station facility shall be designed for inundation. The finished slab level shall be positioned above the 1:100 year flood level. All electrical control equipment shall be water resistant and positioned above 1:200 year flood level.**

11. **All chambers to be checked for uplift by the developer based on ground conditions within the site. Should anti-uplift measures be required, they shall be subject to review by Irish Water.**

12. **All concrete to be in accordance with IS EN 291.**

13. **This drawing is indicative only and the developer shall submit a site specific layout to Irish Water for review.**

14. **A 24 hour storage capacity based on dry weather flow, shall be provided at the pumping station.**

15. **Indicative layout relates to small pumping stations as per Type 1, Type 2 & Type 3 in the Irish Water Code of Practice.**

16. **Emergency overflow may be provided subject to approval from the relevant regulatory authorities.**

17. **Surge equipment to be provided if deemed necessary.**

18. **Valve chamber may be constructed with pre-cast concrete units of a size to accommodate the fittings (6/0 Ø, Min. 1900mm).**

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**Indicative Pre-Cast Concrete Submersible Pumping Station**

- **Plan:**
  - Valve chamber may be constructed with pre-cast concrete units of a size to accommodate the fittings (6/0 Ø, Min. 1900mm).
  - Appropriate lifting davit & socket for pump removal (subject to review by Irish Water).

- **Sections:**
  - Section A-A:
    - Folded plate on valve chamber.
    - Valve chamber drain 80mm ductile iron to recharge above pump cut-in level (as per pump supplier's recommendations).
    - Return valve.
    - Emergency overflow if approved and/or 24 hour storage to be provided.

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**Refer to Index Sheet for Notes Regarding Design Responsibility & Risk Assessment**

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**Drawing No.: STD-WW-28A**

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**Standard Details - Wastewater**

- **Title:** Indicative Pre-Cast Concrete Submersible Pumping Station
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. PRE-CAST MANHOLE UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND BS 5911-PART 3.
3. THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
4. PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH BS 5911-PART 4 2002.
5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
6. MANHOLE ROOFS SHOULD CONSIST OF A 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 COMPLIANCE WITH BS 5911-PART 4: 2002.
7. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.
8. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.
9. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
10. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
11. ANY SPECIAL ROAD REINSTALLATION AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY REQUIREMENTS.
12. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
13. EXISTING ROAD REINSTALLATION 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.

**MINIMUM MANHOLE DIAMETERS**

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**PIPE ROCKER PIPE LENGTH**

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<td>GREATER THAN 750</td>
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**REF TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT**

**STANDARD DETAILS - WASTEWATER**

**RISING MAIN DISCHARGE MANHOLE**

**DRAWING NO.**

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**DISCLAIMER**

This document contains technical information and specifications for the design and construction of wastewater systems. It is intended for professional use and should not be reproduced or distributed without permission. Users should consult with relevant authorities and follow applicable regulations and guidelines for safety and compliance.
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. KIOSKS TO BE CONSTRUCTED FROM THERMOSETTING UV & WEATHER RESISTANT PLASTIC POWDER COATED & HOT DIPPED GALVANISED MILD STEEL PLATE (MINIMUM 4mm THICKNESS) TO BS EN 1461. STAINLESS STEEL OR NON-METALLIC MATERIALS, SUCH AS GLASS REINFORCED PLASTIC (GRP), MAY BE USED AS AN ALTERNATIVE KIOSK MATERIAL, PARTICULARLY IN SEVERE ENVIRONMENTS, SUBJECT TO AGREEMENT WITH IRISH WATER.
3. COLOUR TO BE HOLLY GREEN BS 4800 14 C39. INTERIOR FINISH TO BE WHITE UNLESS APPROVED BY IRISH WATER.
4. THE QUALITY OF KIOSK CONSTRUCTION SHALL ENSURE THAT THE FOLLOWING IS ACHIEVED:
   A) A THERMAL TRANSMITTANCE OF 1.5W PER m²K
   B) A FIRE RESISTANCE (RETENTION OF STABILITY, INTEGRITY AND INSULATION) EQUIVALENT TO CLASS 2 OF BS 476, WHEN TESTED IN ACCORDANCE WITH BS 476 FOR A PERIOD EXCEEDING 30 MINUTES.
   C) AN IP RATING OF IP65 OR EQUIVALENT.
5. KIOSK TO HAVE SINGLE OR DOUBLE STEEL/GRP DOORS WITH MULTIPLE LOCKS TO LS 1175 SR4 OR EN 1627. MINIMUM DOUBLE LOCKS WITH BOLTS THAT ENGAGE INTO THE SILL & HEADER AS WELL AS BETWEEN THE TWO LEAVES OR LEAF & FRAME. LEADING EDGE OF LEAVES TO HAVE EITHER REBATED EDGES OR FITTED WITH ASTRAGALS.
6. KIOSK TO BE BOLTED TO THE PLINTH THROUGH A BOTTOM FLANGE WITH GALVANISED MILD STEEL OR STAINLESS STEEL ANCHOR BOLTS.
7. THE BOTTOM FLANGE SHALL BE SEATED ON A NEOPRENE GASKET AND SEALED WITH MASTIC.
8. REAR WALL SHALL BE REINFORCED WITH STAINLESS STEEL SECTIONS TO WHICH A MARINE PLY WOOD, 18mm THICK BOARD IS FIXED.
9. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE ULTIMATE SIZING OF THE KIOSK TO ENSURE ADEQUATE SPACE REQUIREMENTS.
10. TELEMETRY DUCTING TO BE IN ACCORDANCE WITH BS 4660 AND BS EN 1401.
11. THE ROOF OF THE KIOSK SHALL BE REMOVABLE (BOLTS) TO FACILITATE BACKBOARD REMOVAL.
12. THE KIOSK SHALL NOT BE LOCATED IN AREAS THAT ARE SUSCEPTIBLE TO FLOODING AT A FREQUENCY OF MORE THAN 1:30 YEARS RECURRENCE. THE KIOSK FACILITY SHOULD BE DESIGNED FOR INUNDATION. THE FINISHED SLAB LEVEL SHOULD BE POSITIONED ABOVE THE 1:100 YEARS FLOOD LEVEL. ALL ELECTRICAL CONTROL EQUIPMENT SHALL BE WATER RESISTANT AND POSITIONED ABOVE THE 1:200 YEAR FLOOD LEVEL.
13. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
14. WATER TIGHT SEALS ARE TO BE PROVIDED WHERE DUCTING ENTERS DUCT CHAMBERS AND KIOSKS. ALL DUCTING TO BE INSTALLED WITH DRAW CORDS.
15. THE KIOSK SHALL BE BOLTED TO THE PLINTH THROUGH A BOTTOM FLANGE WITH GALVANISED MILD STEEL OR STAINLESS STEEL ANCHOR BOLTS.

NOTE: ALL KIOSK DIMENSIONS ARE MINIMUM DIMENSIONS & MAY VARY TO SUIT THE KIOSK REQUIREMENT.

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT
1. All dimensions are in millimetres (mm) unless noted otherwise.

2. Control Kiosk to be constructed from 215mm thick concrete blocks in accordance with BS EN 771-3, with smooth render finish internally and externally. Wet Kiosk to be constructed from thermosetting U.V. & weather resistant plastic powder coated & hot dipped galvanised mild steel plate (minimum 4mm thick) to BS EN 1461. Alternative material, stainless steel in harsh environments, non-metallic (GRP, polyester, etc.) may be allowed for wet kiosk subject to agreement with Irish Water.

3. Kiosk to have single or double steel/GRP doors with multiple locks to LPS 1175 SR4 or BS EN 1627. Minimum double locks with bolts that engage into the sill & header as well as between the two leaves or leaf & frame leading edge of leaves to have either rebated edges or fitted with astragals.

4. Colour to be holly green BS 4800 14 C39. Interior finish to be white unless approved by Irish Water.

5. The quality of kiosk construction shall ensure that the following is achieved:
   a) A thermal transmittance of 1.5 W/m²K
   b) A fire resistance retention of stability, integrity, and insulation, equivalent to class 2 of BS 476, when tested in accordance with BS 476 for a period exceeding 30 minutes
   c) An IP rating of IP65 or equivalent

6. The developer shall be responsible for the ultimate sizing of the kiosk to ensure adequate space requirements.

7. Cable ducting to be in accordance with BS 4660 and BS EN 1401.

8. Electrical requirements to be in accordance with ESB specification.

9. All exposed pipework to be adequately insulated with pipe lagging.

10. The developer shall be responsible for the ultimate sizing of the kiosk to ensure adequate space requirements.

11. Water tight seals are to be provided where ducting enters duct chambers and kiosks. All ducting to be installed with draw cords.

12. The kiosk shall not be located in areas that are susceptible to flooding at a frequency of more than 1:10 years recurrence. The kiosk facility should be designed for inundation. The finished slab level should be positioned above the 1:200 year flood level. All electrical control equipment shall be water resistant and positioned above the 1:200 year flood level.

13. All dimensions are minimum dimensions and may vary to suit the kiosk requirement.

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**NOTES:**

- All kiosk dimensions are minimum dimensions & may vary to suit the kiosk requirement.
- No. 0 09/15 Initial Issue
- No. 1 08/16 added note 3 (kiosk doors) JMC TOC MOD
- No. 2 11/17 Updated note 6 JMC TOC MOD

**STANDARD DETAILS - WASTEWATER**

**KIOSK TYPE 2 + 3 PUMPING STATION AND WET KIOSK**

**Sheet 2 of 2**

---

**DRAWING No.**

**SCALE**

**TITLE**

**DATE**

**DRAWING No.**

**REV**
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. REGULATING COURSE TO BE REVIEWED BY IRISH WATER.
3. STRUCTURAL DESIGN AND REINFORCEMENT DETAIL TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
5. PRECAST KERBS TO BE IN ACCORDANCE WITH IS EN 1340:2003.

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**CROSS SECTION OF MACADAM SURFACE**

- 4000mm Fall
- 100mm Of Dense Bitumen Macadam (14mm Aggregate)
- 500mm Deep Clause 804 Material Compacted As Per STD-WW-07 With 75mm Regulating Course
- 75mm Thickness Of 10mm Single Sized Aggregate

**CROSS SECTION CONCRETE SLAB**

- 4000mm Fall
- 200mm Thick Reinforced Concrete Grade C35/45
- 500mm Deep Clause 804 Material Compacted As Per STD-WW-07

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**Refer to Index Sheet for Notes Regarding Design Responsibility & Risk Assessment**
1. All dimensions are in millimetres (mm) unless noted otherwise.
2. Lamp bollard to be reviewed by Irish Water.
3. Lamp standard to be reviewed by Irish Water.
4. Electrical ducting to be in accordance with ESB specification.

Refer to Index Sheet for notes regarding design responsibility & risk assessment.
1. All dimensions are in millimetres (mm) unless noted otherwise.
2. Structural design and reinforcement detail to be provided by the developer and submitted to Irish Water for review.
3. All concrete to be in accordance with IS EN 206.

7600mm high 150Ø galvanized steel decorative vent shaft with protective grill.