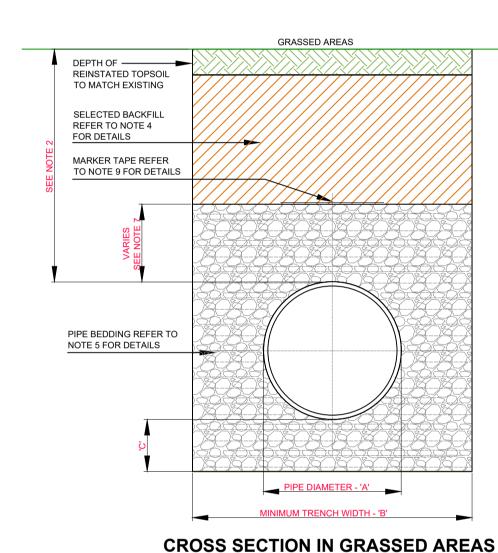


MANHOLE SIZE OF THESE CHAMBERS MAY BE REUIRED DUE TO MULTIPLE PIPES WITHIN MANHOLE

SEE NOTES 11 & 12. ROAD/FOOT PATH SURFACE BACKFILL REFER TO NOTE 3 FOR DETAILS TO NOTE 9 FOR DETAILS PIPE BEDDING REFER TO NOTE 5 FOR DETAILS PIPE DIAMETER - 'A' MINIMUM TRENCH WIDTH - 'B'



CROSS SECTION IN ROADS

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, FOOTWAYS, 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, 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  $0.9\ \mathrm{M}.$ D) DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE. E) AGRICULTURAL LAND 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 / 808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT

INFRASTRUCTURE IRELAND 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 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 ABOVE (CLAUSE 804 OR CLAUSE 808) OF THE PIPE TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS LOCATED, PROVIDES WRITTEN APPROVAL TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL 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 ON CLAUSE 601 OF THE TIL SPECIFICATION FOR ROADWORKS, TABLE 6/1, CLASS 8, CLASS 2. MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER 5. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01. THE PIPE BEDDING GRANULAR MATERIAL SHALL BE 14mm TO 5mm ( d. A GRADE

BED, HAUNCH, & SURROUND, WHERE REQUIRED, SHALL BE TO STD-WW-08.

AGGREGATE OR 10mm ( Ø 1/0) SINGLE SIZED AGGREGATE TO IS EN 13242. CONCRETE

EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 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 SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.

6. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE

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,CLASS 8,CLASS 2. ) 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.

R 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 TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL

9. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT THE TOP OF PIPE BEDDING LAYER FOR SEWERS AND RISING MAINS. IT SHOULD RUN CONTINUOUSLY 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.

10. TRENCH WIDTHS FOR PIPE SIZES ≤80mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS. 11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY

12. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND

PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
<b>≤</b> 80 RISING MAIN	SEE NOTE 10.
100	500
150 - 200	600
>200 - 350	750
>350 - 450	900

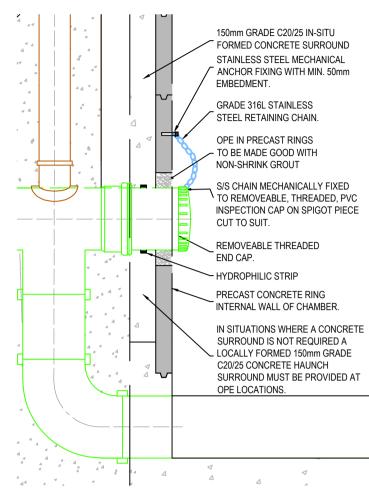
PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
<b>≤</b> 100	100
150 - 450	200

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. RODDING EYE VERTICAL PIPE SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND BS 5834, COVER AND FRAME SHALI 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

4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206. 5. MANHOLE DETAILS TO BE IN ACCORDANCE WITH STD-WW-09, 10, 10A AND 11 6. ALL BACKDROPS SHOULD TERMINATE AT THEIR LOWER END WITH A BEND INTO THE MAIN CHANNEL TO ENSURE THE DISCHARGE IS 45° OR LESS ON

7. 200mm ALL AROUND x 100mm DEEP, C20/25 CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH AND TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.



## Rodding Eye End Cap Detail

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 AND WITHIN AREAS THAT ARE IDENTIFIED BY THE OFFICE OF PUBLIC WORKS CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT (CFRAM) WITH A FLOOD RISK OF 1 IN 10 YEARS.

NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR STORED IN ANY RETRIEVAL SYSTEM OF ANY NATURE WITHOUT THE WRITTEN PERMISSION OF MALONE O'REGAN CONSULTING ENGINEERS AS COPYRIGHT HOLDER EXCEPT AS AGREED FOR USE ON THE PROJECT FOR WHICH THE DRAWING WAS ORIGINALLY ISSUED. PROCESS IS THE CLIENT'S RESPONSIBILITY.

Health and Safety:

SAFETY AND HEALTH PLAN.

PARTICULAR RISKS.

Notes:

THE APPOINTMENT OF THE PROJECT SUPERVISOR DESIGN

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL

PROCESS IS THE CLIENT'S RESPONSIBILITY.

STATEMENTS TO BE SUBMITTED TO THE PSDP

AND THE PSCS FOR WORKS WHICH INVOLVE

TEMPORARY WORKS PROPOSALS AND/OR METHOD

OTHER RELEVANT DRAWINGS, THE SPECIFICATION AND THE

THE APPOINTMENT OF THE PROJECT SUPERVISOR DESIGN

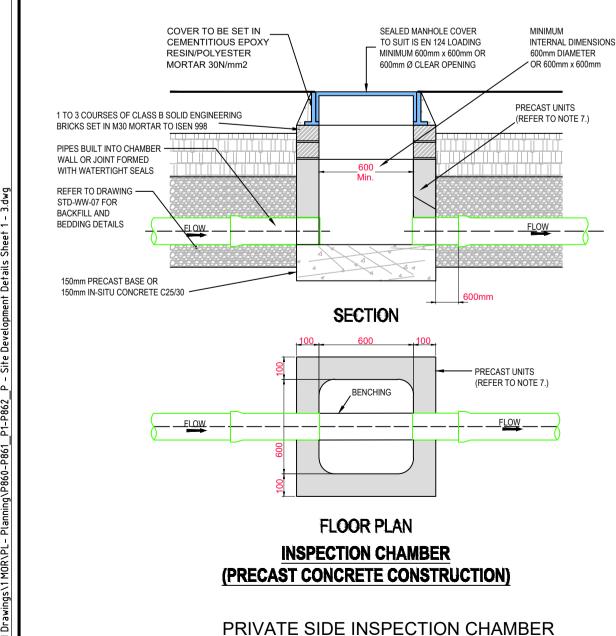
ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. DISCREPANCIES

SHALL BE REPORTED TO THIS OFFICE IN WRITING. THIS DRAWING TO BE READ IN ACCORDANCE WITH ALL

RELEVANT ENGINEERS' DRAWINGS AND SPECIFICATIONS.

HEAVY DUTY COVER AND FRAME -D400 (TO SUIT 150mm OPE.) 150mm CONCRETE -SURROUND 150mm DIA, PVC PIPE 150mm 90° PVC MULTI SADDLE FITTED TO -TOP OF T-JUNCTION (IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS USING A SUITABLE ADHESIVE TO ENSURE A WATER TIGHT SEAL . REMOVABLE END CAP (See Details Over) TEE JUNCTION -150mm GRADE C25\30 CONCRETE SURROUND -ROCKER PIPE 225mm GRADE C25\30 to be included in all CONCRETE SURROUND

> TYPE No. 2 150mm - 450mm DIA. (INCL.) DROP GREATER THAN 900 AND LESS THAN 1700mm \*500mm - 900mm DIA. (INCL.) DROP GREATER THAN 1300mm AND LESS THAN 2300mm (SEWERS GREATER THAN 450mm Ø ARE OUTSIDE THE SCOPE OF THE STANDARD DETAILS.)



**EFFECTIVE** 

THICKNESS (mm

160

170

THICKNESS (mm)

225

225

225

MANHOLE (mm)

LESS THAN 375

375 TO 450

500 TO 750 \*

MANHOLE (mm)

1200

1500

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

3. SERVICE CONNECTION FROM PUBLIC SEWER TO PROPERTY BOUNDARY IS A PUBLIC ASSET, PIPE UPSTREAM OF THE PROPERTY BOUNDARY IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING. 4. ACCESS POINTS SHOULD BE LOCATED SO THAT THEY ARE ACCESSIBLE

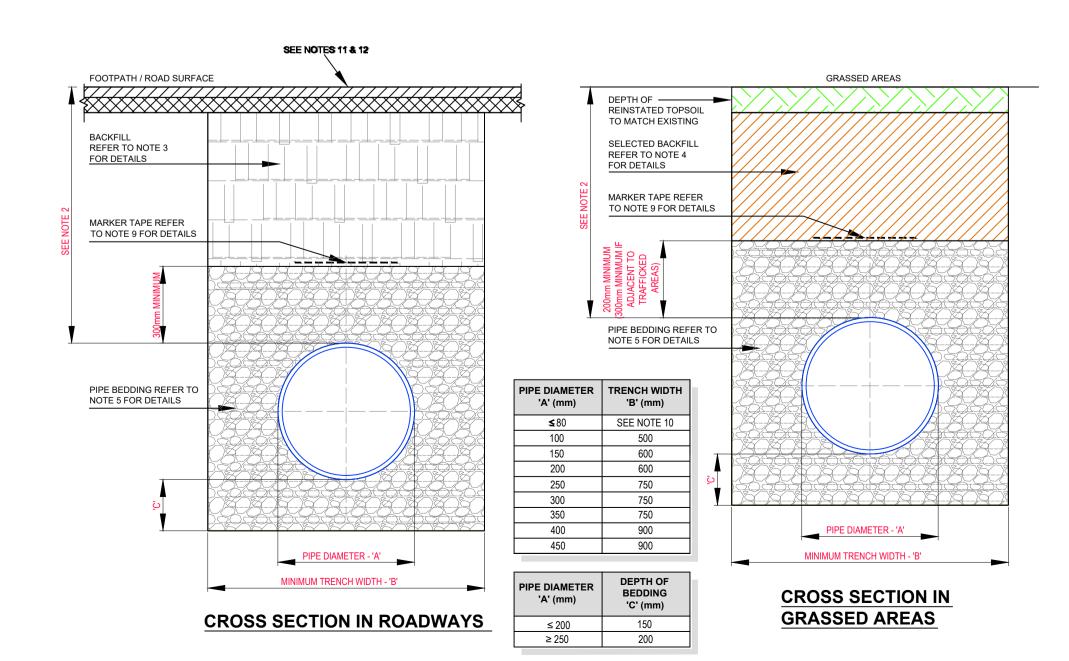
AND APPARENT TO THE MAINTAINER AT ALL TIMES FOR USE. THEY SHOULD AVOID REAR GARDENS OR ENCLOSED LOCATIONS AND SHOULD NEVER BE OVERLAIN WITH SURFACE DRESSING, TOPSOIL, ETC. 5. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.

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 - SEE DETAIL BELOW. 8. CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 OR CLAUSE 808 MATERIAL AS PER STD-WW-07 9 MAXIMUM DEPTH FROM COVER LEVEL TO INVERT OF PIPE = 1.2m.

INTERNAL DIMENSIONS GREATER THAN 600 x 600mm OR 600mm Ø REQUIRED WHERE DEPTH EXCEEDS 1.2m - CONSULT WITH IRISH WATER 10. SMALLER INSPECTION CHAMBERS WITH INTERNAL DIMENSIONS OF 450mm Ø OR 450 X 450mm MAY BE PERMITTED SUBJECT TO APPROVAL

BY IRISH WATER WHERE CONFINED PHYSICAL CONDITIONS EXIST. 11. PREFABRICATED UNITS SHOULD HAVE WATER TIGHT JOINTS AND SHOULD BE INTERLOCKING TO PREVENT LATERAL MOVEMENT OF INDIVIDUAL SECTIONS OF THE UNIT



1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. 2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 900mm WHERE THE PIPE IS TO BE LOCATED IN HOUSING ESTATE ROADS. GREATER DEPTHS OF COVER AND/OR PIPE STRENGTH AND/OR A HIGHER CLASS OF BEDDING MATERIAL MAY BE REQUIRED WHERE HIGH TRAFFIC LOADING IS ANTICIPATED. THE DESIRABLE COVER FOR A WATERMAIN

SHOULD BE 1200mm, WHERE PRACTICABLE & SHOULD NOT EXCEED 3.0m. 3. CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE WATER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CLAUSE 804 / 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS, CLAUSE 808 IS TO BE USED WITHIN 500mm OF CEMENT BOUND MATERIALS, CONCRETE PAVEMENTS, CONCRETE STRUCTURES OR CONCRETE PRODUCTS. OTHERWISE CLAUSE 804 MAY BE USED. ALTERNATIVE BACKFILL MATERIAL TO THAT DESCRIBED ABOVE CLAUSE 804 OR CLAUSE 808) OF THE PIPE TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS LOCATED, PROVIDES WRITTEN APPROVAL TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL. 4. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND

MATERIAL SUBJECT TO REVIEW BY IRISH WATER. 5. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm ( d⊅¾4) GRADED AGGREGATE OR 10mm (d⊅¾0) SINGLE SIZED AGGREGATE TO IS EN 13242. 6. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED OUT AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE WRAPPING. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS, INCLUDING PILING ETC. MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.

7. PIPES SHALL NOT BE SUPPORTED ON STONES OR ROCKS, OR ANY HARD OBJECT AT ANY POINT ALONG THE TRENCH. ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH 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

8. SHOULD MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE GRADE C8/10 SHALL BE USED AS BACKFILL MATERIAL 9. MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 12163, PLASTIC PIPES SHALL HAVE WARNING TAPE INCORPORATED A REINFORCED BAND BRACING WIRE. SERVICE PIPES SHALL HAVE 200mm WIDE MESH TAPE. MARKER TAPE TO BE LAID AT TOP OF PIPE BEDDING LAYER. 10. TRENCH WIDTHS FOR PIPE SIZES ≤80mm MAY BE <500mm. SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.

11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS. 12. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT

PLANNING APPLICATION 19.02.'24 GL CC COE PLANNING APPLICATION 20.09.'23 | GL | JK | CO Description

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3-4 Canada Street Waterford Co. WATERFORD.

Tel: +353 51 876 855 Email: info@waterford.morce.ie Web: www.maloneoregan.com

Offices also in:

DUBLIN: Tel: +353 1 260 2655 Email: info@morce.ie GALWAY: Tel: +353 91 531 069 Email: galway@morce.ie LONDON: Tel: +44 208 5281685 Email: london@morce.ie

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DON'T SCALE DIMENSIONS =