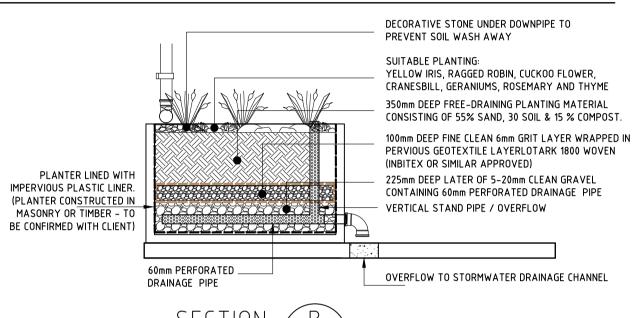


## RAIN GARDEN FLOW-THROUGH PLANTER BOX DETAIL







## IMAGE EXAMPLE OF RAIN GARDEN

PLANTER BOX DETAIL

(FROM SOUTH DUBLIN COUNTY COUNCIL PUBLICATION, A HOUSEHOLDERS GUIDE TO SuDS)

### DRAINAGE NOTES

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS

SCALE 1:25

- 2. ALL FOUL SEWERS TO BE FULLY SEALED UPVC PIPES IN
- ACCORDANCE WITH I.S. EN 1401-1 B. ALL INTERNAL MANHOLE COVERS TO BE DOUBLE SEALED RECESS
- . ALL EXTERNAL MANHOLE COVERS TO BE ROUND GRADE DN 400 E.N. 124
- ALL EXISTING REDUNDANT PIPEWORK, GULLYS, MANHOLES ETC. TO BE FULLY REMOVED AND BACKFILLED/MADE GOOD ETC. ANY REDUNDANT INTERNAL PIPEWORK TO REMAIN SHOULD BE CAPPED AND FULLY SEALED.
- DRAINAGE AND ENSURE ALL REMAINING DRAINAGE CONNECTIONS
  ARE RECONNECTED TO NEW DRAINAGE SYSTEM, INCLUDING EXISTING S.V.P.'S
- WILL BE AT THE CONTRACTORS EXPENSE. B. ALL WORKS AND TEMPORARY DISCONNECTION OF SERVICES TO BE
- PRIOR TO COMMENCEMENT, CONTRACTOR TO CARRY OUT FULL INVESTIGATION INCLUDING CCTV SURVEY AND LEVELS ETC. OF
- . CONTRACTOR TO CARRY OUT PRESSURE TESTING OF ALL NEW DRAINAGE FOR INSPECTION BY THE ENGINEER AND TO CARRY OUT A CCTV SURVEY OF COMPLETED DRAINAGE NETWORK. SURVEY OF INVERT LEVEL OF ALL PIPES AND ACCESS POINTS TO BE SENT TO
- . ALL WORKS TO FOUL LINE TO CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE & WASTEWATER INFRASTRUCTURE STANDARD DETAILS (LATEST VERSIONS BY IRISH WATER.)
- 10. ALL DRAINS WITH COVER LESS THAN 0.6m IN PAVED AREAS AND LESS THAN 1.2m UNDER ROADS TO BE WRAPPED IN A MEMBRANE AND BEDDED AND SURROUNDED IN C20/25 CONCRETE. A 20mm GAP SHALL BE PROVIDED IN THE CONCRETE SURROUND AT PIPE JOINTS AND NOT MORE THAN 6m APART, ALL OTHER PIPEWORK SHALL BE BEDDED AND SURROUNDED IN GRANULAR MATERIAL TO SPECIFICATION.

## EXISTING DRAINAGE NOTES

- CONTRACTOR TO CARRY OUT A DILAPIDATION SURVEY OF THE EXISTING CORRIDOR AND COURTYARD AND ALL AREAS INTERESTED BY THE UPGRADE WORKS PRIOR TO COMMENCEMENT.
- CONTRACTOR TO ALLOW FOR NECESSARY STORAGE/OVERPUMPING OF SEWAGE DURING THE DURATION OF THE WORKS TO ENSURE EXISTING TOILET FACILITIES ARE OPERATIONAL.
- CONTRACTOR PARKING, DELIVERY AND STORAGE TO BE FULLY AGREED WITH CLIENT PRIORI TO COMMENCEMENT.
- . CONTRACTOR TO ALLOW FOR ALL NECESSARY RE-CONNECTION OF EXISTING BRANCHES/OUTLETS ETC TO REPLACEMENT SEWER THAT MAY NOT BE SHOWN ON DRAWINGS.

Α	PRE-ISSUE - DRAINAGE PLANNING COMPLIANCE	GC	08/8/22	
REV:	DESCRIPTION:	BY:	DATE:	
COMPLIANCE SUBMISSION				

## CUNNINGHAM **CIVIL & STRUCTURAL ENGINEERS**

T: 087 9838889 E: info@cccs.ie

ELDHOUSE VARGHESE 32 LIFFEY PARK

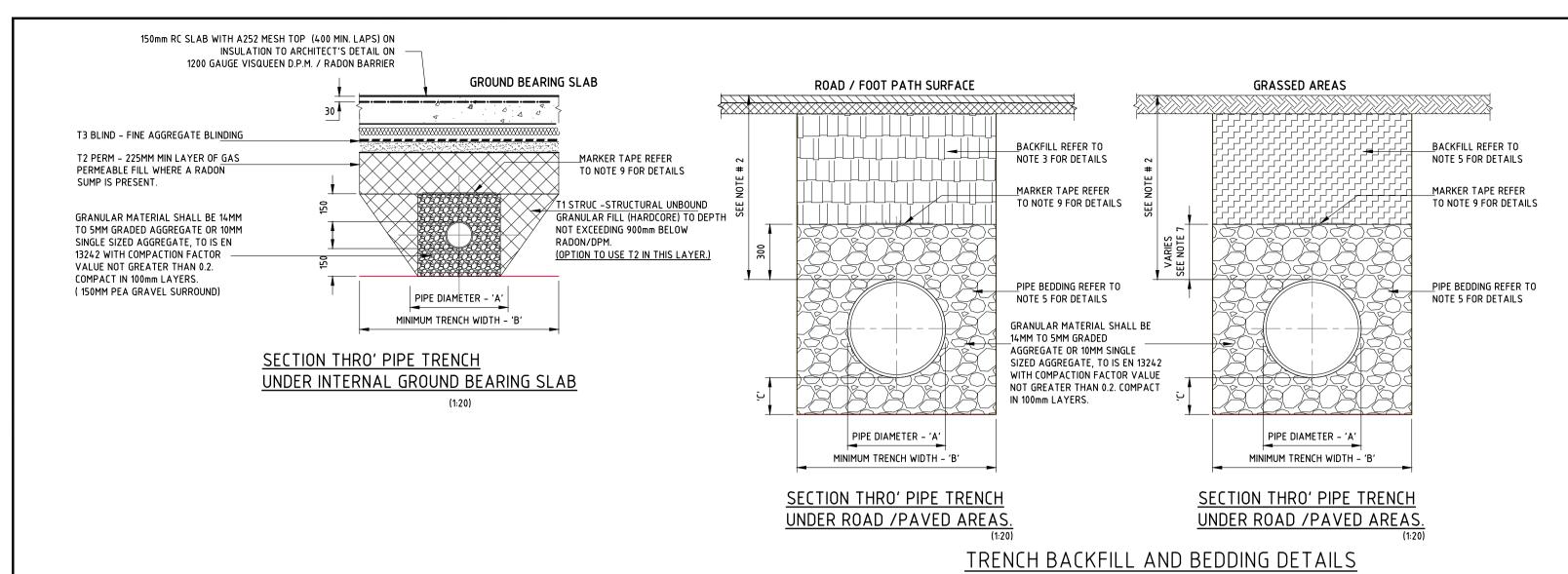
LIFFEY VALLEY PARK, LUCAN

COLIN CARROLL

ALTERATIONS & EXTENSION TO 32 LIFFEY PARK LIFFEY VALLEY PARK, LUCAN

PROPOSED DRAINAGE LAYOUT & SuDS PROPOSAL

AS SHOWN JULY '22

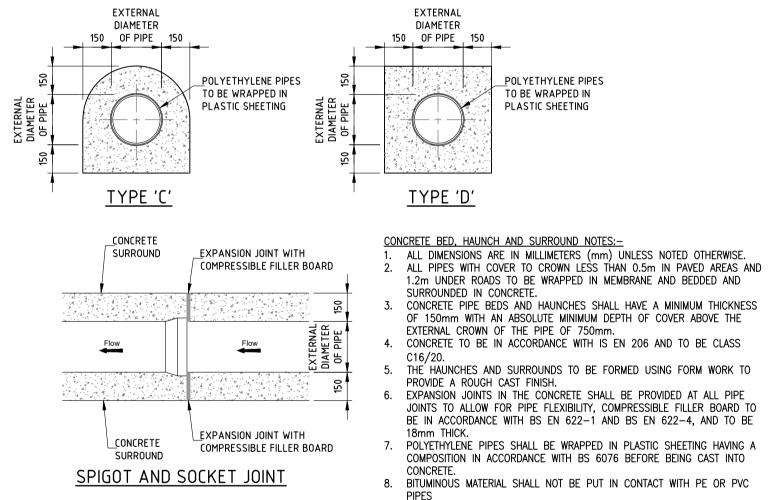


TRENCH WIDTH

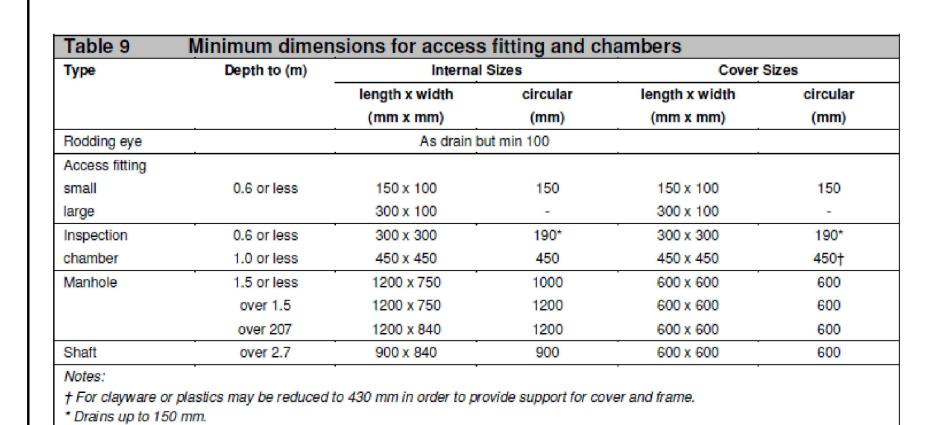
## 

(PIPES SHOULD BE ENTIREL

IN PERMITTED AREA)



CONCRETE BED, HAUNCH BED AND SURROUND DETAILS



NOT NORMALLY PERMITTED PERMITTED LOCATION

(CONSULT WITH ENGINEER) 🧱

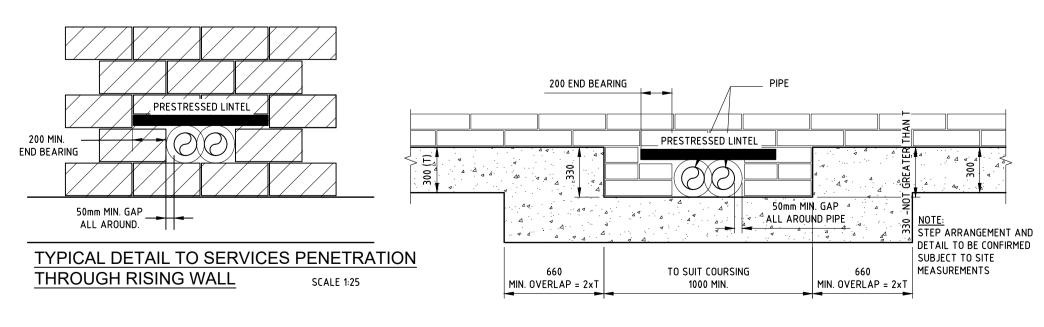
FOUNDATION

ADJACENT TO BUILDINGS

100

NOT PERMITTED

PERMITTED LOCATIONS OF DRAINAGE PIPES



TYPICAL DETAIL TO SERVICES PENETRATION
THROUGH RISING WALL/FOUNDATION SCALE 1:25

TRENCH BACKFILL AND BEDDING NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.

2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SUBFACE TO CROWN.

2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO 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. (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 0.75m.
C. DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITHOUT

FOOTWAYS (EG. MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GREAT GROSS VEHICLES WEIGHT IN EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 0.9m.

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 0.9m.

F. OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS
TO VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5TONNES
- DEPTH NOT LESS THAN 1.20m.

3. BACKFILL BELOW BUILDINGS AND FOR A DISTANCE OF 1200mm FROM A

BUILDING SHOULD BE IN ACCORDANCE WITH IS EN13242 AND

SR21:2014+A1:2016

4. CLAUSE 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, 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 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROAD AUTHORITY

SPECIFICATION OF IRISH WATER.

5. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUNDED MATERIAL SUBJECT TO THE APPROVAL OF IRISH WATER. SELECTED FILL TO BE COMPACTED IN

LAYERS OF 300mm DEPTH

PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01
GRANULAR MATERIAL SHALL BE 14mm TO 5mm GRADED AGGREGATE OR
10mm SINGLE SIZED AGGREGATE IS EN 13242. CONCRETE BED, HAUNCH &
SURROUND, WHERE REQUIRED, SHALL BE TO STD-WW-08.

7. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE

IN GREEN FIELD 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.

9. 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 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.

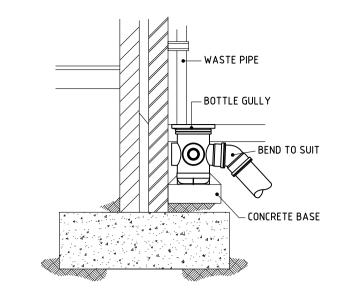
10. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER. IN THE CASE OF NON METAL PIPE MATERIAL, THE MARKER TAPE SHOULD INCORPORATE A TRACE WIRE WHICH IS LINKED TO FITTINGS AND TERMINATED AT THE WASTE WATER PUMPING STATION AND THE DISCHARGE MANHOLE.

90 DEGREE
W.C. CONNECTOR
WITH ACCESS

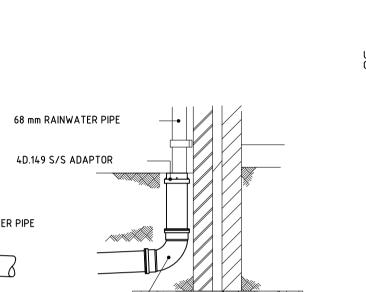
PIPE
COUPLER

ROCKER PIPE

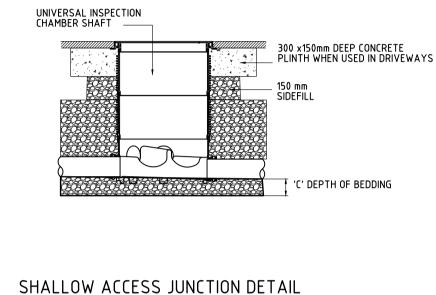
WC CONNECTION DIRECT TO DRAIN



EXTERNAL WASTE TO GULLY



87 1/2 DEGREE



Notes:

INTERNAL S.V.P TO DRAIN
(1:20)

R.W.P TO DRA

### DRAINAGE NOTES

ACCESS PIPE

CÖÜPLER

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  'SET-IN' TYPE

  4. ALL EXTERNAL MANHOLE COVERS TO BE ROUND GRADE DN 400
- ALL EXISTING REDUNDANT PIPEWORK, GULLYS, MANHOLES ETC.
  TO BE FULLY REMOVED AND BACKFILLED/MADE GOOD ETC. ANY
  REDUNDANT INTERNAL PIPEWORK TO REMAIN SHOULD BE CAPPED
- AND FULLY SEALED.

  6. CONTRACTOR TO CAREFULLY SURVEY & LOCATE ALL EXISTING DRAINAGE AND ENSURE ALL REMAINING DRAINAGE CONNECTIONS ARE RECONNECTED TO NEW DRAINAGE SYSTEM, INCLUDING
- EXISTING S.V.P.'S

  7. ANY REPAIRS NECESSARY DUE TO DAMAGE BY THE CONTRACTOR
- 8. ALL WORKS AND TEMPORARY DISCONNECTION OF SERVICES TO BE PHASED AND AGREED WITH THE CLIENT AND DESIGN TEAM.
- 9. PRIOR TO COMMENCEMENT, CONTRACTOR TO CARRY OUT FULL INVESTIGATION INCLUDING CCTV SURVEY AND LEVELS ETC. OF ALL EXISTING DRAINAGE.

WILL BE AT THE CONTRACTORS EXPENSE.

- . CONTRACTOR TO CARRY OUT PRESSURE TESTING OF ALL NEW DRAINAGE FOR INSPECTION BY THE ENGINEER AND TO CARRY OUT A CCTV SURVEY OF COMPLETED DRAINAGE NETWORK, SURVEY OF INVERT LEVEL OF ALL PIPES AND ACCESS POINTS TO BE SENT TO THIS OFFICE FOR APPROVAL PRIOR TO BACKFILLING.
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# CUNNINGHAM CIVIL & STRUCTURAL ENGINEERS

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ELDHOUSE VARGHESE
32 LIFFEY PARK
LIFFEY VALLEY PARK, LUCAN

COLIN CARROLL

PROJECT: ALTERATIONS & EXTENSION TO 32 LIFFEY PARK LIFFEY VALLEY PARK, LUCAN

TYPICAL DRAINAGE DETAILS

SCALE AT A1:
AS SHOWN
JULY '22
GC
PROJECT NO:
DRAWING NO:
REVISION:
A