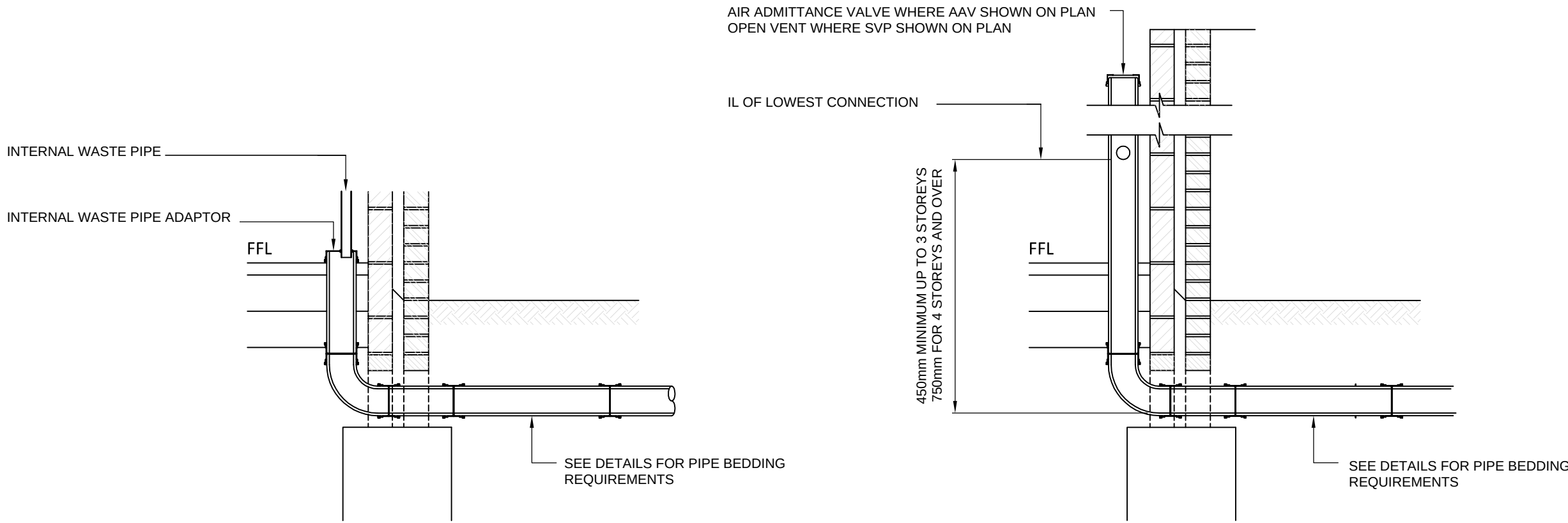
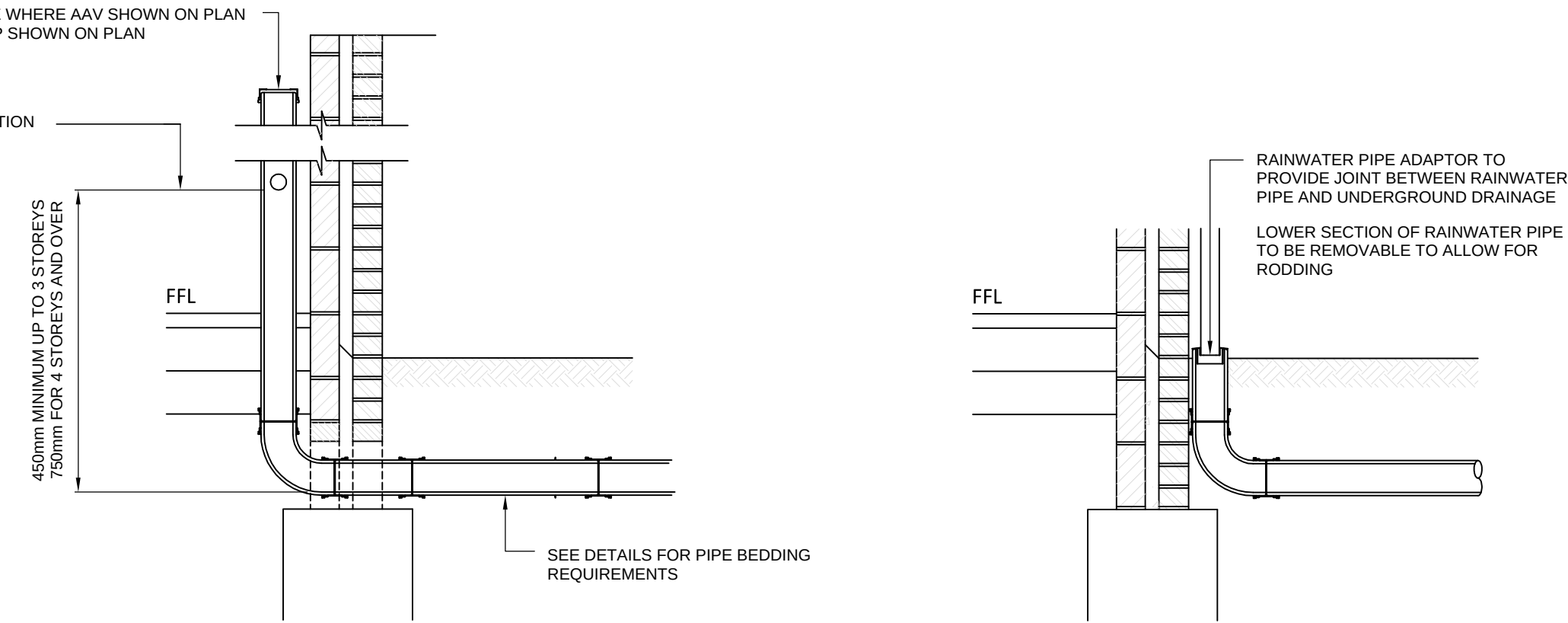
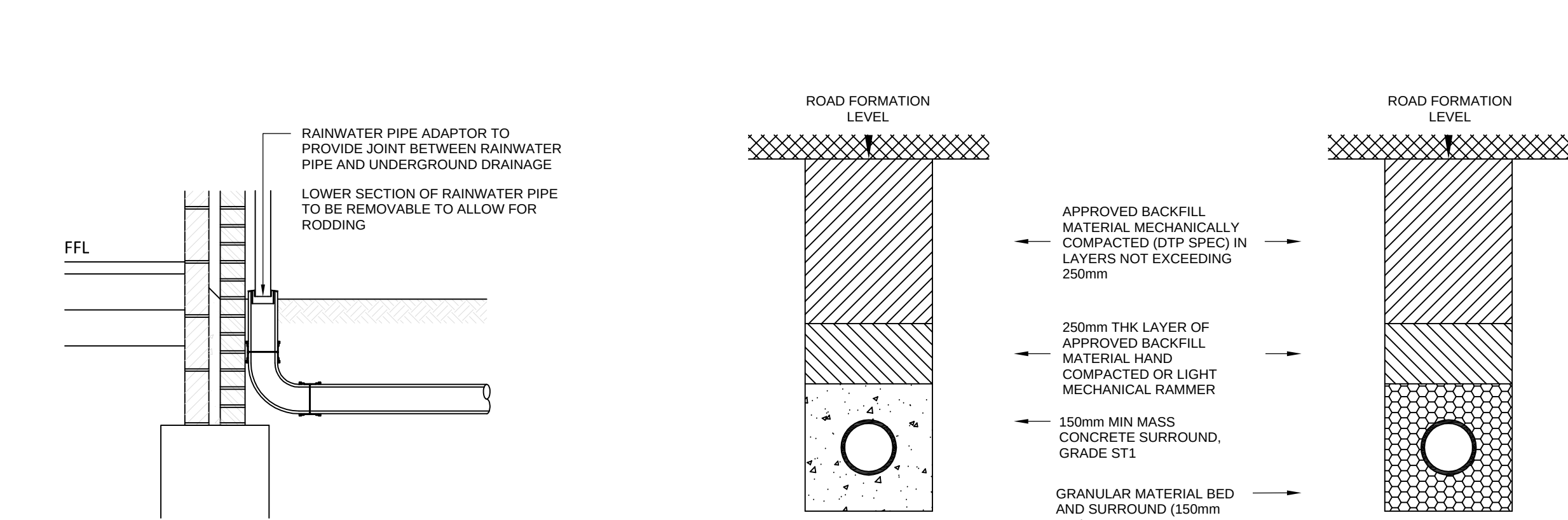




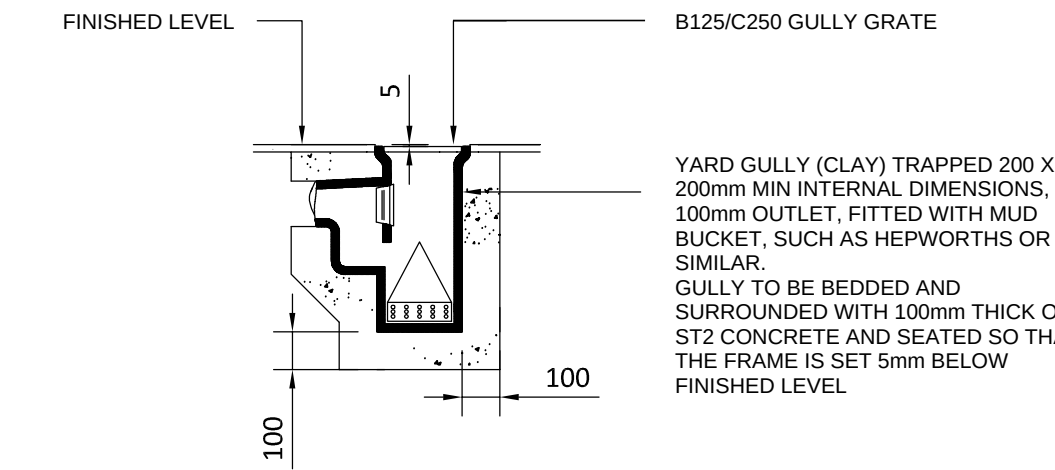
INDICATIVE INTERNAL WASTE PIPE CONNECTION DETAIL



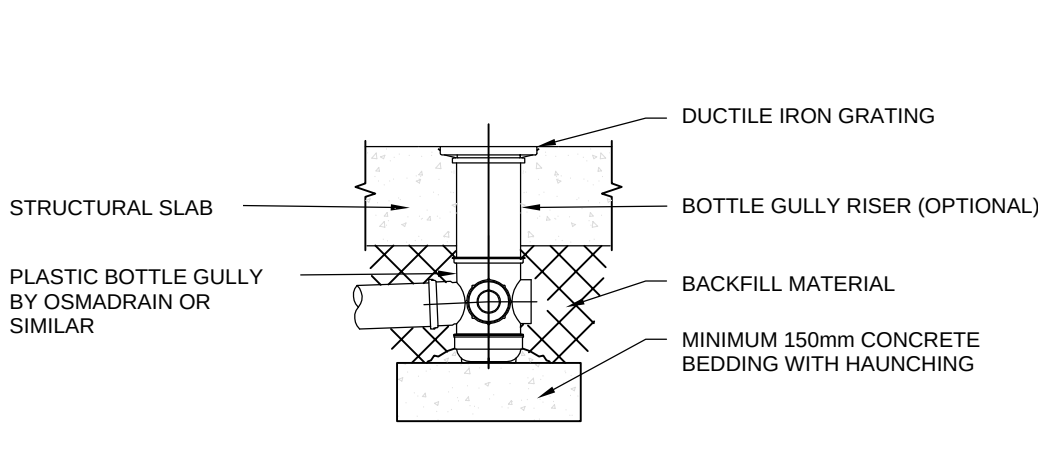
INDICATIVE SOIL & VENT PIPE CONNECTION DETAIL



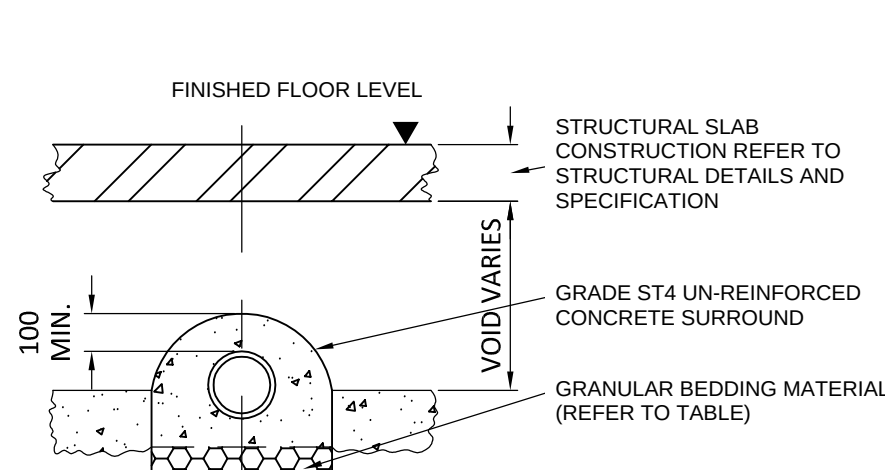
INDICATIVE RAINWATER PIPE CONNECTION DETAIL



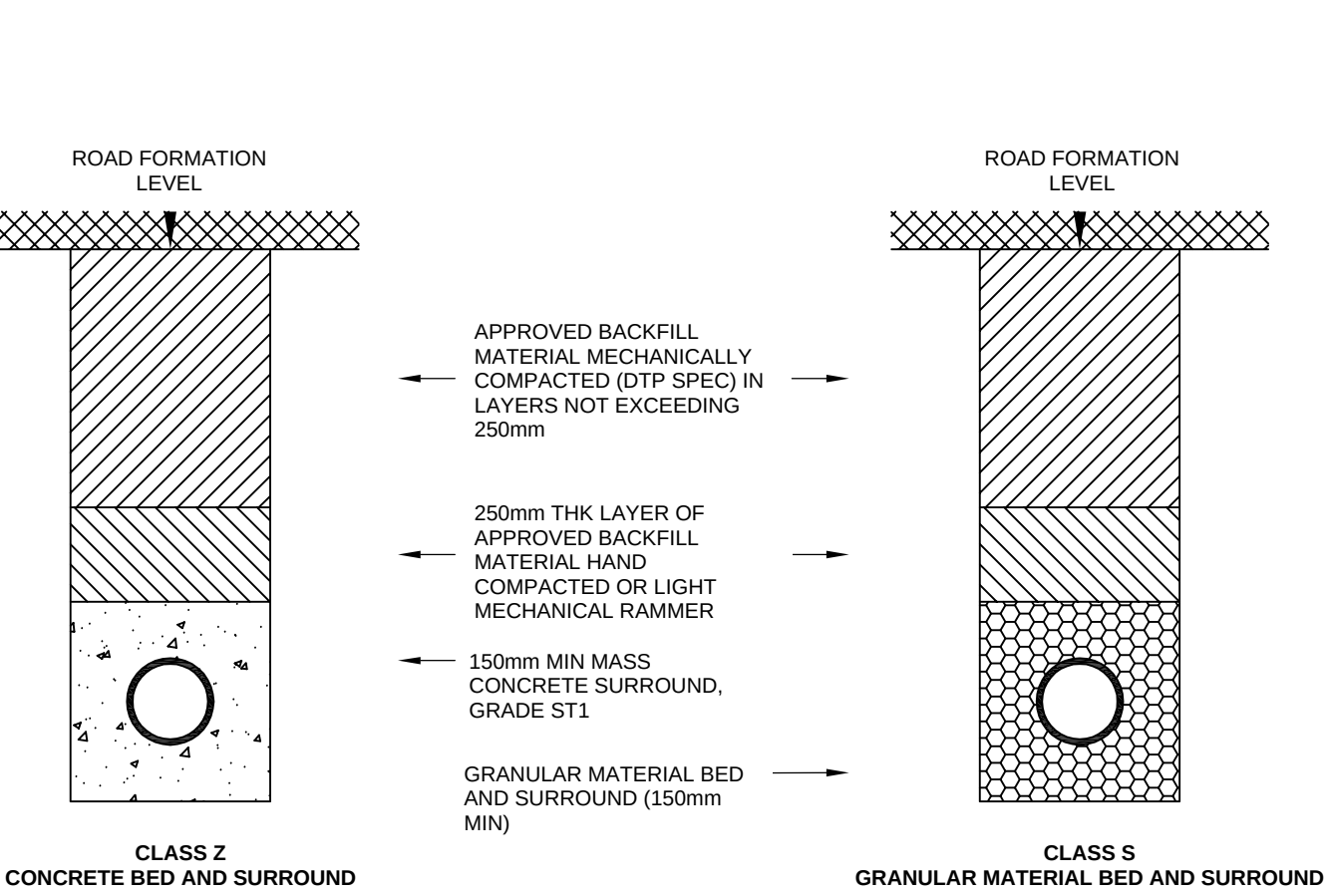
TYPICAL YARD GULLY DETAIL



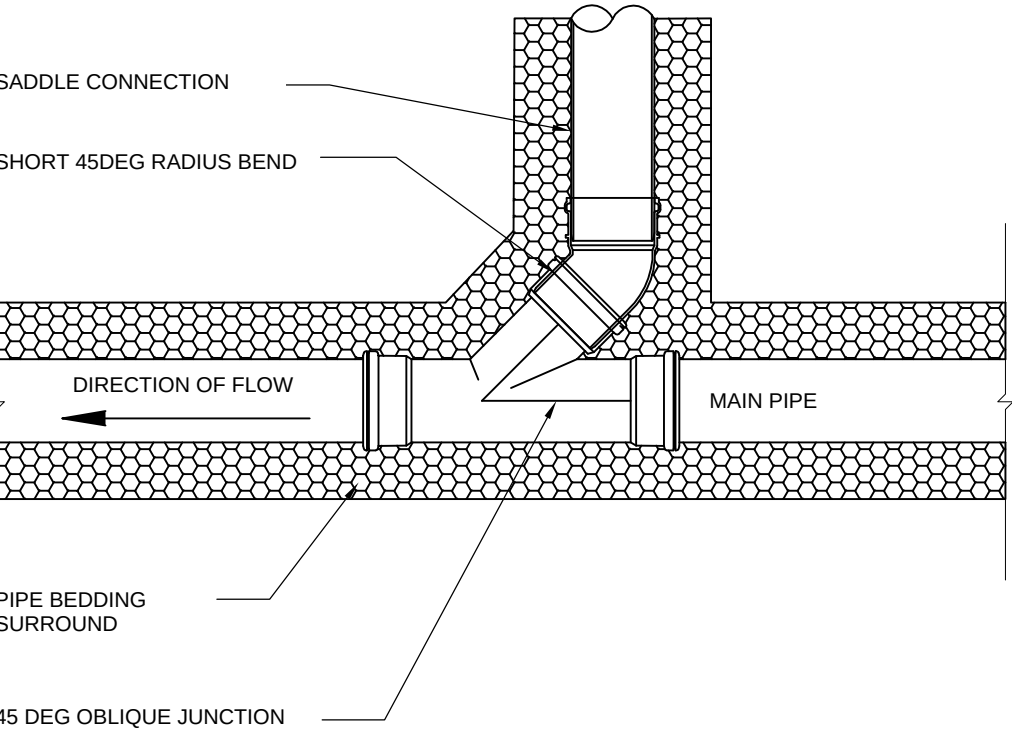
TYPICAL BOTTLE GULLY DETAIL



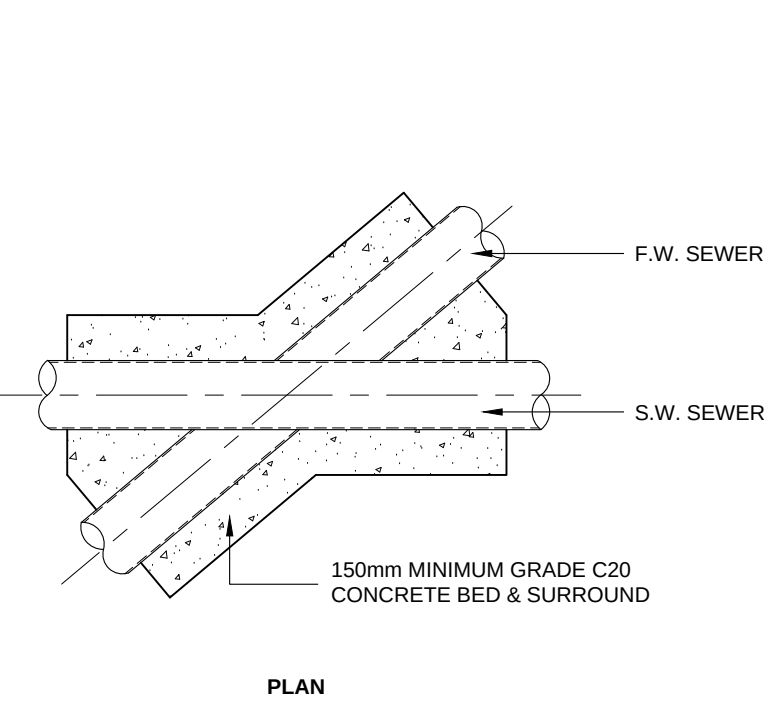
TYPICAL CLASS Zx BEDDING DETAIL



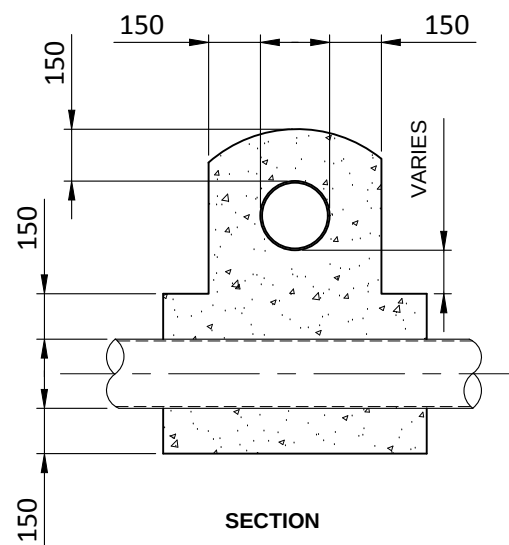
TYPICAL PIPE BEDDING DETAILS



TYPICAL 45 DEG SEWER PIPE JUNCTION CONNECTION

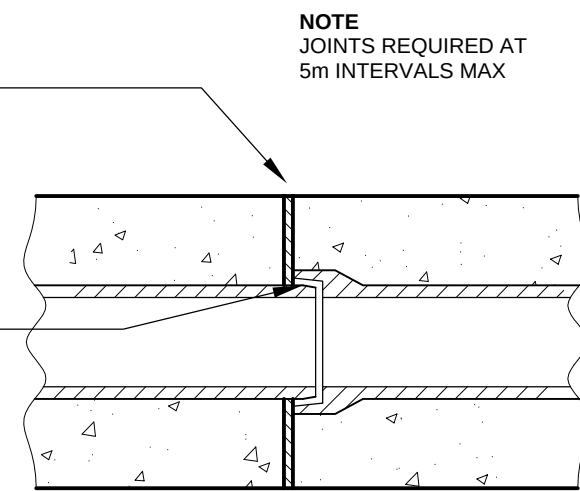


TYPICAL CROSS OVER DETAIL TO FOUL & SURFACE WATER SEWERS



COMPRESSIBLE BOARD OR PERFORMED JOINT FILLER FOR FULL THICKNESS OF CONCRETE BED OR SURROUND

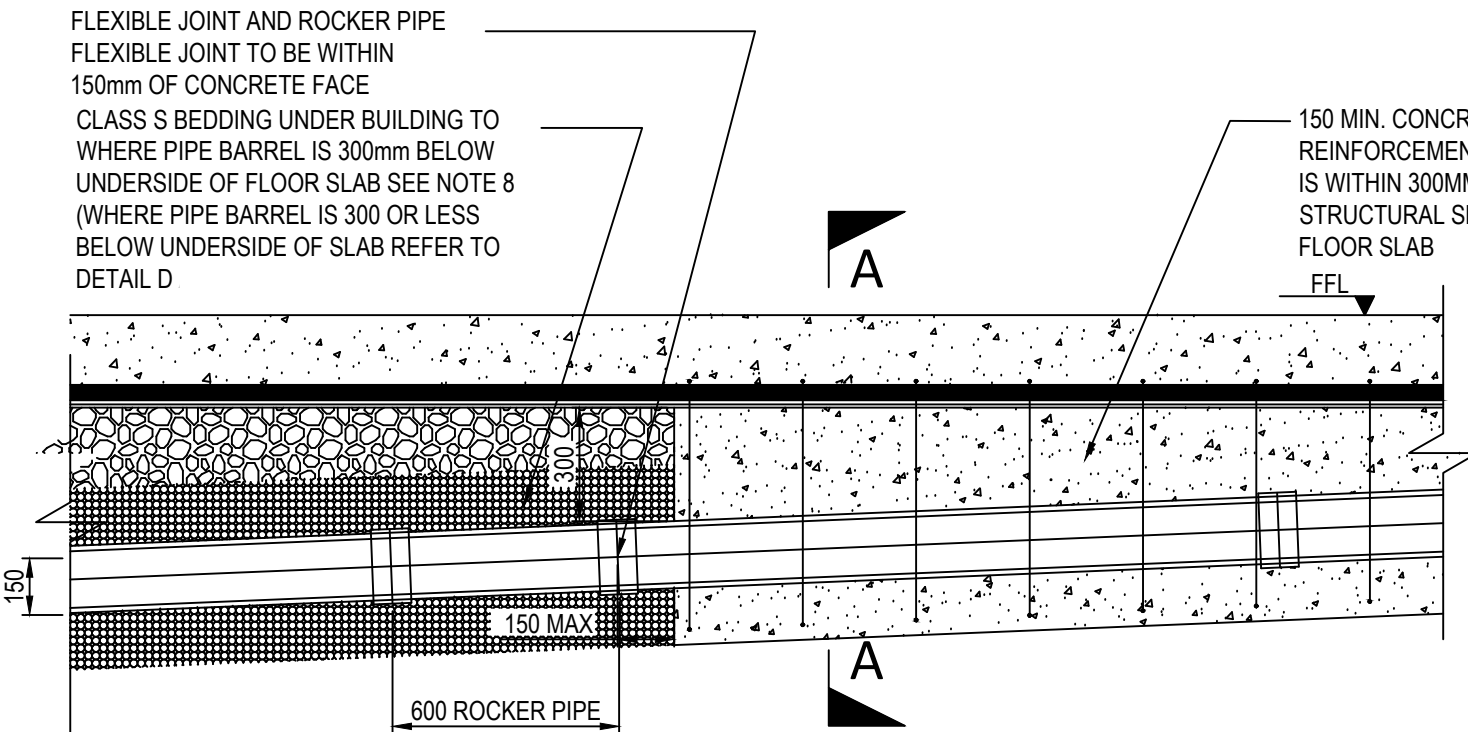
FLEXIBLE PIPE JOINT AT MAXIMUM 3 PIPE LENGTHS & IN ACCORDANCE WITH PIPE MANUFACTURERS INSTRUCTIONS



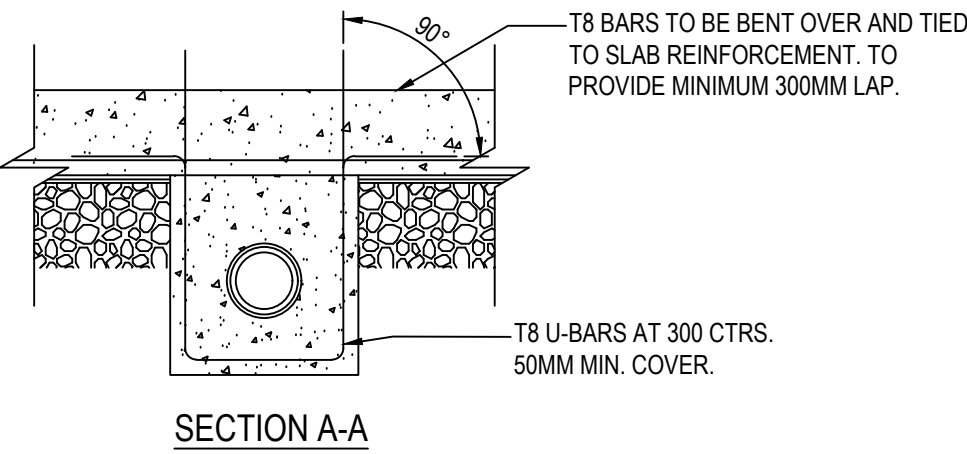
NOTE JOINTS REQUIRED AT 5m INTERVALS MAX

NOTE COMPRESSIBLE FILLER IS TO BE USED AT PIPE JOINTS IN CONCRETE PROTECTION TO PIPES. FILLER TO BE USED CAN BE HYDROCELL BY FOSROC, OR APPROVED BITUMEN IMPREGNATED INSULATING BOARD TO B.S. 1142 PART 3. THE COMPRESSIBLE MATERIAL SHALL BE CUT TO MATCH THE PIPELINE SHAPE AND MUST EXTEND THROUGH THE FULL HEIGHT OF THE CONCRETE

Compressible Filler for Pipe Joints			
Nominal Pipe Dia	Hydrocell	Bitumen impregnated board	
100 - 300	15mm	15mm	18mm
350 - 450	20mm	24mm	
465 - 750	35mm	36mm	



PIPE CAST INTEGRAL WITH STRUCTURAL SLAB DETAIL D (IN ACCORDANCE WITH BUILDING REGULATIONS SECTION H1, PARAGRAPH 2.7, CLAUSE A9)



COMPRESSIBLE FILLER TABLE

- NOTES:
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
 - DO NOT SCALE FROM THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS TO BE CHECKED / VERIFIED ON SITE.
 - ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
 - FOR GENERAL NOTES, REFER TO DRAWING BSM BSM-REN-80-XX-DR-S-00010
 - FOR SETTING OUT OF STACK LOCATIONS REFER TO CURRENT ARCHITECTS DRAWINGS. FOR SETTING OUT OF EXTERNAL DRAINAGE REFER TO LANDSCAPE ARCHITECTS CURRENT DRAWINGS. FOR ABOVE GROUND DRAINAGE REFER TO M&E CURRENT DRAWINGS.
 - THE FINAL FOUL AND SURFACE WATER CONNECTION TO THE COMBINED SEWER IS SUBJECT TO UNITED UTILITIES APPROVAL AND IS TO BE IN ACCORDANCE WITH THEIR AGREED DETAILS.
 - WORKS ARE TO GENERALLY COMPLY WITH THE 'SEWERS FOR ADOPTION' 7th EDITION. IF DISCREPANCIES ARE NOTED BETWEEN SPA AND DRAWINGS, THESE SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW.
 - THE FLOW CONTROL IS TO BE TO THE SUPPLIERS DESIGN AND DETAILS. INSTALLATION IS TO BE IN ACCORDANCE WITH THE SUPPLIERS / MANUFACTURERS REQUIREMENTS.
 - MANHOLE COVERS TO BE IN ACCORDANCE WITH BS EN 124 FOR THE RATINGS INDICATED IN THE MH SCHEDULE. THE CONTRACTOR IS TO SUBMIT DETAILS FOR THE PROPOSED MANHOLE COVERS TO THE ENGINEER AND ARCHITECT / LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.
 - COVER SLABS MUST CARRY THE BSI KITEMARK. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE FRAME, A LOAD BEARING REDUCING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN AS REQUIRED.
 - SULPHATE ASSESSMENT: CONCRETE SHOULD BE DESIGNED IN ACCORDANCE WITH CLASS DS-1, AGGRESSIVE CHEMICAL ENVIRONMENT FOR CONCRETE CLASSIFICATION (ACEC) AC-15 IN ACCORDANCE WITH BRE SPECIAL DIGEST 1 (2005) MUST BE USED IN PRECAST CONCRETE PRODUCTS OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
 - SEWERS TO BE LAID IN CLASS 'S' BEDDING (150mm GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF DRAIN IS LESS THAN 1.2m IN TRAFFICKED AREAS, AND LESS THAN 0.9m IN PEDESTRIAN AREAS, THEN A 150mm CONCRETE PROTECTION SLAB SHOULD BE PROVIDED ABOVE THE GRANULAR BED AND SURROUND.
 - BEDDING AND BACKFILL REQUIREMENTS TO CONFORM TO THE REQUIREMENTS OF THE WATER INDUSTRY SPECIFICATION (WIS) 4-08-02 (TABLE A2).
 - ALL SEWERS TO BE BSI KITEMARKED (CERTIFIED TO WIS 4-35-01).
 - ALL CONCRETE PIPES TO BE TO BS EN 1916 CLASS 120 (54kN/m)
 - PLASTIC PIPES ARE TO BE USED PROVIDED THEY HAVE THE BSI KITEMARK AND CERTIFIED TO BS EN 13476-1 AND CONFORM WITH WIS 4-35-01 OR BS EN 13476-3. PIPES LESS THAN OR EQUAL TO 500 DIA. SHALL HAVE A SHORT TERM RING STIFFNESS NOT LESS THAN 8kN/m²
 - SEWER PIPES TO BE LAID IN MAXIMUM 3m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER AND THIS IS AGREED BETWEEN THE CONTRACTOR AND THE PIPE SUPPLIER.
 - THE CONTRACTOR IS TO KEEP A RECORD SET OF THE AS-INSTALLED DRAINAGE ON SITE AND PROVIDE THIS TO RENAISSANCE AND CONTRACTOR UPON COMPLETION OF THE WORKS AS THE FINAL CONSTRUCTION DRAWING. THIS SHOULD INCLUDE A CCTV SURVEY OF THE INSTALLED DRAINAGE FOLLOWING JET WASHING, AND WHICH HAS BEEN UNDERTAKEN FOLLOWING COMPLETION OF THE WORKS.
 - DURING THE WORKS ALTERATIONS TO THE DRAINAGE LAYOUT ARE TO BE MARKED UP BY THE CONTRACTOR AND AGREED WITH RENAISSANCE IN WRITING.
 - THE HEAD OF ALL FOUL BELOW GROUND DRAINAGE RUNS ARE TO BE VENTED WITH THE ABOVE GROUND DRAINAGE TO M&E SUBCONTRACTOR DETAILS
 - THE LAST SURFACE WATER MANHOLE IS TO INCORPORATE A SILT TRAP.
 - ALL DRAINAGE IS TO BE RODDABLE AT STACK LOCATIONS ABOVE GROUND.

C01

ISSUED FOR CONSTRUCTION

26.05.20

MH

HG

Rev:

Description:

Date:

By:

Chkd:

renaissance

Renaissance Associates Ltd
Carvers Warehouse
77 Dale Street
Manchester
M1 2HG

Project:

BRUNSWICK STREET,
MANCHESTER

Drawing Title:

BELOW GROUND DRAINAGE
DETAILS - SHEET 2

Status:

Purpose of Issue:

A

CONSTRUCTION

Size:

Date:

Drawn by:

Designed by:

Checked by:

A1

MAY 20

MH

NP

HG

Scale:

1:100

Project No:

2004-04

Project:

Originator:

Volume:

Level:

Type:

Role:

Category/Number:

Rev:

BSM-REN -00- FN- DR-C -00201-C01