

NOTES

1. This drawing is to be read in conjunction with all relevant architects', engineers', and specialists' drawings, bills of quantities and specifications.
2. Do not scale off this drawing.
3. All dimensions are to be confirmed on site by the contractor.
4. Refer to MHA drawing 900 for all general notes.

BEDDING NOTES

1. GRANULAR PIPE BEDDING MATERIAL FOR PIPES, AND BACKFILLING FOR TEMPORARY DRAINS (TRENCH SUB-DRAINS), SHALL CONSIST OF AGGREGATES FROM NATURAL SOURCES OR SINTERED PULVERIZED-FUEL ASH COMPLYING WITH THE RELEVANT PROVISIONS OF BS 882 AND BS 5797, PART 2 RESPECTIVELY, SIZED IN ACCORDANCE WITH THE FOLLOWING TABLE:

NOMINAL BORE	ALTERNATIVE AGGREGATE SIZES (mm)	
	SINGLE-SIZED	GRADED
100	10	-
150	10 OR 14	14 TO 5
225 - 300	10, 14 OR 20	14 TO 5 OR 20 TO 5
375 - 525	14 OR 20	14 TO 5 OR 20 TO 5
EXCEEDING	14, 20 OR 40	14 TO 5, 20 TO 5 OR 40 TO 5

2. SELECTED BACKFILL MATERIAL, WHETHER SELECTED FROM LOCALLY EXCAVATED MATERIAL OR IMPORTED, SHALL CONSIST OF UNIFORM, READILY COMPACTABLE MATERIAL, FREE FROM VEGETABLE MATTER, BUILDING RUBBISH & FROZEN MATERIAL, OR MATERIALS SUSCEPTIBLE TO SPONTANEOUS COMBUSTION, & EXCLUDING CLAY OF LIQUID LIMIT GREATER THAN 80 AND/OR PLASTIC LIMIT GREATER THAN 55 AND MATERIALS OF EXCESSIVELY HIGH MOISTURE CONTENT. CLAY LUMPS AND STONES SHALL BE RETAINED ON 75mm AND 37.5mm SIEVES RESPECTIVELY.

3. COMPRESSIBLE FILLER FOR INTERRUPTING CONCRETE PROTECTION TO PIPELINES SHALL CONSIST OF BITUMEN IMPREGNATED INSULATING BOARD TO BS 1142, PART 3 OR OTHER EQUALLY COMPRESSIBLE MATERIAL. THE THICKNESS OF COMPRESSIBLE FILLER SHALL BE AS FOLLOWS:

NOMINAL BORE OF PIPE (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450 - 1200	36
EXCEEDING 1200	54

4. THE CONTRACTOR IS TO PROTECT BURIED PIPES (PARTICULARLY SHALLOW PIPES) FROM DAMAGE CAUSED BY LOADS IMPOSED BY CONSTRUCTION PLANT.

5. BELOW ROADS AND OTHER PAVED AREAS TRENCHES SHALL BE BACKFILLED WITH DIT SPECIFICATION TYPE 1 SUB-BASE MATERIAL UP TO ROAD/PAVING FORMATION LEVEL. ALL OTHER TRENCHES UNLESS OTHERWISE SPECIFIED SHALL BE BACKFILLED TO FINISHED GROUND LEVEL OR UNDERSIDE OF TOPSOIL LAYER WITH WELL COMPACTED EXCAVATED MATERIAL.

GRANULAR BEDDINGS

1. DIMENSION Y: 1/6 BC OR 100mm UNDER BARRELS, AND 50mm MIN. UNDER SOCKETS WHICHEVER IS THE GREATER (400 MAX.). ROCK ETC 1/4 BC AND 150mm MIN UNDER SOCKETS (400mm MAX.)

2. DN : NOMINAL BORE OF PIPE
3. BC : EXTERNAL DIAMETER OF PIPE BARREL

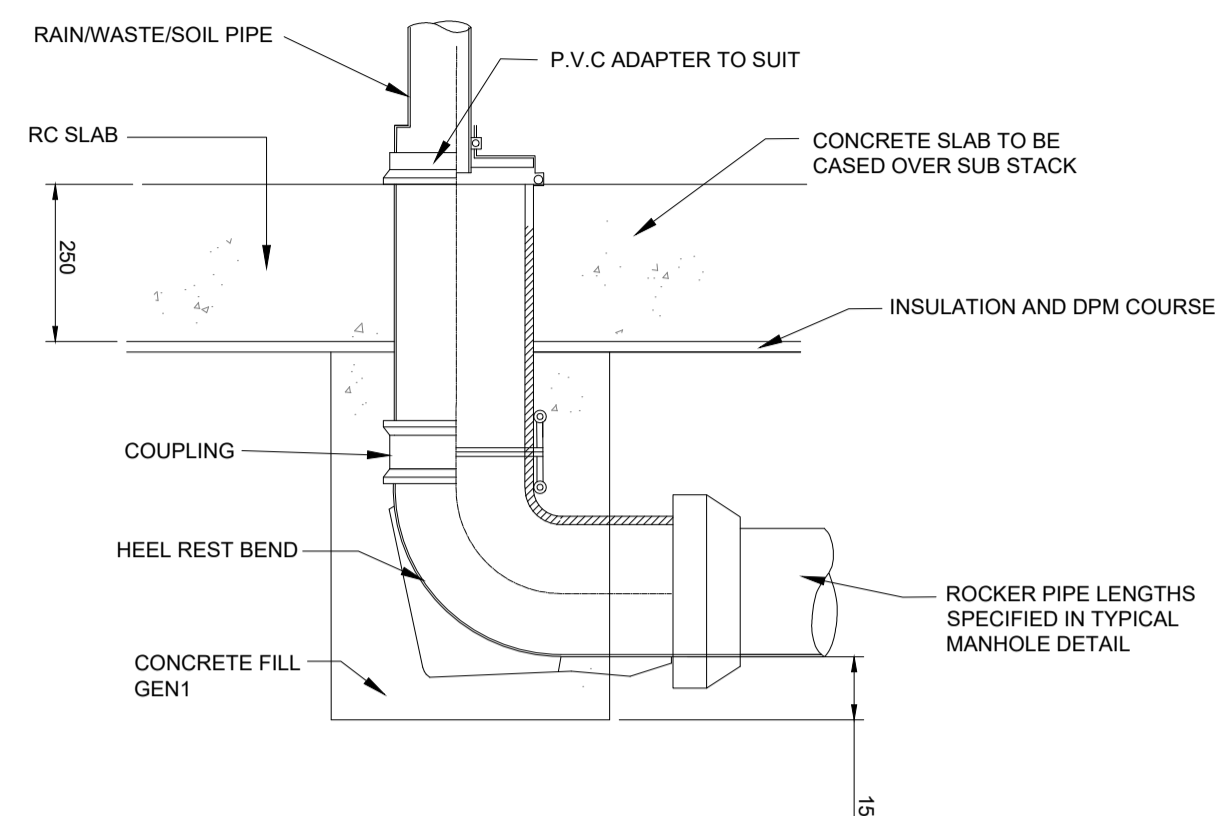
CONCRETE BEDDINGS

1. THE USE OF GRANULAR BEDDINGS BELOW CONCRETE BEDDINGS (BEDDING TYPES A2,A4,A6) ARE FOR USE IN WET CONDITIONS.
2. CONCRETE CRADLES MAY EXTEND TO SIDES OF TRENCH.
3. TRANSVERSE STEEL TO BE 0.4% MIN OF CONCRETE AT X-X (FM=3.4) UNLESS OTHERWISE STATED.
4. BEDDING BENEATH & AT SIDES OF PIPE TO BE WELL COMPACTED
5. BEDDING/BACKFILL DIRECTLY ABOVE PIPE TO BE LIGHTLY COMPACTED BY HAND.
DIMENSION Y: 1/6 BC OR 100mm UNDER BARRELS, AND 50mm UNDER SOCKETS WHICHEVER IS GREATER (SUBJECT TO 400mm MAX.).
6. DN = NOMINAL BORE OF PIPE.
7. BC = EXTERNAL DIAMETER OF PIPE BARREL.

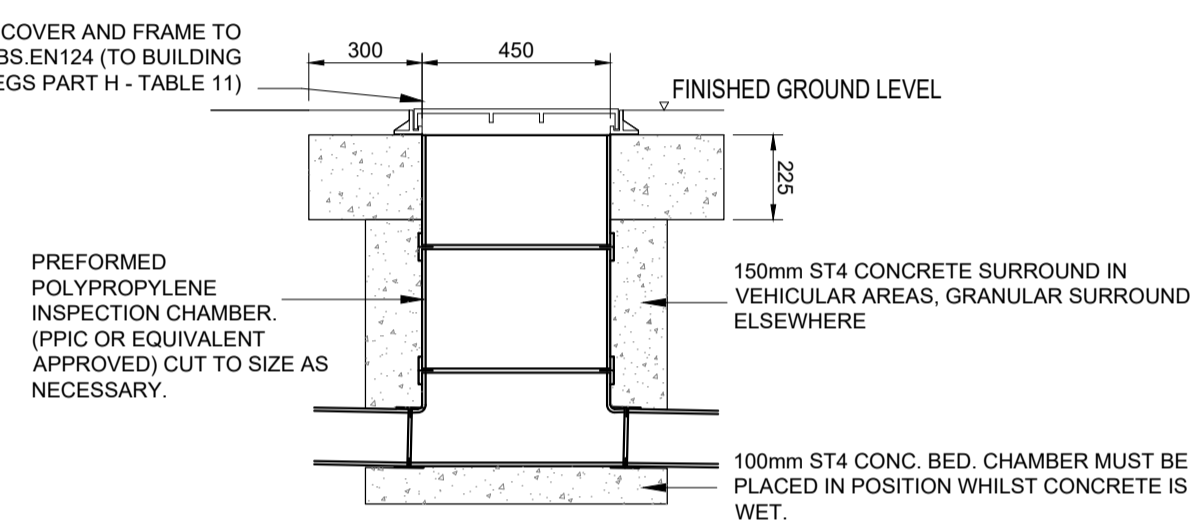
TRENCH WIDTH

1. THE MAXIMUM TRENCH WIDTHS ARE TO BE AS SHOWN BELOW UNLESS THE APPROVAL OF THE ENGINEER IS OBTAINED.

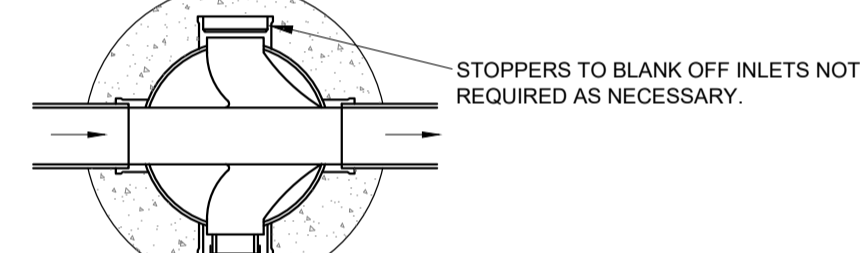
INTERNAL PIPE DIAMETER	MAXIMUM TRENCH WIDTH
100	600
150	600
225	700
300	850
375	1050
450	1150
525	1200
600	1350
675	1450
750	1500
825	1600
900	1900
975	2000
1050	2100
1200	2300



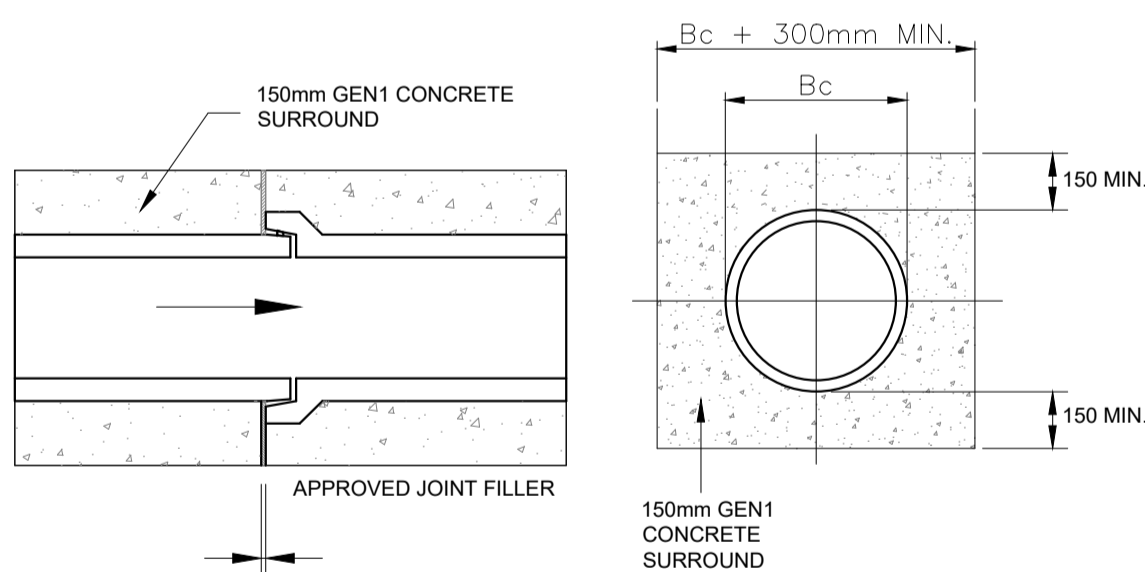
INTERNAL GROUND SOCKET DETAIL
1:20



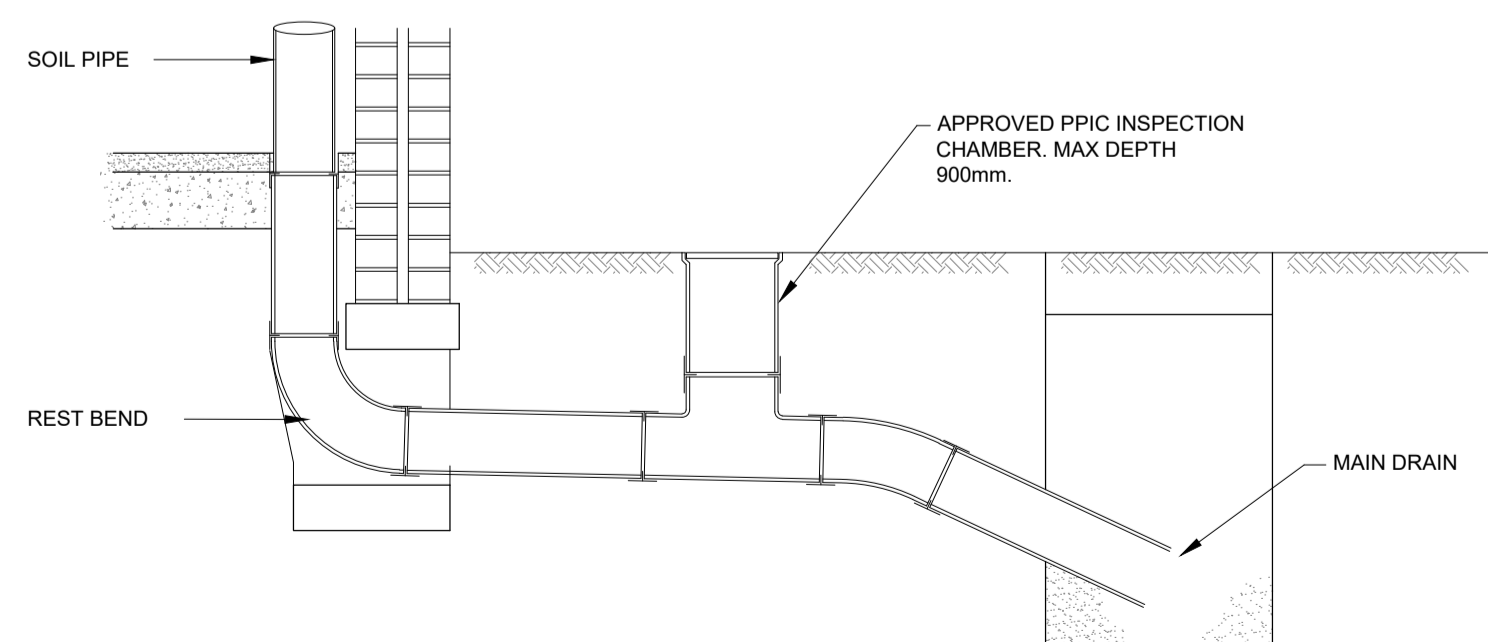
NOTE
DEPTH < 1.2m, min 430x430mm COVER
DEPTH > 1.2m, max 300x300mm COVER TO RESTRICT ACCESS



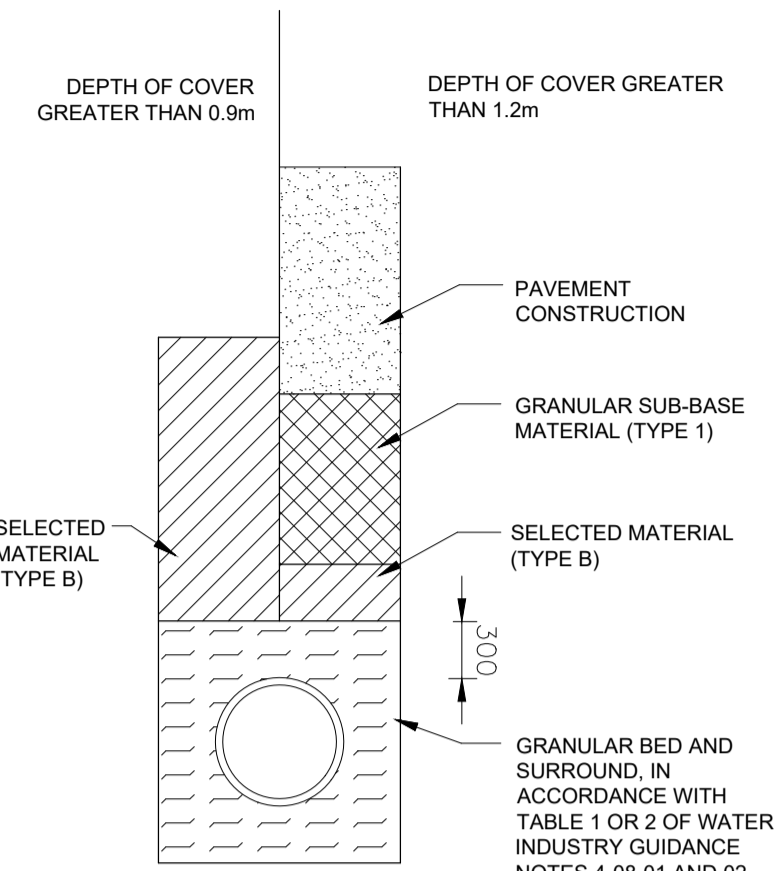
POLYPROPYLENE INSPECTION CHAMBER
MAX DEPTH 1.2m 1:20



JOINT DETAIL OF TYPE Z BEDDING
1:20

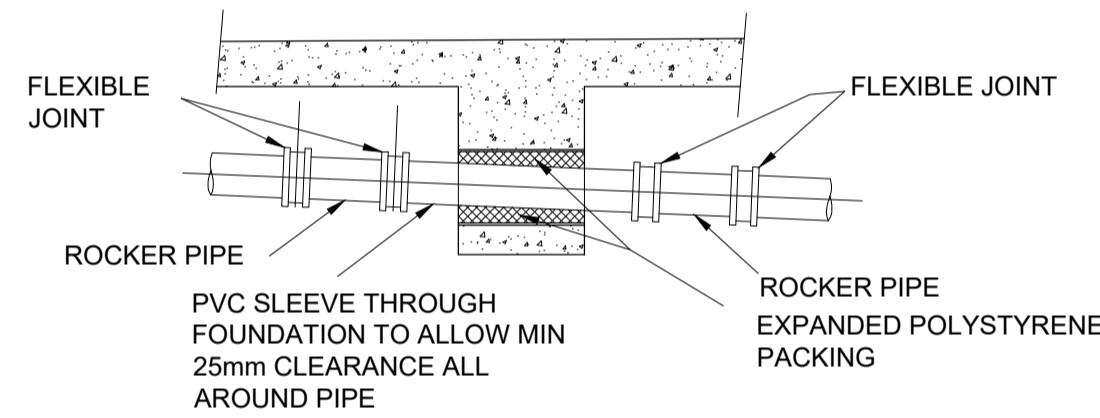


SOIL PIPE AND ACCESS PIPE DETAIL
1:20

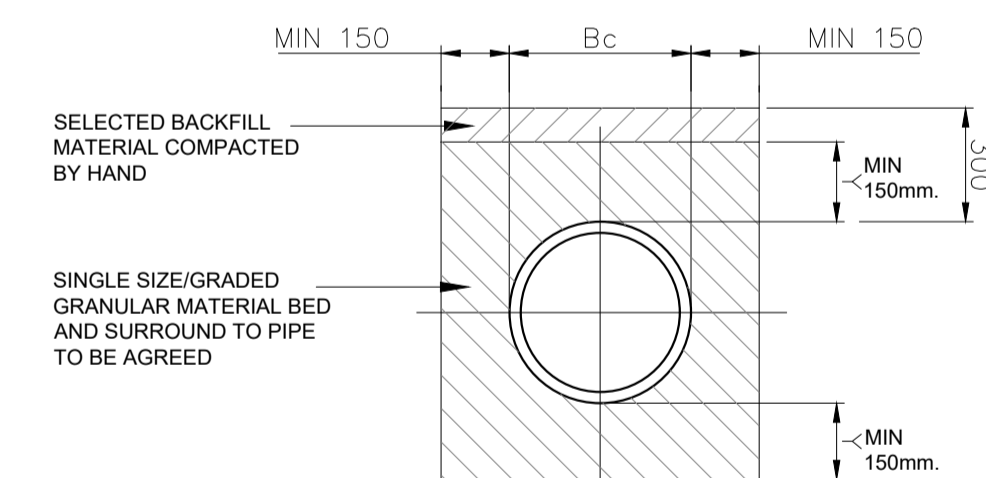


NOTES:
1. TYPE B BACKFILL TO CONSIST OF UNIFORM, READILY COMPACTABLE MATERIAL, FREE FROM VEGETABLE MATTER, BUILDING RUBBISH AND FROZEN MATERIAL, OR MATERIALS SUSCEPTIBLE TO SPONTANEOUS COMBUSTION, AND EXCLUDING CLAY OF LIQUID LIMIT GREATER THAN 80 AND/OR PLASTIC LIMIT GREATER THAN 55, AND MATERIALS OF EXCESSIVELY HIGH MOISTURE CONTENT. CLAY LUMPS AND STONES SHALL BE RETAINED ON 75mm AND 37.5mm SIEVES RESPECTIVELY.
2. BACKFILL MATERIAL TO BE COMPACTED IN LAYERS NOT GREATER THAN 250mm THICK. HEAVY COMPACTION EQUIPMENT NOT TO BE USED FOR FIRST 250mm OF BACKFILL.
3. ALL PIPES SHALL HAVE FLEXIBLE JOINTS.

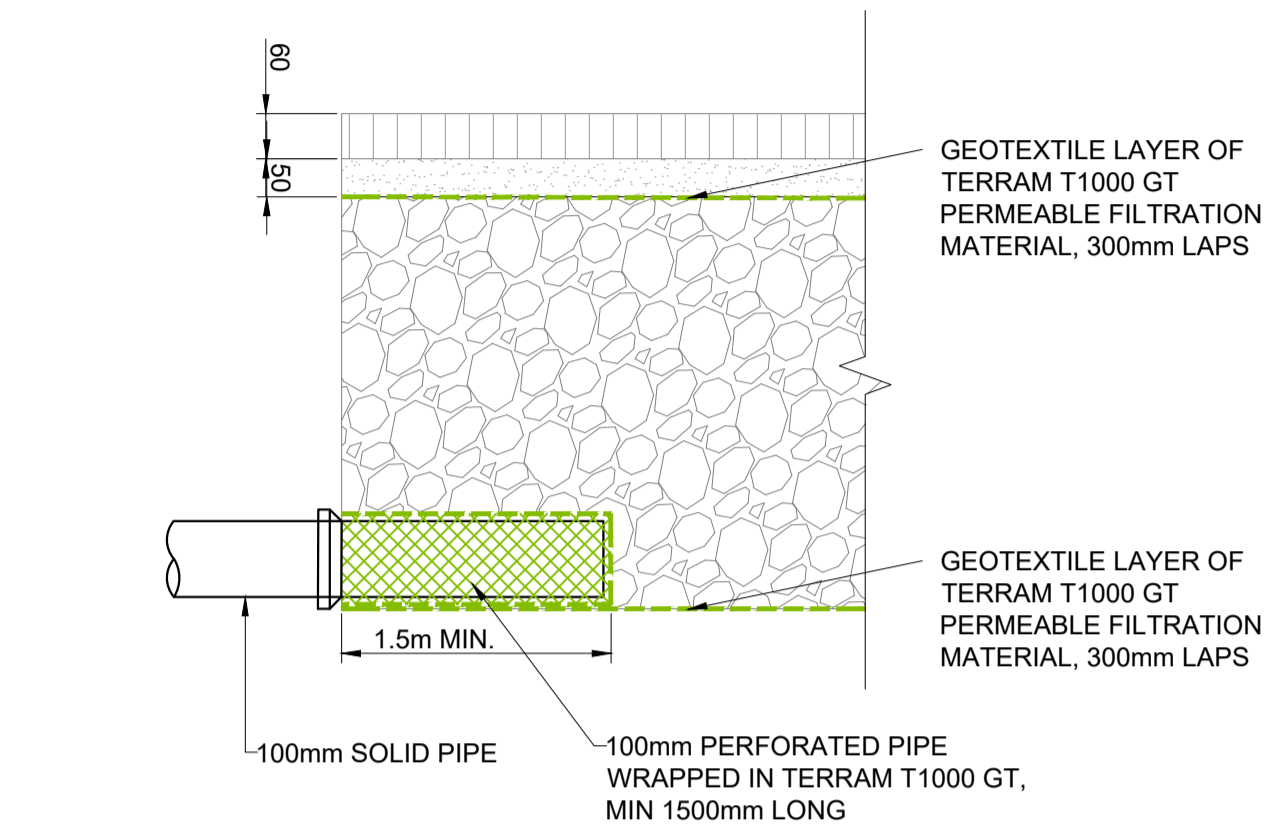
PIPE SURROUND & TRENCH REINSTATEMENT
1:20



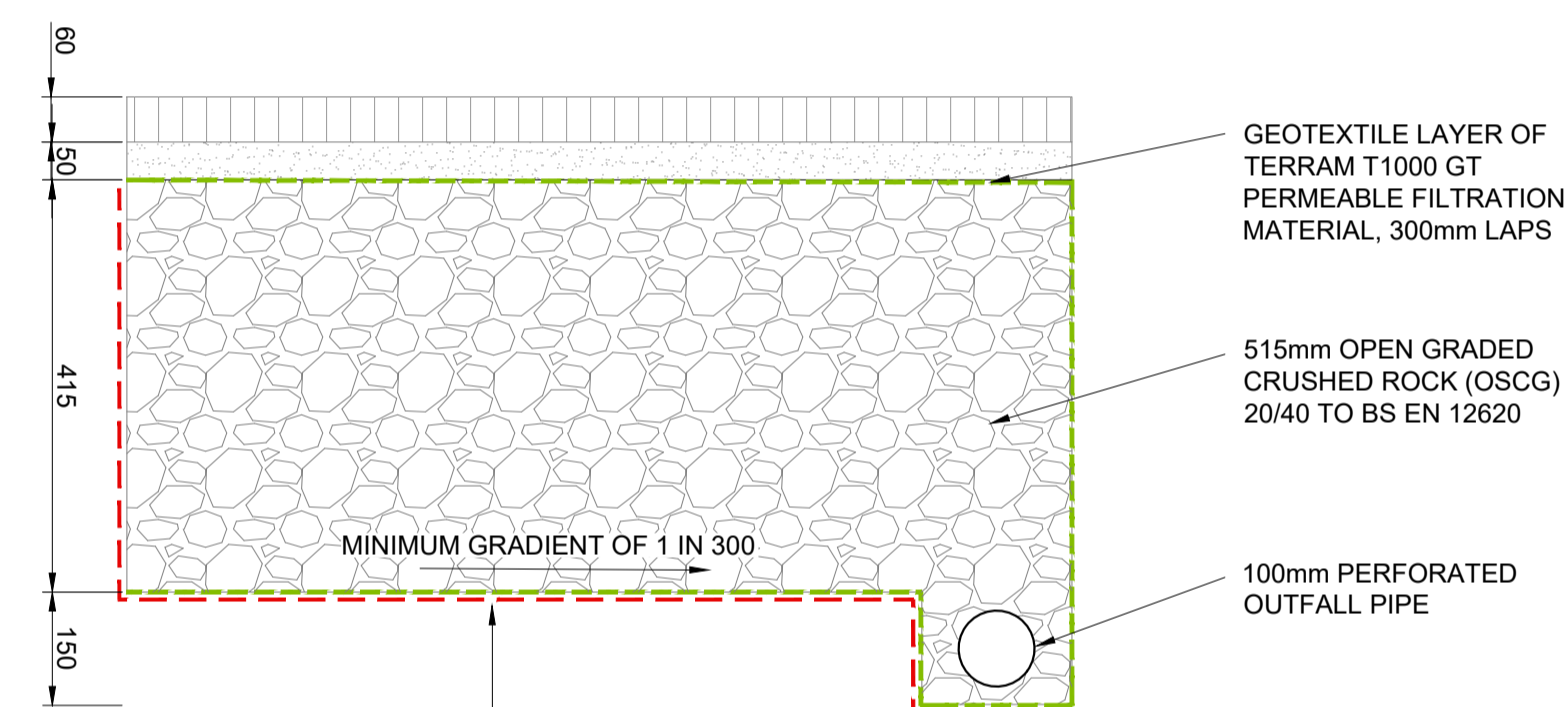
PIPE PASSING THROUGH FOUNDATIONS
1:20



TYPE S BEDDING
1:20



PERFORATED INLET
1:10



WHERE WITHIN 5m OF BUILDING FOUNDATIONS, BASE LINER LAYER OF 1000 GAUGE IMPERMEABLE POLYTHENE LINER, 300mm LAPS, TAPED JOINTS SHALL BE PROVIDED

OUTFALL DETAIL THROUGH FREE DRAINING SUB-BASE
1:10

Rev.	30.11.23	NLS	FIRST ISSUE
Date	Made by	Amendments	
PRELIMINARY			
MHA STRUCTURAL DESIGN		London +44 (0)207 375 6340 Cambridge +44 (0)1223 776340 mhastructuraldesign.com	
Job Title 81 BELSIZE PARK GARDENS			
Drawing Title DRAINAGE DETAILS			
Status AS SHOWN			
Drawn	NLS	Date	NOV 2023
Checked	BL		
Job No	22064	Drawing No	101
Revision	-		