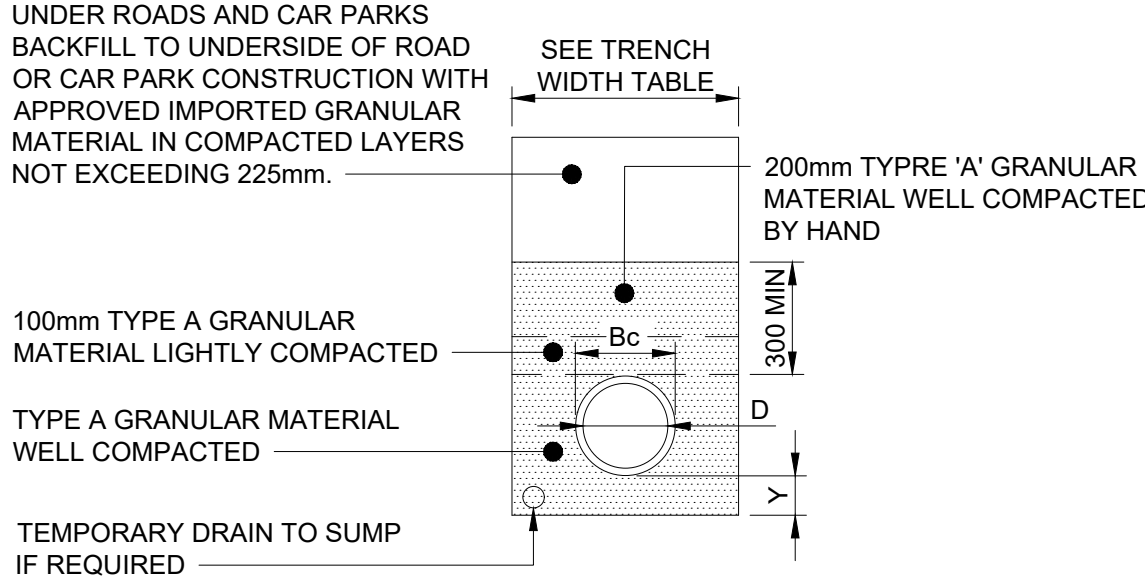
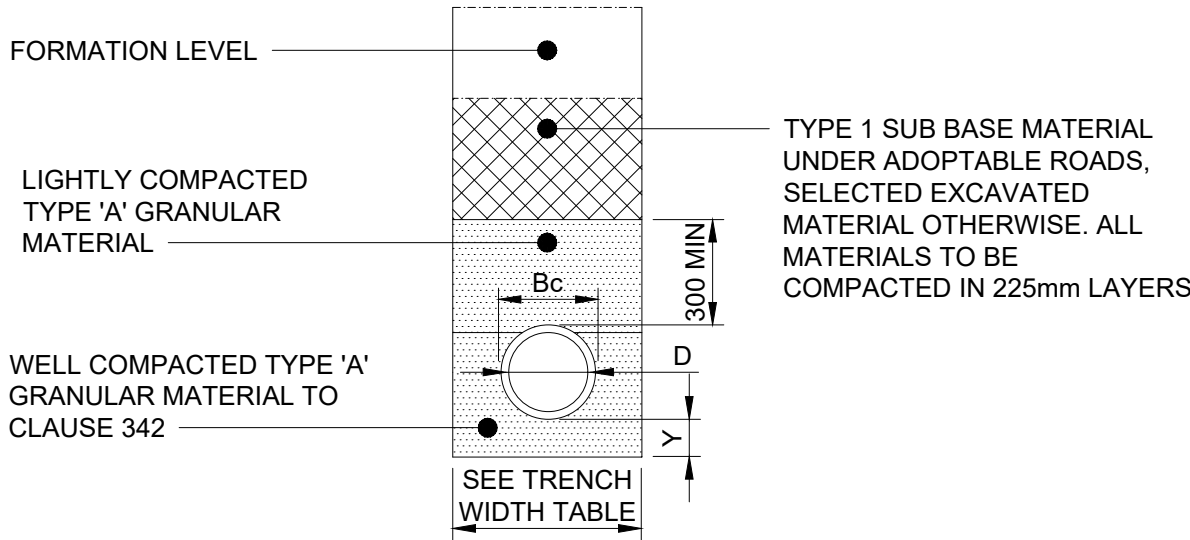
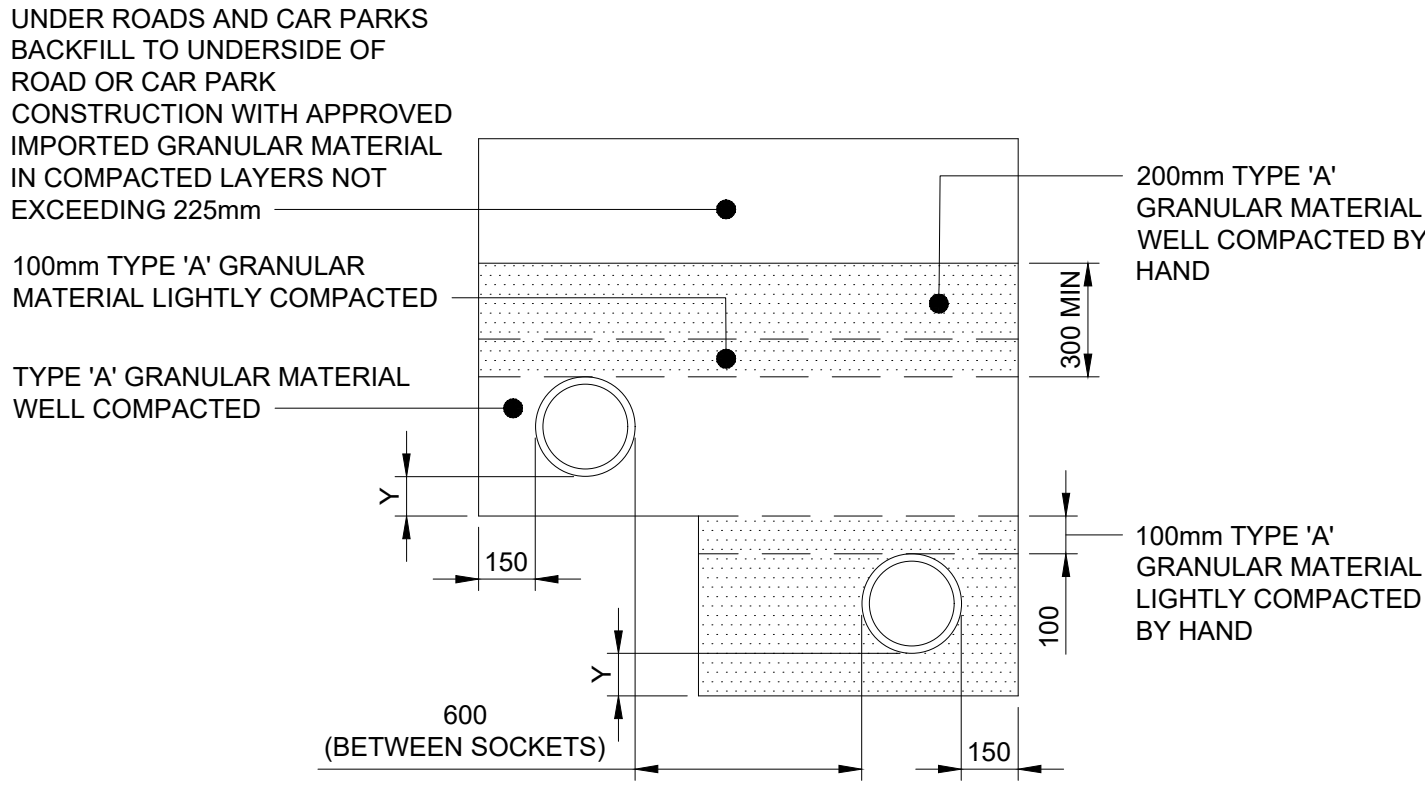




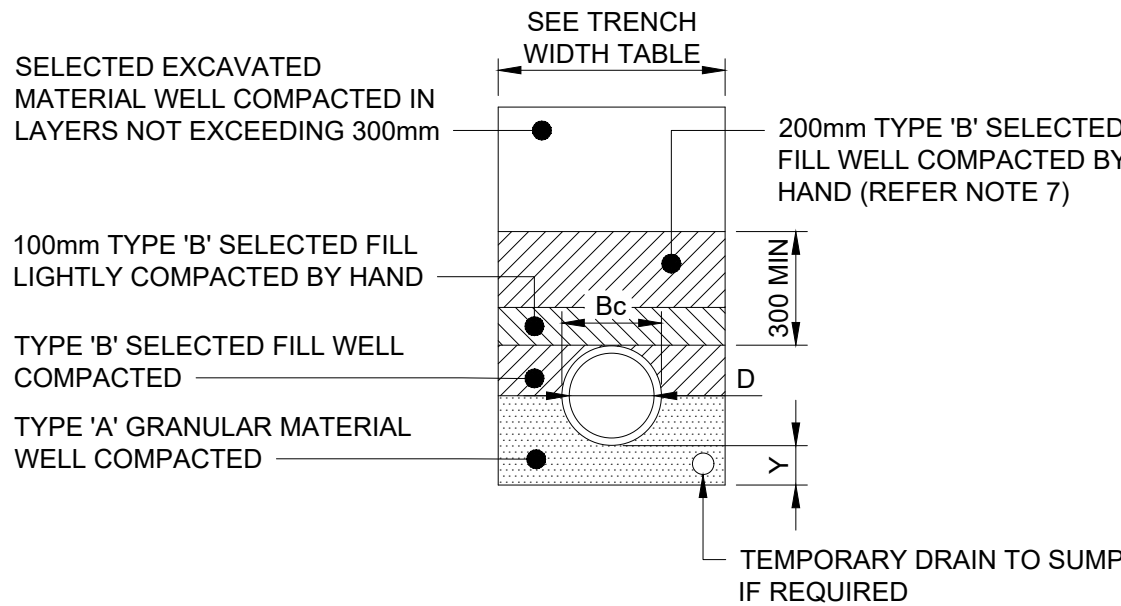
CLASS 'S' BEDDING
(ALL PIPES IN AREAS SUBJECT TO HEAVY TRAFFIC LOADING)



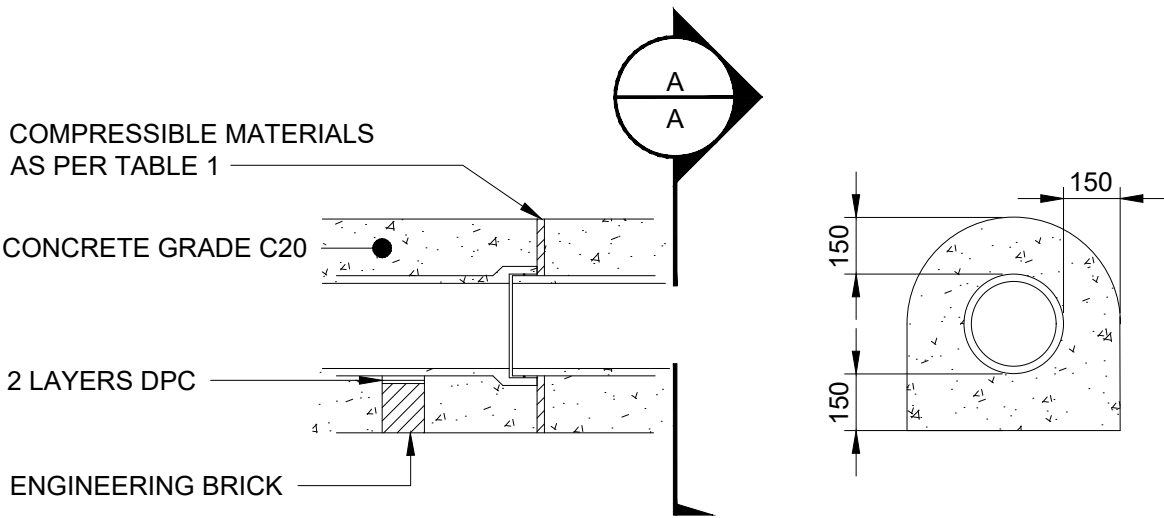
TYPE 'S'(II) MODIFIED TRENCH
(REINSTATEMENT DETAILS UNDER NEW CARRIAGEWAYS)



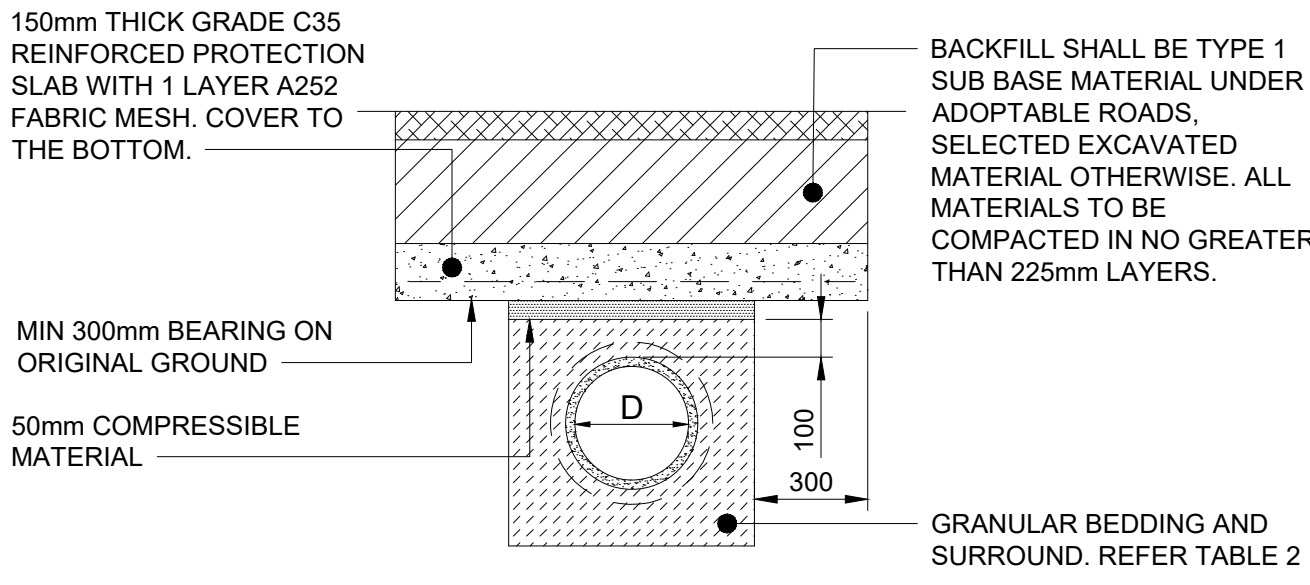
TYPE 'S' TWIN TRENCH DETAIL



CLASS 'B' BEDDING
(ALL PIPES IN AREAS SUBJECT TO LIGHT TRAFFIC LOADING)



CLASS 'Z' - CONCRETE BEDDING AND SURROUND



ALTERNATIVE CLASS 'Z' BEDDING
(SECTION A-A CONCRETE SURROUND BEDDING)

PIPE BEDDING & DRAINAGE NOTES

- ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH SEWERAGE SECTOR GUIDANCE APPROVED DOCUMENTS
- ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION.
- TYPE 'A' GRANULAR MATERIAL SHALL COMPRISE CRUSHED STONE OR GRAVEL COMPLYING WITH TABLE 2.
- GRANULAR OR FILL MATERIAL SHALL NOT CONTAIN MORE THAN 0.3% SULPHATE EXPRESSED AS SULPHUR TRIOXIDE.
- MECHANICAL COMPACTION MATERIAL SHOULD NOT BE USED UNTIL THERE IS A MINIMUM OF 450mm OF COMPACTED MATERIAL ABOVE THE CROWN OF THE PIPE.
- BACKFILLING ABOVE CONCRETE IN PIPE TRACKS SHALL NOT COMMENCE UNTIL CONCRETE HAS ACHIEVED 15N/mm
- TYPE 'B' SELECTED FILL SHALL BE UNIFORM READILY COMPACT MATERIAL FREE FROM VEGETABLE MATTER, BUILDING RUBBISH, FROZEN SOIL, MATERIAL SUSCEPTIBLE TO SPONTANEOUS COMBUSTION AND CLAY LUMPS AND STONES RETAINED ON A 75mm SIEVE AND 37.5mm SIEVE RESPECTIVELY.
- TRENCH WIDTHS FOR SINGLE PIPES SHALL COMPLY WITH TABLE 3.

THE 'MAX WIDTH' QUOTED INCLUDES AN ALLOWANCE FOR TRENCH SHEETING ETC, AND MUST NOT BE EXCEEDED. BATTERING THE SIDES OF TRENCHES WILL NOT BE PERMITTED IN AREAS OF ROADS OR CAR PARKING. WHERE BATTERING IS PERMITTED, IT SHOULD START 450mm ABOVE THE CROWN OF THE PIPE.

DIMENSION 'Y' IN ROCK OR MIXED SOILS CONTAINING ROCK BANDS, BOULDERS, LARGE FLINTS OR OTHER IRREGULAR HARD SPOTS, THE DEPTH OF BED SHALL BE $Y = 1/4 Bc$ OR 200mm, WHICHEVER IS GREATER UNDER THE BARRELS, BUT NOT LESS THAN 150mm UNDER THE SOCKETS. IN UNIFORM SOILS, THE DEPTH OF BED SHALL BE $Y = 1/6 Bc$ OR 100mm WHICHEVER IS THE GREATER UNDER THE BARRELS, BUT NOT LESS THAN 75mm UNDER THE SOCKETS.

PIPES SHALL BE KITEMARKED AND HAVE RUBBER RING FLEXIBLE JOINTS. CLAY PIPES SHALL COMPLY WITH B.S.EN 295. CONCRETE PIPES SHALL COMPLY WITH B.S.5911-1:2002 + A2:2010.

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND SPECIFICATIONS AS ISSUED BY THE ENGINEER.

APPLICATION OF COMPRESSIBLE MATERIAL	
THE COMPRESSIBLE MATERIAL FOR INTERRUPTING CONCRETE PROTECTION TO PIPELINES SHALL CONSIST OF BITUMEN IMPREGNATED INSULATING BOARD TO BS EN622-1 AND BS EN 622-4.	
THE THICKNESS OF THE FILLER SHALL BE AS FOLLOWS:	
NOMINAL PIPE DIAMETER	THICKNESS OF COMPRESSIBLE MATERIAL (mm)
LESS THAN 450mm	18
450mm TO 1200mm	36
EXCEEDING 1200mm	54
THE COMPRESSIBLE MATERIAL MUST BE CUT TO MATCH THE PIPELINE SHAPE AND MUST EXTEND THROUGH THE FULL HEIGHT OF THE CONCRETE. COMPRESSIBLE FILLER TO BE USED AT PIPE JOINTS IN CONCRETE PROTECTION TO PIPES.	

TABLE 1

PIPE NOMINAL SIZE (DN)	NOMINAL MAXIMUM PARTICLE SIZE (mm)	CLASS OF BEDDING BS EN 752: 2008	MAXIMUM CF VALUE FOR ACCEPTABILITY WIS NO. 4-08-02	MATERIALS SPECIFIED IN BRITISH STANDARDS BS EN 12620:2002 + A1:2008, BS EN 13055:2016
OVER 100 TO 150	15	S B F	0.15 0.30 0.15	10 OR 14mm NOMINAL SINGLE-SIZE OR 14mm TO 5mm GRADED
		N	0.30	COARSE, MEDIUM OR FINE SAND
OVER 150 TO 300	20	S B F	0.15 0.30 0.15	10, 14 OR 20mm NOMINAL SINGLE-SIZE OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED
		N	0.30	ALL-IN AGGREGATE OR COARSE, MEDIUM OR FINE SAND
OVER 300 TO 550	20	S B F	0.15 0.30 0.15	14 OR 20mm NOMINAL SINGLE-SIZE OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED
		N	0.30	ALL-IN AGGREGATE OR COARSE, MEDIUM OR FINE SAND
OVER 550	40	S B F	0.15 0.30 0.15	14, 20 OR 40mm NOMINAL SINGLE-SIZE CRUSHED ROCK OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED OR 40mm TO 5mm GRADED
		N	0.30	ALL-IN AGGREGATE OR COARSE, MEDIUM OR FINE SAND

TABLE 2- PROCESSED GRANULAR BEDDING MATERIALS FOR RIGID PIPES

NOM. PIPE Ø (mm)	MIN. WIDTH (mm)	MAX. WIDTH (mm)
100	430	600
150	490	700
225	580	800
300	675	900
375	950	1150
450	1030	1230
525	1125	1320
600	1240	1440
675	1330	1530
750	1400	1600
825	1500	1700
900	1800	2100
1050	1950	2150

TABLE 3- TRENCH WIDTHS FOR SINGLE PIPES

40mm GRADED TO 20mm	
SIEVE SIZE	% PASSING
63mm	100
37.5mm	85 to 100
20mm	0 to 25
10mm	0 to 5

TABLE 4- TYPE 'B' FILTER MATERIAL GRADING

NOTE:
FOR CONCRETE PIPES OVER 1050Ø USE CLASS 'S' BEDDING. PARTICULAR ATTENTION SHOULD BE PAID TO THE DIMENSIONS OF BEDDING DEPTHS.



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NOTES

- Do not scale from the drawing
- All levels shown are in meters Above Ordnance Datum (AOD) unless stated otherwise

SUITABILITY

S3 SUITABILITY

ISSUE/REVISION

P01	19.01.2024	FIRST ISSUE
I/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

60610807

SHEET TITLE

STANDARD DETAILS
PIPE BEDDING DETAILS
SHEET 7 OF 9

SHEET NUMBER

60610807-ACM-XX-XX-DR-DR-702006