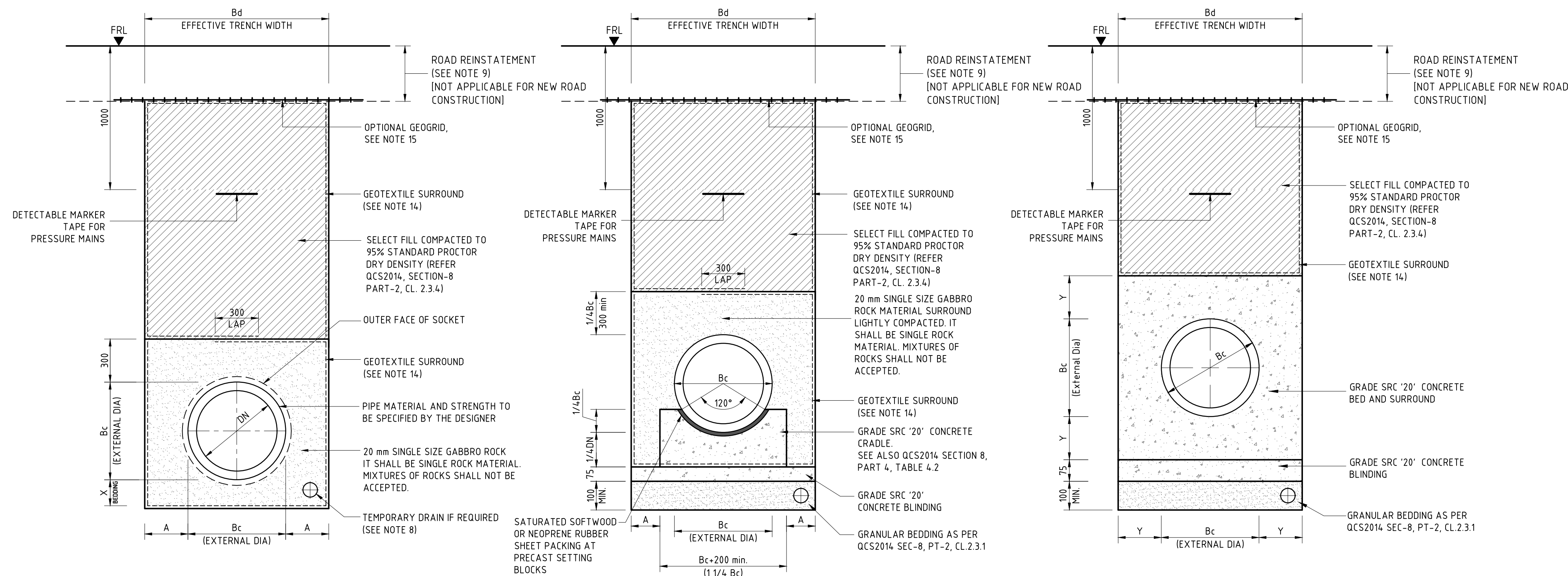




PIPE BEDDING & SURROUND

CLASS-S

BEDDING FACTOR = 2.5 (VC PIPES)
= 2.2 (CONCRETE PIPE)

CONCRETE CRADLE

BEDDING FACTOR = 2.6

CONCRETE SURROUND

BEDDING FACTOR = 4.5

TABLE OF DIMENSIONS CONCRETE SURROUND

NOMINAL BORE	ASSUMED EXTERNAL PIPE DIA	MIN THICKNESS CONCRETE
DN	Bc	Y
100	130	150
150	185	150
200	245	150
300	370	150
400	500	150
500	615	150
600	730	250
800	970	250
900	1140	250
1000	1250	300
1100	1350	300
1200	1490	350
1300	1605	350
1400	1725	350
> 1400	-	400

NOMINAL DIA	'T'	T2
LESS THAN 300	13	
300 < D < 600	25	25
600 < D < 1200	38	
1200 < D < 2000	50	38

SEE SD 8-2-104 FOR DETAIL OF PIPE WITH COLLAR FITTINGS

NOTE:

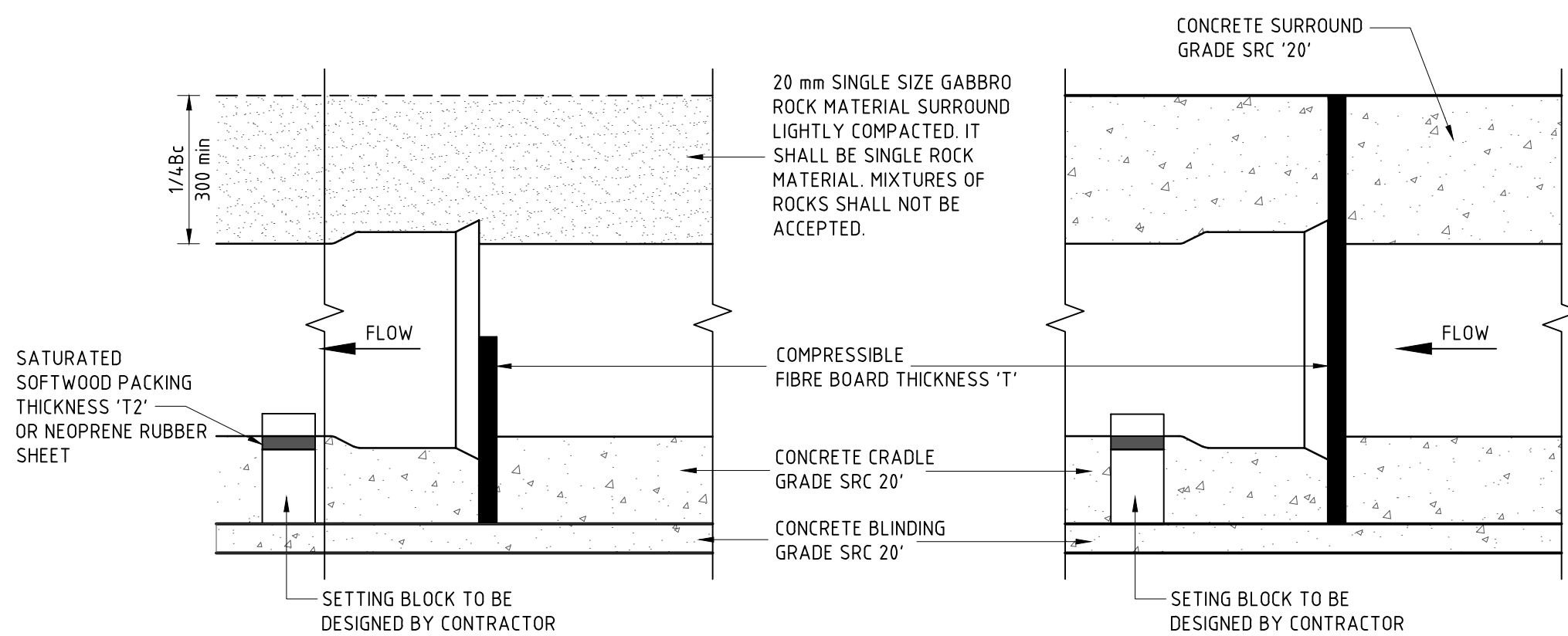
- FOR CONCRETE CRADLE & SURROUND TRENCHES THE BLINDING LAYER IS FOR STABILIZATION OF FOUNDATION TRENCH FOR RIGID/FLEXIBLE PIPE TRENCH. THIS IS TEMPORARY WORKS AT CONTRACTOR'S EXPENSE.
- NEOPRENE RUBBER SHEET SHALL BE OF THICKNESS 'T2' MENTIONED ABOVE AND SHALL HAVE DENSITY 160 KG/M³, TENSILE STRENGTH 4KG/M2 (MIN.) AND HEAT SHRINKAGE LESS THAN 4% AND WATER ABSORPTION 0.5% (MAX.)

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT Q.C.S. UNLESS OTHERWISE AGREED WITH THE ENGINEER.
- VARIATION TO STANDARD DETAILS ARE PERMITTED TO MEET SITE SPECIFIC REQUIREMENTS SUBJECT TO ENGINEERS APPROVAL.
- PIPE MATERIAL AND REQUIRED STRENGTH TO BE SPECIFIED BY THE DESIGNER.
- PIPE BEDDING FACTOR IN ACCORDANCE WITH BS 1295-1:1998.
- WHERE TRENCH WIDTHS EXCEED THE MAXIMUM PERMISSIBLE WIDTH DETAILED ABOVE AND/OR THE CRUSHING STRENGTH OF PIPE IS NOT THE SAME AS SPECIFIED, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER CALCULATIONS TO PROVE THE INTEGRITY OF THE PIPELINE. ANY ADDITIONAL COST AS A RESULT OF ANY REQUIRED CHANGE IN BEDDING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
- TEMPORARY DRAIN (PERFORATED PIPE) IS TO BE PROVIDED IN TRENCH EXTENDING BELOW WATER TABLE. ABANDON AND GROUT UPON COMPLETION.
- SEE REINSTATEMENT DETAILS DRG Nos. SD 6-1-201 TO SD 6-1-205 FOR CONSTRUCTION IN EXISTING PAVEMENT.
- DETECTABLE WARNING TAPE TO BE PLACED 300-500 BELOW FINISHED GROUND LEVEL FOR PRESSURE MAINS.
- CUT-OFF WALLS TO BE INSTALLED TO REQUIREMENTS OF Q.C.S.
- MATERIAL TESTING FREQUENCIES SHALL BE IN ACCORDANCE WITH QCS 2014.
- SELECT FILL MATERIAL SHALL BE IN ACCORDANCE WITH QCS2014 SECTION 8, PART 2 CL. 2.3.4.
- GEOTEXTILE SHALL BE NONWOVEN NEEDLE-PUNCHED GEOTEXTILE MANUFACTURED FOR SUBSURFACE DRAINAGE APPLICATIONS AS PER QCS 2014, SECTION 6, PART 18, CLAUSE 18.2.2.
- GEOGRID TO BE PLACED BETWEEN MODIFIED SELECT FILL AND SUB-BASE WHEN TRAFFIC LOADS EXCEED 20 MILLION ESAL'S. GEOGRID TO BE USED SHOULD BE AS PER QCS SECTION 6, PART 18 AND AS DIRECTED BY THE ENGINEER IF REQUIRED. OVERLAP OF GEOGRID SHALL BE AS PER MANUFACTURERS SPECIFICATIONS.
- WHERE REQUIRED, FILL FOR TEMPORARY DRAIN SHALL BE GRANULAR MATERIAL AS PER QCS2014 SEC-8, PT-2, CL.2.3.1

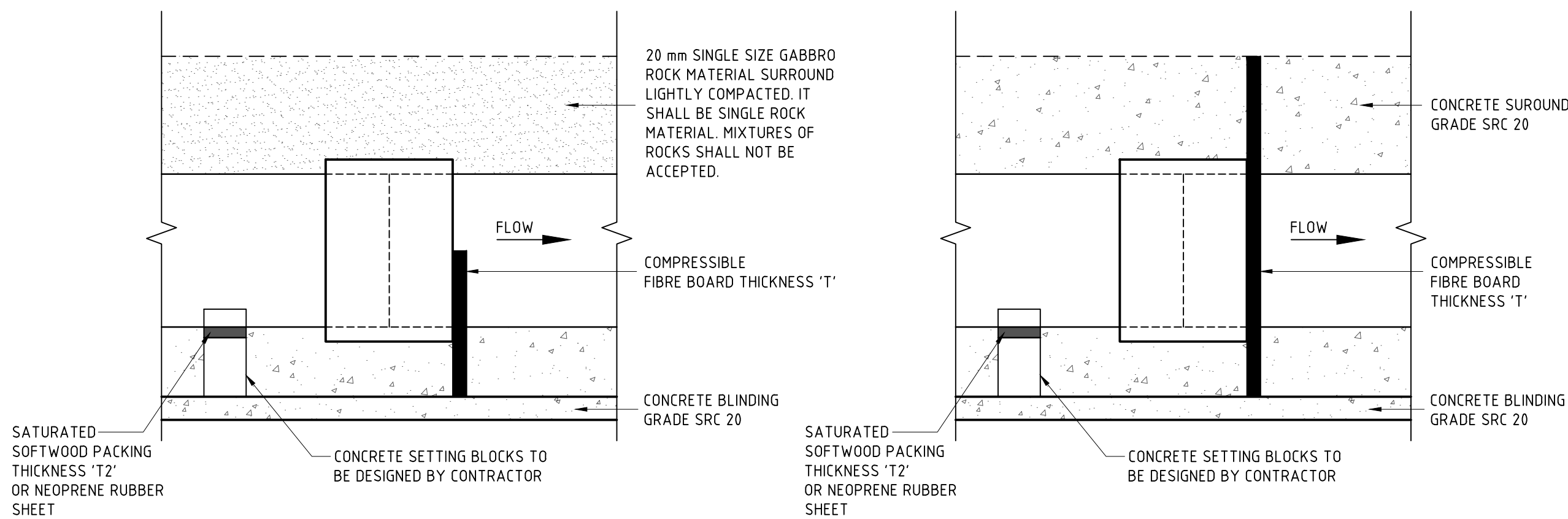
LEGEND:

- FRL FINISHED ROAD LEVEL
- CLSM CONTROLLED LOW STRENGTH MATERIAL
- FTB FLUIDIZED THERMAL BACKFILL
- SRC SULPHATE RESISTANT CEMENT CONCRETE



DETAIL AT SPIGOT & SOCKET IN CONCRETE CRADLE

DETAIL AT SPIGOT & SOCKET IN CONCRETE SURROUND



DETAIL AT DOUBLE BELL COUPLING IN CONCRETE CRADLE

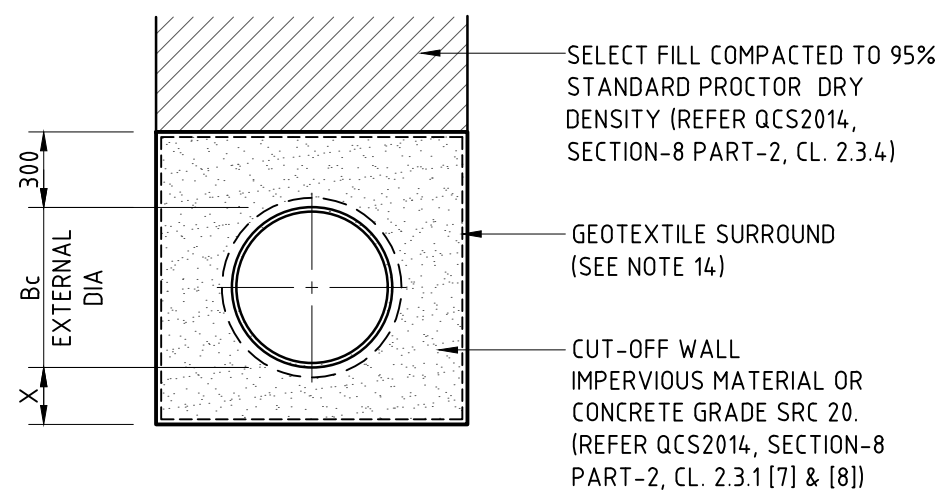
DETAIL AT DOUBLE BELL COUPLING IN CONCRETE SURROUND

TABLE OF DIMENSIONS FOR BED, SURROUND & MATERIAL SIZE

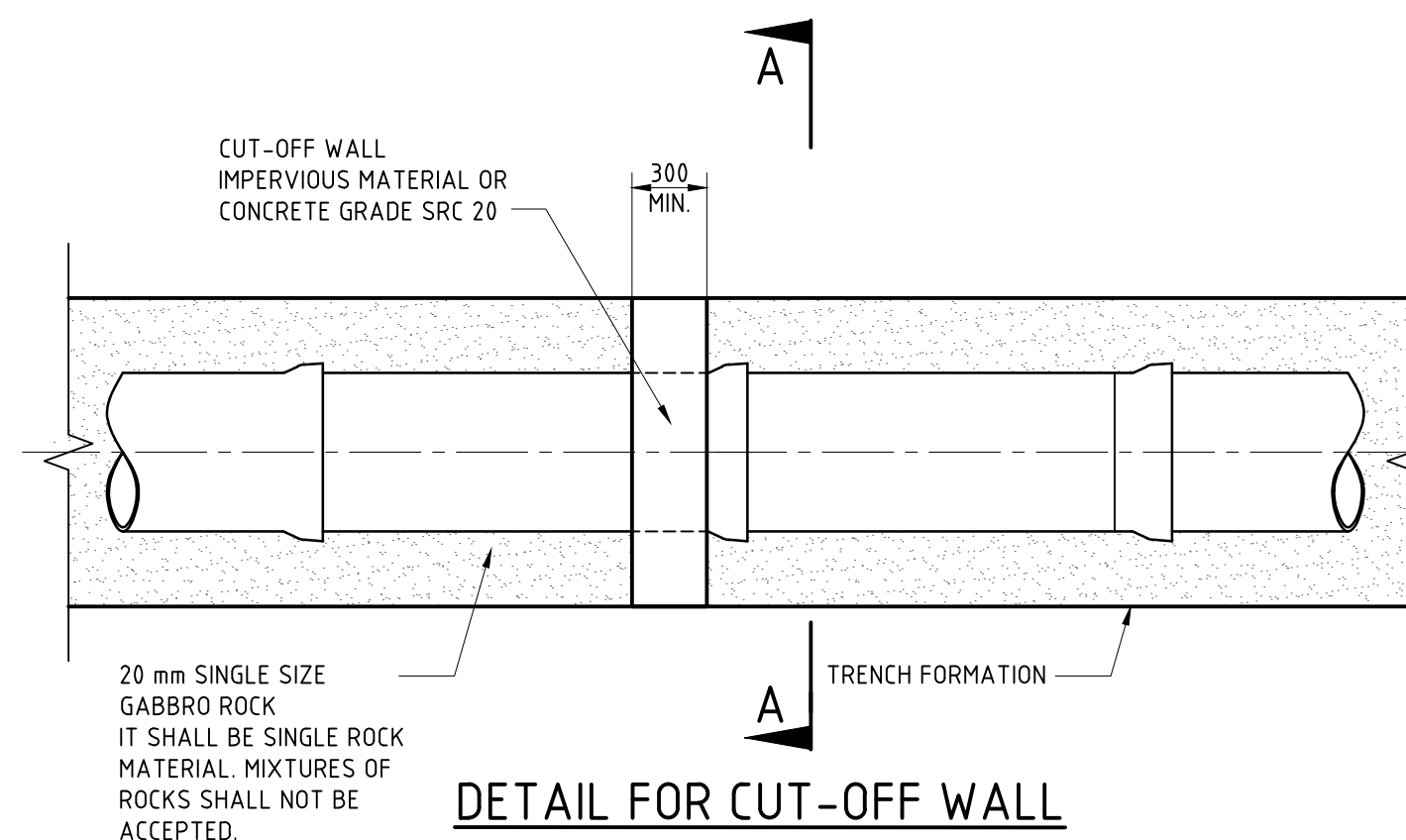
PIPE DIA	MAXIMUM PERMISSIBLE TRENCH WIDTH Bd	BEDDING DEPTH, mm X			A	PIPE BEDDING NOMINAL MATERIAL SIZE
		UNIFORM SOIL	MACHINE DUG	ROCK		
D	AT 300MM ABOVE CROWN OF PIPE					
100	550	100	150	200	100	14
150	600	100	150	200	100	14
200	800	150	200	250	150	14
300	900	150	200	250	150	20
400	1000	150	200	250	200	20
500	1250	150	200	250	200	20
600	1350	175	225	275	300	20
800	1550	175	225	275	300	20
1000	2000	200	250	300	450	25

NOTE:

- BEDDING AT SIDES OF PIPE TO BE WELL COMPACTED. BACKFILL OVER PIPE CROWN TO BE LIGHTLY COMPACTED.
- DIMENSION X:
 - MINIMUM THICKNESS OF BEDDING UNDER SOCKET FOR UNIFORM SOIL, MACHINE DUG & ROCK IS 50mm, 100mm & 150mm RESPECTIVELY.
 - MACHINE DUG: 1/6Bc OR 100MM UNDER BARRELS & 100MM UNDER SOCKETS WHICHEVER IS GREATER (400 MAX).
 - ROCK etc: 1/4Bc OR 200MM UNDER BARRELS & 150MM UNDER SOCKET (400 MAX).
- FOUNDATION STABILIZATION WHERE DIRECTED, FOUNDATION STABILIZATION SHALL BE PLACED PRIOR TO PLACEMENT OF PIPE BEDDING.
- WHERE APPROPRIATE GEOTEXTILES MAY BE USED TO CONTAIN BEDDING MATERIAL.



SECTION A-A



DETAIL FOR CUT-OFF WALL

Rev. Date Revision Details Appd.

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PROJECTS AFFAIRS

QCS Section:
Section 8 - Drainage Works
Part 2 - Earthworks

Drawing Title:

PIPE BEDDING DETAILS FOR RIGID PIPES

Approved: Sheet No: 1 OF 1

Date: MARCH 2021 Scale: N.T.S.

Drawing Number: SD 8-2-301 Revision: 8