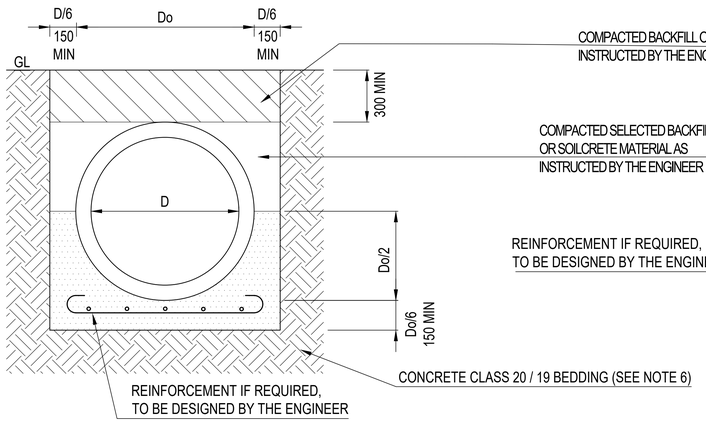
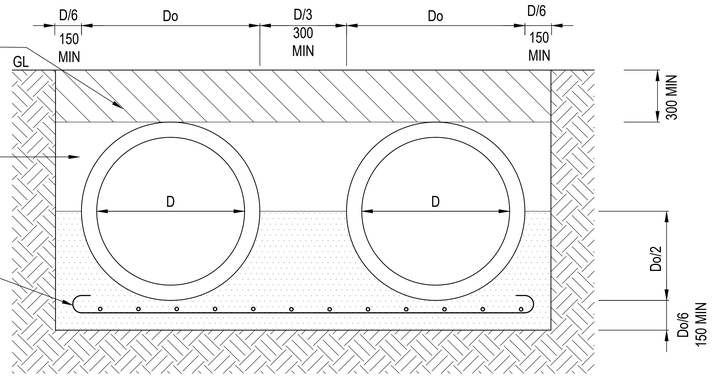


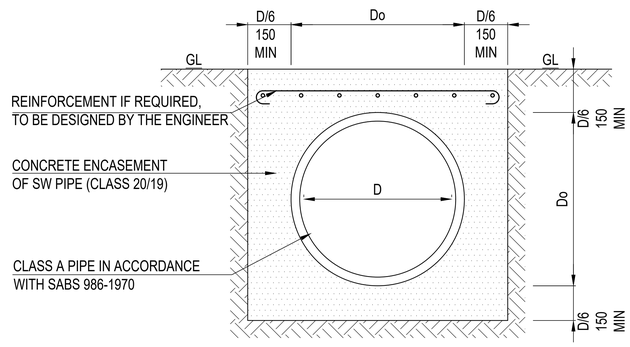
CLASS "A" BEDDING FOR SOFT EXCAVATIONS (SINGLE PIPE)

SCALE : N.T.S.



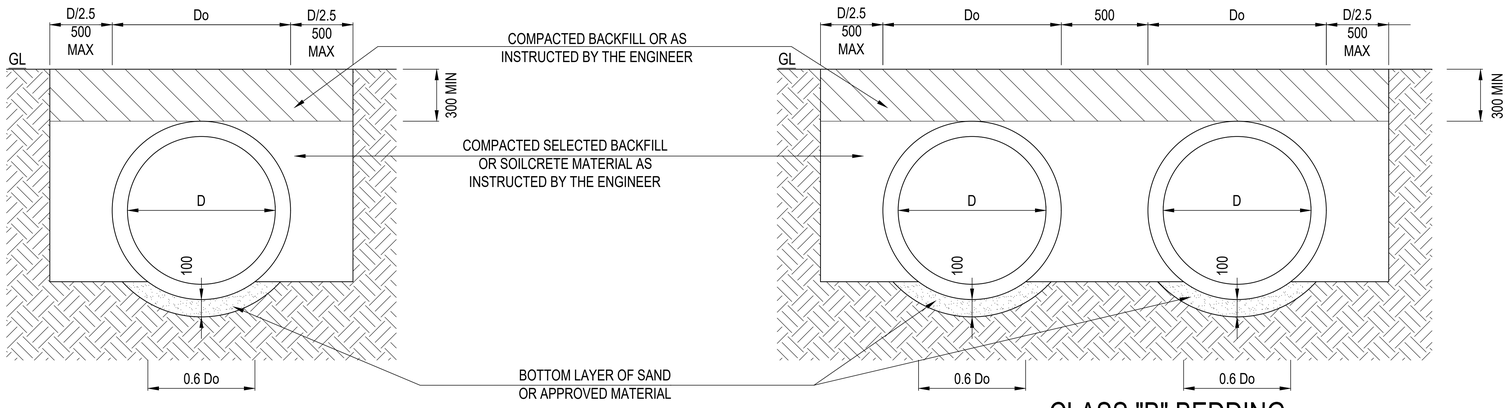
CLASS "A" BEDDING FOR SOFT EXCAVATIONS (DOUBLE PIPE)

SCALE : N.T.S.



CONCRETE ENCASEMENT OF PIPES

SCALE : N.T.S.

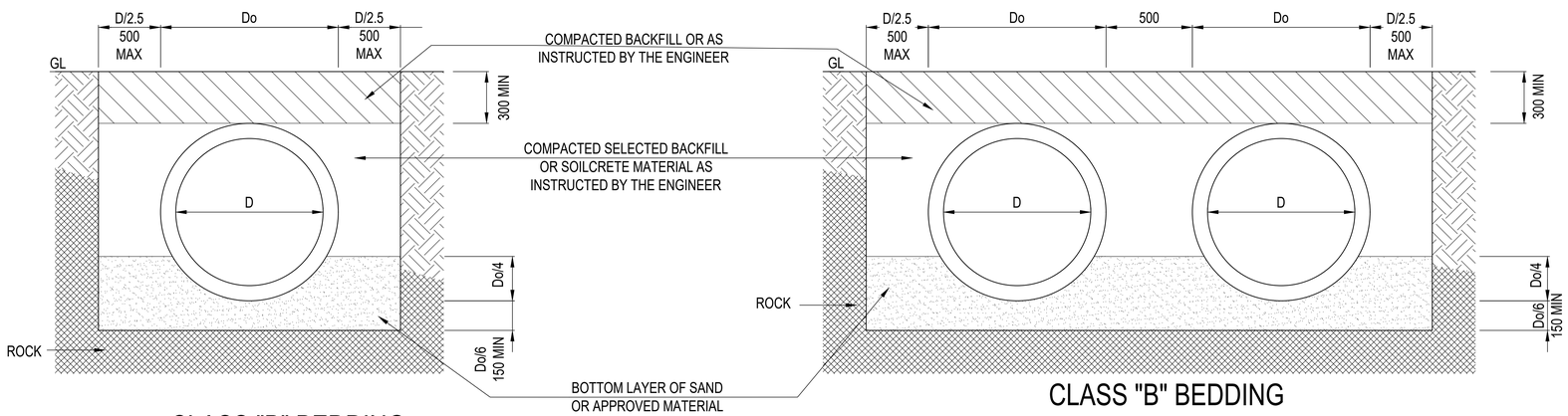


CLASS "B" BEDDING FOR SOFT EXCAVATIONS (SINGLE PIPE)

SCALE : N.T.S.

CLASS "B" BEDDING FOR SOFT EXCAVATIONS (DOUBLE PIPE)

SCALE : N.T.S.



CLASS "B" BEDDING FOR HARD EXCAVATIONS (SINGLE PIPE)

SCALE : N.T.S.

CLASS "B" BEDDING FOR HARD EXCAVATIONS (DOUBLE PIPE)

SCALE : N.T.S.

LEGEND:

H = TOTAL COVER OVER THE PIPE BELOW THE FINAL ROAD LEVEL
D = INTERNAL BARREL DIMENSION
Do = OUTSIDE BARREL DIMENSION
GL = GROUND LEVEL MEANING EITHER OF THE FOLLOWING:
AN INTERMEDIATED FILL LEVEL IN ORDER TO PROVIDE THE MINIMUM COVER OVER THE PIPE FOR A TRENCH CONDITION OR
THE UNDERSIDE OF THE SELECTED SUBGRADE OR SUBBASE.

NOTES:

1. ALL CONCRETE PIPES SHALL COMPLY WITH THE REQUIREMENTS OF SANS 667 - 1986, STANDARD SPECIFICATIONS FOR NON-PRESSURE PIPES.
2. THE BEDDING TYPE SHALL BE DESIGNED IN ACCORDANCE WITH SANS 0102 PART II - 1987 IN CONJUNCTION WITH THE CONCRETE PIPE AND PORTAL CULVERT HANDBOOK (2006 REVISION) OF THE CONCRETE MANUFACTURERS
3. THE PIPE CLASS MUST BE DETERMINED FROM THE WEIGHT OF THE PRISM OF FILL ABOVE THE CULVERT PLUS THE SNABC LOADINGS IN ACCORDANCE WITH TMH 7 (PARTS 1 & 2) "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IN SOUTH AFRICA".
4. THE MAXIMUM WHEEL LOAD ALLOWED ON THE PIPE IS 90 KN WITH A MINIMUM FILL OF 300MM ON TOP OF THE PIPE.
5. CONCRETE IN CLASS A BEDDING AND IN CONCRETE ENCASEMENT SHALL BE CLASS 20/19.
6. CONCRETE IN CLASS A BEDDING CAN EITHER BE REINFORCED OR UN-REINFORCED DEPENDING ON THE PREVAILING CONDITIONS.
7. MINIMUM 300mm SELECTED BACKFILL OR SOILCRETE MATERIAL OVER PIPES.
8. IN CASES WHERE H < 600mm THE PIPE SHALL BE ENCASED IN CLASS 20/19 CONCRETE AS SHOWN

NOMINAL PIPE DIA (D) Ø	DIA OUTSIDE (Do) (approx)	SIDE ALLOWANCE PER SIDE		
		ENCASE 150min	BEDDING	
			CLASS A Do/6 150min	CLASS B Do/2.5 150max
600	700	150	150	275
750	870	150	150	350
900	1030	175	175	400
1050	1195	200	200	500
1200	1360	225	225	500
1350	1525	250	250	500
1500	1680	300	300	500

No.	DATE	REVISION
V1	08/03/2024	ORIGINAL VERSION

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SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
BUILDING SOUTH AFRICA THROUGH BETTER ROADS

WESTERN REGION
1 Havenga Street
Oakdale
Bellville
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Private Bag X19
Bellville
7535

Tel: (021) 957 4600

ACCEPTANCE

THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING

for the SA NATIONAL ROADS AGENCY SOC LTD.
Date:

PROJECT DESCRIPTION
THE CAPACITY IMPROVEMENT OF NATIONAL ROUTE 1 SECTION 1 FROM OLD OAK INTERCHANGE (KM 18.90) TO KOELENHOF INTERCHANGE (KM 33.00)

MISCELLANEOUS
PIPE LAYING DETAIL

SCALE @ A0: AS SHOWN | SHEET 1 OF 1

PROJECT NUMBER	N001-010-2021/1		
DRAWING LOCATION DATA	START	END	
ROUTE	N01	N01	
SECTION	01	01	
DRAWING km DISTANCE	18.900	33.000	
DRAWING TYPE	DRAINAGE - MISCELLANEOUS		
BRIDGE/STRUCTURE No.	N/A		
CONSULTANT DRAWING No.	312-00827-01-TD68		VER
SANRAL DOCUMENT #	XXXXXX		V1

312-00827-01-TD68