

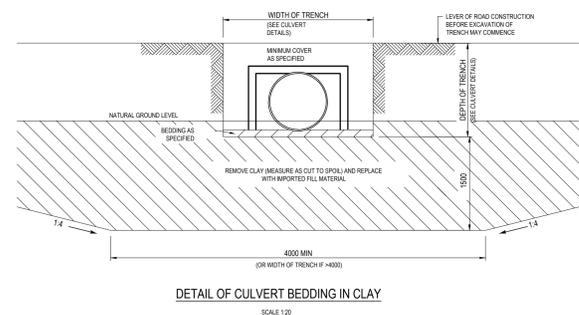
TYPICAL DETAILS OF CAST IN SITU FLOOR SLABS FOR PREFABRICATED PORTAL CULVERT
SCALE 1:5

GENERAL NOTES:

- STRUCTURAL CONCRETE IS CLASS 30/19
 - REINFORCEMENT SHALL COMPLY WITH THE REQUIREMENTS OF SANS 503 TYPE C, CLASS 2, GRADE 1
 - CONCRETE COVER TO STEEL IS 50mm
 - DESIGN DENSITY OF THE FILL MATERIAL IS 2000kg/m³
 - LOAD FACTOR FOR PROOF LOAD OF SANS 986 = 1.25
 - HIGH YIELD STRESS REINFORCEMENT (Y) YIELD STRESS = 450MPa
 - PREFABRICATED PORTAL CULVERTS SHALL COMPLY WITH THE REQUIREMENTS OF SANS 986 AS WELL AS THE ADDITIONAL TEST LOADING AND CRITICAL TEST LOAD COMBINATION FOR THE TEST OF SHEAR RESISTANCE
 - DIMENSIONS AND REINFORCEMENT FOR CAST IN SITU FLOOR SLABS ARE VALID ONLY IF:
 - THE HEIGHT OF THE FILL IS LESS THAN SPECIFIED BELOW AND THE CORRESPONDING CLASS CULVERT IS USED.
- | DIMENSION B (mm) | MAXIMUM HEIGHT (m) | CLASS OF CULVERT |
|------------------|--------------------|------------------|
| 600 | 5.6 | 200S |
| 750 | 4.9 | 175S |
| 900 | 4.8 | 175S |
| 1200 | 4.1 | 150S |
| 1500 | 2.9 | 100S |
| 1800 | 2.4 | 75S |
| 2100 | 2.4 | 75S |
| 2400 | 2.4 | 75S |
| 3000 | 2.4 | 75S |
- i) WHERE THE TYPE OF MATERIAL UNDER THE BASE SLAB IS NOT ROCK
- THE DIMENSIONS IN THE TABLE MAY NOT CONFORM TO ALL MARKETED UNITS AND IT MAY BECOME NECESSARY TO USE THE TABULATED DIMENSIONS
 - THE MAXIMUM SPACING OF TRANSVERSE JOINTS IN THE FLOOR SLAB IS 10m
 - THE EXCAVATION WIDTH MAY BE REDUCED FROM (S=1000) TO (S=200) MINIMUM WHERE SOLICRETE BACKFILL IS USED
 - FOR HANDLING AND INSTALLATION OF CULVERT REFER TO "CONCRETE PIPE AND PORTAL CULVERT INSTALLATION MANUAL" FROM THE CONCRETE SOCIETY OF SOUTHERN AFRICA
 - WHEN THE HEIGHT OF THE PORTAL CULVERT IS 1.5m OR MORE, TEMPORARY PROPS MUST BE PLACED BETWEEN THE LEGS DURING BACKFILLING OPERATION
 - PREFABRICATED CULVERT SHALL BE INSTALLED BY THE "TRENCH METHOD" EXCEPT WHERE OTHERWISE REQUIRED BY THE ENGINEER
 - IF CONSTRUCTION VEHICLES IMPOSE AN EXCESS OF DESIGN LOADINGS, CULVERTS MUST BE PROTECTED BY PROVIDING ADDITIONAL TEMPORARY COVER OR BY APPROVED MEANS
 - TWO LAYERS OF FILTER FABRIC STRIPS IMPREGNATED WITH BITUMEN EMULSION MUST BE PLACED ON ALL JOINTS BETWEEN PRECAST UNITS (HORIZONTAL AND VERTICAL)
 - FOR H > 1.5m, THE WIDTH = 150mm + 2 x WIDTH OF PORTAL LEG
FOR H > 1.5m, THE WIDTH = 150mm + 2 x WIDTH OF PORTAL LEG

LOAD STATEMENT

- PREFABRICATED PORTAL CULVERTS WITH NOMINAL SIZE "h x b x H" ARE LOADED IN ACCORDANCE WITH ALL THE REQUIREMENTS OF TBMF
- ALL PREFABRICATED PORTAL CULVERTS TO BE ACCORDING TO SANS 986
- THE MAXIMUM HEIGHT OF FILL ABOVE PORTAL CULVERTS MAY NOT EXCEED THE VALUES GIVEN IN NOTE 8(a)



DIMENSIONS					REINFORCEMENT					
B	H	S	O	K	BAR A	L	CUT LENGTH	BENDING	BAR B	BENDING
1600	450	760	960	160	Y12-200	860	1300		Y120-250	
2600	600	1600	1800	160	Y12-200	1700	2100		Y10-250	
3600	600	2440	2640	160	Y12-200	2540	2950		Y10-250	
1750	450	960	1120	170	Y12-150	1020	1450		Y10-250	
2750	600	1920	2120	170	Y12-150	2020	2450		Y10-250	
3750	600	2920	3120	170	Y12-150	3020	3450		Y10-250	
1900	450	1100	1300	180	Y12-100	1200	1600		Y10-250	
2900	600	2280	2480	180	Y12-100	2380	2800		Y10-250	
3900	900	3460	3660	180	Y12-100	3560	4000		Y10-250	
11000	1000	1300	1500	180	Y12-100	1400	1800		Y10-250	
2100	1000	2680	2880	180	Y12-100	2780	3200		Y10-250	
31000	1000	4060	4260	180	Y12-100	4160	4600		Y10-250	
11200	450	1440	1640	190	Y16-160	1540	2000		Y10-200	
21200	600	2960	3160	190	Y16-160	3060	3550		Y10-200	
31200	900	4480	4680	190	Y16-160	4580	5050		Y10-200	
11500	600	1750	1950	200	Y16-140	1850	2350		Y10-200	
21500	900	3580	3780	200	Y16-140	3680	4150		Y10-200	
31500	1200	5410	5610	200	Y16-140	5510	6000		Y10-200	
11800	600	2100	2300	210	Y16-120	2184	2650		Y10-150	
21800	900	4280	4480	210	Y16-120	4364	4850		Y10-150	
12000	1000	2400	2600	220	Y16-110	2484	2950		Y10-150	
22000	1500	4880	5080	220	Y16-110	4964	5450		Y10-150	
32000	2000	7360	7560	220	Y16-110	7444	7900		Y10-150	
12400	900	2720	2920	230	Y16-100	2804	3300		Y10-150	
22400	1300	5520	5720	230	Y16-100	5604	6100		Y10-150	
12600	900	3480	3680	240	Y16-100	3564	4050		Y10-150	

IF ACCEPTED BY ENGINEER, MILD STEEL CAN BE SUBSTITUTED FOR HIGH YIELD STEEL AS FOLLOWS:
 Y10 REPLACED BY R10 AT UNCHANGED SPACING
 Y12 REPLACED BY R12 AT UNCHANGED SPACING
 Y16 REPLACED BY R16 AT UNCHANGED SPACING
 Y18 REPLACED BY R18 AT UNCHANGED SPACING

CONSTRUCTION RECORD WORKS CONTRACT ENGINEER Name: _____ Prof. Reg. No.: _____ Date: _____		CONSULTANTS: HEAD OFFICE Building 12 Highgrove Office Park 50 Tegele Avenue Hillside Centurion 0157 Tel: (010) 035 1460		DESIGNED BY NAME: J. MABUZA Prof. Reg. No.: _____ CHECKED BY: _____ NAME: B. MATLALA Prof. Reg. No.: 201900403 DRAWN BY: E. COETZEE		CONSULTANT APPROVAL Name: _____ Prof. Reg. No.: _____ Date: _____		PROJECT DESCRIPTION: RUNWAY AND TAXIWAY REHABILITATION AT CHIEF DAVID STUURMAN INTERNATIONAL AIRPORT (CDSIA)		PROJECT NUMBER 4429_CDSIA	
PROJECT MANAGER Name: _____ Prof. Reg. No.: _____ Date: _____		ROMH		AIRPORTS COMPANY SOUTH AFRICA		DAVID STUURMAN AIRPORT REHABILITATION: TYPICAL STORMWATER DETAILS SHEET 6		DRAWING LOCATION DATA ROUTE SECTION DRAWING km DISTANCE DRAWING TYPE TYPICAL DETAILS		CONSULTANT DRAWING No. ROMH188-07-R9-006	
REVISION No. DATE REVISION		CONSULT. ENG.		SCALE : AS SHOWN		SHEET 1 OF 1		START		END	
										REV 0	