



POINT	Y	X
A	43 308.61	3 604 604.50
B	43 311.40	3 604 602.56
C	43 327.78	3 604 602.56
E	43 328.80	3 604 602.54

CONTRACT NO.	PROJECT DESCRIPTION
N.006-040-2009/1F	REHABILITATION OF NB SECTION 4 FROM km 52.0 TO km 66.2

DESIGN DATA	
GENERAL DESIGN NOTES:	
1) THE SERVICE CULVERT CONSISTS OF 11.50m x 1.20m CELL OF IN-SITU CAST CONCRETE	
2) DESIGN METHOD: LIMIT STATE	
3) DESIGN CODE: TM-PART 1 - 1998	
DESIGN LOADS:	
1) DESIGN CODES: TM17-PARTS 1 AND 2	
2) CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IN SOUTH AFRICA (S.A.M.B.M.B.D. 1987)	
2) LIVE LOADS: TYPE A1A LOADING	
3) DEAD LOADS: IN-SITU CONCRETE - 25kN/m <sup>3</sup>	
4) COMPACTED EARTH FILL - 20kN/m <sup>3</sup>	
5) INTERNAL ANGLE OF FRICTION OF BACKFILL MATERIAL - 30° (UNBLENDED STRUCTURE)	
6) COMPUTER PROGRAM: FRICON	
7) REFER TO STANDARD SPECIFICATIONS (SECTIONS 0000 - STRUCTURES (C.O.T.O))	
DESIGN PARAMETERS	
1) FOUNDATION MODULUS (E <sub>SPALL</sub> ) CONCRETE (R <sub>SPALL</sub> ) = 28000 MPa	
REINFORCING STEEL	
MATERIALS	
1) FOUNDATION	
FOUNDING MATERIAL - CLAYEY SAND	
DESIGN BEARING PRESSURE - 100kPa	
2) CONCRETE CHARACTERISTIC STRENGTH (0.95)	
STRUCTURAL ELEMENT	CLASS
BLINDING LAYERS	15
FLOOR SLABS	30
ACCESS COVER SLAB	30
3) REINFORCING CHARACTERISTIC STRENGTHS	
DESCRIPTION	GRADE
MILD STEEL	200
HIGH TENSILE STEEL (SABS 800 1983)	450
GENERAL	
1) CONCRETE FINISH	
1.1) SHUTTERED SURFACES: FOUNDATIONS - F1	
EXPOSED SURFACES - F2	
1.2) UNSHUTTERED SURFACES: TOP OF FLOOR SLABS - U2	
TOP OF WALLS - U1	
TOP OF ACCESS COVER SLAB - U2	
2) CONCRETE COVER: 50mm	
3) ALL VERTICAL CORNERS MUST BE CHAMFERED - 25mm x 25mm	
STRUCTURE NUMBER PLATES	
(i) LETTERS AND NUMBERS SHALL BE TYPE B LETTERS TO DIN 1471 PART 2	
(ii) THE DATE ON THE CULVERT NUMBER PLATE SHALL BE THE YEAR IN WHICH THE CULVERT WAS COMPLETED	
(iii) LETTERS AND NUMBERS SHALL HAVE A WHITE BACKGROUND WITH BLACK MANUFACTURE OF NUMBER PLATES	
TYPE 1 - NUMBER PLATE	
(i) THE NUMBER PLATES SHALL BE MANUFACTURED FROM NONALUMINUM, UV RESISTANT MATERIAL	
CONSTRUCTION OF NUMBER PLATES	
TYPE 1 - NUMBER PLATE	
(i) THE CULVERT NUMBER PLATES SHALL BE POSITIONED AS SHOWN	
(ii) THE NUMBER PLATE SHALL BE SECURED FASTENED TO THE SERVICE FRONTS FROM THE INSIDE OF THE CULVERT	
APPROVED DIMENSIONING AGENT: ONCE THE CONCRETE HAS SET AND PRIOR TO STRIPPING THE SHUTTER THE M10 BOLTS SHALL BE REMOVED. THE BOLT THICKS SHALL BE MADE GOOD WITH EPOXY FILLING THE FINISH WORK TO BE DONE.	

PROJECT NUMBER	START	END
N.006-040-2009/1F	R1	R1
SECTION	03	03
DRAWING TYPE	03	66.2
BRIDGE/STRUCTURE NO.	FA	26069900P00
CONSULTANT DRAWING NO.	FA	26069900P00
SANRAL DOCUMENT #		X
SCALE:	NOT TO SCALE	
SHEET	1	OF 1

NO.	DATE	REVISION	BY	CHKD.
VI	FEB 2012	ORIGINAL VERSION	ME GUTHA	CONSULT.
V				

CONSTRUCTION CONTRACTOR	DESIGNED BY	CONSULTANT APPROVAL	HEAD OFFICE	ADAPTIVE
XXXXXX CONTRACTORS	XXXXXX ENGINEERS	XXXXXX ENGINEERS	XXXXXX ENGINEERS	XXXXXX ENGINEERS

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