

SCHEDULE A: ROADWORKS

SECTION 1.2

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C1.2	GENERAL REQUIREMENTS AND PROVISIONS						
C1.2.1	Environmental Management						
C1.2.1.1	Monitoring of compliance with and reporting on the EMP	month	10				
C1.2.1.2	Dedicated environmental officer (if specified in the Contract Documentation)						
C1.2.2	Programming and Reporting						
C1.2.2.1	Submission of a Scheme 1 Programme	Lump Sum	1				
C1.2.2.2	Reviewing and updating a Scheme 1 Programme	month	3				
C1.2.2.3	Submission of a Scheme 2 Initial Programme	Lump Sum	1				
C1.2.2.4	Submission of a Scheme 2 Full Programme	Lumps Sum	1				
C1.2.2.5	Reviewing and updating a Scheme 2 programme every month	Lump Sum	1				
C1.2.2.6	Preparation and submission of all information and reports specified in the Contract Documentation	Lump Sum	1				
C1.2.4	Stakeholder liaison						
C1.2.4	Stakeholder liaison	month	10				
C1.2.5	Safety						
C1.2.5.1	Health and safety plan	lump sum	1				
C1.2.5.2	Implementation of health and safety plan	month	10				
C1.2.6	Work adjacent to properties						
C1.2.6.1	Survey of adjacent properties	No	32				
C1.2.6.2	Preventive and/or mitigation measures	Prov Sum	1		30 000.00		30 000.00
C1.2.6.3	Handling cost, profit and all other charges in respect of item C1.2.6.2	%	R 30 000.00				
C1.2.7	Road safety audits						
C1.2.7.1	Stage 4 work zone traffic management audit	Prov Sum	1		50 000.00		50 000.00
C1.2.7.2	Handling cost, profit and all other charges in respect of item C1.2.6.1	%	R 50 000.00				
C1.2.7.3	Stage 5 pre-opening stage traffic safety audit	Prov Sum	1		10 000.00		10 000.00
C1.2.7.4	Handling cost, profit and all other charges in respect of item C1.2.6.3	%	R 10 000.00				
C1.2.8	Dayworks						
C1.2.8.1	Personnel						
(a)	Unskilled labourer	hour	40				
(b)	Semi-skilled labourer	hour	40				
(c)	Skilled labourer	hour	40				
(d)	Gang leader	hour	40				
(e)	Foreman	hour	48				
(f)	Skilled Artisan	hour	48				
C1.2.8.2	Construction equipment (specify size and/or model number)						
(a)	Motor grader	hour	24				
(b)	Vibratory roller	hour	24				
(c)	Pneumatic roller	hour	24				
(d)	Front end loader	hour	24				
(e)	Tractor loader backhoe	hour	24				
(f)	Excavator	hour	24				
(g)	Compressor	hour	24				
(h)	Other equipment (specify)	hour	24				
C1.2.8.3	Vehicles (specify size)						
(a)	Light delivery vehicle	km	50				
(b)	Flatbed truck	km	50				
(c)	Dump truck	km	50				
(d)	Other vehicles (specify)	km	50				
TOTAL CARRIED FORWARD							

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
BROUGHT FORWARD							
C1.2.8.4 (a)	Materials Procurement of materials	Prov Sum	1		5 000.00		5 000.00
(b)	Contractor's handling costs, profit and all other charges in respect of item C1.2.8.4(a)	%	R 5 000.00				
C1.2.9	Disposal of non-useable assets						
C1.2.9.2 (a)	Disposal of non-useable assets identified in the Contract Documentation at time of tender Contract sign boards	No	2				
(b)	Any Materials, tools and equipments in the site camp to be disposed at the end of the contract	No	1				
C1.2.9.2	Disposal of non-useable assets not identified at time of tender	Prov Sum	1		5 000.00		5 000.00
C1.2.9.3	Handling cost, profit and all other charges in respect of item C1.2.9.2	%	R 5 000.00				
C1.2.10	Provision of training for local students						
(a)	Provisional sum for the payment of two (2) students from Tafelkop (R5000/student/ month)	Prov. Sum	1		100 000.00		100 000.00
(b)	Handeling costs and profit in respect to sub-item C1.2.10	%	R100 000.00				
C1.2.11	Contractor's obligation in respect of Training of Local Labourers						
(a)	Technical skills	PC Sum	1		30 000.00		30 000.00
(b)	Generic and Entrepreneurial skills	PC Sum	1		30 000.00		30 000.00
(c)	Remuneration of workers and other Labourers including wages during training	PC Sum	1		30 000.00		30 000.00
(d)	Provision for accredited and approved training courses for selected Local labourers including wages during training	PC Sum	1		8 000.00		8 000.00
(d)	Contractor's handling costs, profit and all other charges in respect of Sub-item C1.2.11 (a), (b), (c) and (d)	%	98 000				
C1.2.12	Employer's Agent obligations in respect of Training Local SMME Contractors						
(a)	Employer's Agent's mentoring and supervision of SMME contractors.	Month	10		15 000.00		150 000.00
(b)	SMME Training and development	No.	1		80 000.00		80 000.00
(c)	Compliance Workshop	No.	1		10 000.00		10 000.00
(d)	Risk management	No.	1		10 000.00		10 000.00
(d)	SMME Growth Support in procurement	No.	1		20 000.00		20 000.00
(e)	Training venue	No	1		5 000.00		5 000.00
(f)	Contractor's handling costs, profit and all other charges in respect of Sub-item C1.2.12 (a), (b), (c), (d) and (e)	%	R275 000.00				
(g)	Measurement and Evaluation	No.	1		5 000.00		5 000.00
C1.2.13	Contractor's obligations in respect of Training Local SMME Contractors						
(a)	Contractor's Full-time mentoring and supervision of SMME contractors.	Month	10				
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 1.3

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS						
C1.3.1	The Contractor's general obligations						
C1.3.1.1	Fixed obligations	Lump Sum	1				
C1.3.1.2	Value-related obligations	Lump Sum	1				
C1.3.1.3	Value-related obligations Time-related obligations	month	10				
C1.3.2	Contract sign boards (The rate shall include provision of 2 contract sign boards excluding erection)	m ²	30				
C1.3.3	Contractor's obligations in respect of Local Emerging Contractors						
(a)	Provisional Sum for local SMME's Contractor (The rate includes P&Gs for purchasing tools & equipments where necessary for local SMMEs for execution of Works package allocated to SMMEs as per the BoQ approved by the Employer's Agent)	PC Sum	1		300 000.00		300 000.00
(b)	Contractor's charge to allow for handling costs and profit in respect of subitem C1.3.3	%	R 300 000.00				
	[NB. The combined total tendered amount for sections C1.2 and C1.3 shall not exceed 15% of the tender sum for the road & structure construction, excluding contingencies & VAT]						
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 1.4

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C1.4	FACILITIES FOR THE ENGINEER						
C1.4.1	Site accommodation						
C1.4.1.1	Offices and conference room	m ²	68				
C1.4.1.2	Laboratories	m ²	42				
C1.4.1.3	Open concrete working floors 150mm and verandas	m ²	10				
C1.4.1.4	Roofs over open concrete working floors and verandas	m ²	10				
C1.4.1.5	Store rooms inside the laboratory	m ²	10				
C1.4.1.6	Car ports	No	2				
C1.4.1.7	Ablution unit	No	6				
C1.4.1.9	Kitchen unit (s specified under A1.4.7.1.g)	No	1				
C1.4.1.13	Rented housing paid for by the Contractor (Type C)	Prov Sum	1		50 000.00		50 000.00
C1.4.1.14	Contractor's handling costs, profit and all other charges in respect of item C1.4.1.13	%	R 50 000.00				
C1.4.2	Items measured by area						
C1.4.2.1	Shelving heavy duty	m ²	1				
C1.4.2.3	Work-benches with a wooden top	m ²	1				
C1.4.2.4	Constant-temperature baths of concrete and/or plastered brick	m ²	2				
C1.4.2.5	Concrete footings and pedestals for laboratory equipment	m ²	6				
C1.4.2.6	Roller blinds, opaque type	m ²	6				
C1.4.2.8	Notice boards	m ²	2				
C1.4.2.9	White boards	m ²	1				
C1.4.2.10	Galvanised wire mesh fencing for store rooms	m ²	12				
C1.4.2.11	Galvanised wire mesh store room gate with a padlock	m ²	4				
C1.4.3	Items measured by number						
C1.4.3.1	Office swivel chair	No	3				
C1.4.3.2	Office chair	No	15				
C1.4.3.4	Laboratory high chair	No	2				
C1.4.3.5	Office desk with 3 drawers (at least one lockable drawer)	No	3				
C1.4.3.7	Drawing table	No	1				
C1.4.3.8	Conference table	No	1				
C1.4.3.11	General purpose steel cabinet with shelves	No	1				
C1.4.3.12	Wall mounted pivot plan filing system	No	1				
C1.4.3.13	220/250 volt power outlet plug point	No	2				
C1.4.3.14	400/231 volt 3-phase power outlet plug point	No	2				
C1.4.3.15	Single 1 500 m, 58 watt fluorescent tube ceiling light	No	1				
C1.4.3.16	Single 1 500 mm, 22 watt LED tube ceiling light	No	1				
TOTAL CARRIED FORWARD							

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
BROUGHT FORWARD							
C1.4.3.18	7 watt LED bulb ceiling light	No	6				
C1.4.3.19	Wash-hand basin	No	1				
C1.4.3.20	Laboratory basin	No	2				
C1.4.3.21	Extractor fan	No	1				
C1.4.3.22	Fume cupboard	No	2				
C1.4.3.23	Fire extinguisher 9,0 kg, dry powder type	No	2				
C1.4.3.24	Air-conditioning unit	No	2				
C1.4.3.25	Heater	No	2				
C1.4.3.26	Concrete specimen curing bath	No	1				
C1.4.3.27	Waste paper basket	No	3				
C1.4.3.28	UPS / Voltage stabiliser	No	2				
C1.4.3.29	A3 / A4 colour printer, copier, scanner	No					Rate only
C1.4.3.30	A4 colour printer, copier, scanner	No	1				
C1.4.3.31	Rain gauge	No	1				
C1.4.3.32	Minimum/maximum atmospheric temperature gauge	No	1				
C1.4.3.33	Digital thermometer	No	1				
C1.4.3.34	Mobile outdoor weather station	No	1				
C1.4.3.35	3,0 m aluminium straight edge complete with two measuring wedges	No	1				
C1.4.3.36	Measuring wheel	No	1				
C1.4.3.37	First aid kit	No	1				
C1.4.3.38	Standpipe complete with 30 m of 19 mm dia. heavy duty hose pipe	No	1				
C1.4.4	Prime cost items						
C1.4.4.1	Cell phones costs, including pro-rata rentals, for calls made in connection with contract administration	PC Sum	1		35 000.00		35 000.00
C1.4.4.2	Handling costs and profit in respect of item C1.4.4.1	%	R 35 000.00				
C1.4.4.5	The provision of internet connectivity and WiFi data for Engineer's site staff	PC Sum	1		10 000.00		10 000.00
C1.4.4.6	Handling costs and profit in respect of item C1.4.4.5	%	R 10 000.00				
C1.4.4.7	The provision of paper and ink for a combination colour printer/copier/scanner	PC Sum	1		10 000.00		10 000.00
C1.4.4.8	Handling costs and profit in respect of item C1.4.4.7	%	R 10 000.00				
C1.4.4.11	The provision of a complete 440/231 volt three phase electrical power installation, including all poles, insulators, wiring, switchboards, mains connections, meters etc.	PC Sum	1		20 000.00		20 000.00
C1.4.4.12	Handling costs and profit in respect of item C1.4.4.11	%	R 20 000.00				
C1.4.4.13	Provision of a 440/231 volt three phase electricity generator if electricity from a power supply authority is not available on site	PC Sum	1		55 000.00		55 000.00
C1.4.4.14	Handling costs and profit in respect of item C1.4.4.13	%	R 55 000.00				
C1.4.5	Services at site offices, laboratories and site accommodation						
C1.4.5.1	Fixed costs	lump sum	1				
C1.4.5.2	Running costs	month	10				
TOTAL CARRIED FORWARD							

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
BROUGHT FORWARD							
C1.4.6	Office staff						
C1.4.6.1	Secretary / receptionist	month	10				
C1.4.6.2	Technical assistant	month	10				
C1.4.7	Site inspection transport						
C1.4.7.1	Provision of a bus, mini-bus or combi van for site inspection purposes (11 seaters)	per day	85				
C1.4.7.2	Travel on site	km	2500				
C1.4.8	Site security measures for the Engineer's facilities						
C1.4.8.1	Supply and installation of all required security measures at the Engineer's site offices and laboratories	lump sum	1				
C1.4.8.2	Provision of security guards / watchmen and an armed response service at the Engineer's site offices and laboratories	month	10				
C1.4.8.3	Supply and installation of all required security measures at the Engineer's site accommodation	lump sum	1				
C1.4.8.4	Provision of security guards / watchmen and an armed response service at the Engineer's site accommodation	month	10				
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 1.5

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C1.5	ACCOMMODATION OF TRAFFIC					
C1.5.1	Accommodation of pedestrian and non-motorised traffic					
C1.5.1.1	Accommodation of pedestrian and non-motorised traffic	Month	10			
C1.5.1.2	Construction of temporary pedestrian walkways and cycle paths (a) Gravel surfaced pedestrian walkways / cycle paths	m ²	1500.00			
C1.5.2	Accommodation of vehicular traffic	Month	10			
C1.5.3	Liaison with traffic authorities	Month	10			
C1.5.4	Construction of temporary deviations	km	2			
C1.5.5	Maintenance of temporary deviations (as ordered by the Employer's Agent in writing)					
C1.5.5.1	Grass cutting	ha	1.40			
C1.5.5.4	Collection of rubbish / litter	km	2.00			
C1.5.5.9	Grading of temporary deviations and existing roads used as detours	km	2.00			
C1.5.5.10	Watering of temporary deviations and existing roads used as detours	kl	7500.00			
C1.5.5.11	Other road maintenance work ordered by the Engineer	Prov Sum	1.00	10 000.00		10 000.00
C1.5.5.12	Handling cost, profit and all other charges in respect of item C1.5.5.11	%	R 10 000.00			
C1.5.6	Removal of temporary deviations	km	2.00			
C1.5.7	Temporary traffic control facilities					
C1.5.7.1	Delineators including mounting bases and ballast:					
(a)	Single sided, reversible left or right ((DTG50J) 250 x 1000)	No	60.00			
(b)	Double sided, reversible left or right ((DTG50J) 250 x 1000)	No	30.00			
C1.5.7.2	Traffic cones, minimum height 750 mm	No	40.00			
C1.5.7.3	Flagmen	man-shift	1350.00			
C1.5.7.4	Traffic controllers	man-shift	440.00			
C1.5.7.5	Provision of illuminated traffic signs:					
(a)	Sign mounted flashing amber lights (2 lights with the specified power supply) mounted on a backing board which is:					
(i)	900 mm wide x 150 mm high	No	4.00			
(b)	Flashing LED illuminated arrow board	No	4.00			
(c)	Illuminated road sign – R & TR series (1200mm)	No	4.00			
(d)	Illuminated road sign – TW series (1500mm sides)	No	4.00			
C1.5.7.6	Maintenance of illuminated traffic signs:					
(a)	Sign mounted flashing amber lights (a pair of two lights mounted on a separate backing board)	Month	10.00			
(b)	Flashing LED illuminated arrow board	Month	10.00			
(c)	Illuminated road sign – R & TR series (1200mm)	Month	10.00			
(d)	Illuminated road sign – TW series (1500mm sides)	Month	10.00			
C1.5.8	Traffic safety officer	Man-month	10.00			
C1.5.9	Traffic safety vehicle	month	10.00			
TOTAL CARRIED FORWARD						

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
BROUGHT FORWARD					
C1.5.11	Provision of safety equipment for visitors				
C1.5.11.1	Provision of reflective safety vests for visitors	No	20.00		
C1.5.11.2	Provision of hard hats for visitors	No	20.00		
C1.5.12	Additional traffic accommodation facilities ordered by the Engineer:				
C1.5.12.1	Provision of additional traffic accommodation facilities	Prov Sum	1	50 000.00	50 000.00
C1.5.12.2	Handling cost, profit and all other charges in respect of item C1.5.12.1	%	R 50 000.00		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 1.6

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C1.6	CLEARING AND GRUBBING (This activities shall be done by SMME Subcontractors under the contractor's supervision except where the use of special plants is required)				
C1.6.1	Clearing				
C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	9.2		
C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	1		
C1.6.1.3	Clearing for new fence lines (over a width of 2,0 m)	km	1		
C1.6.1.4	Clearing for service trenches (max 600mm width)	m ²	600		
C1.6.2	Grubbing				
C1.6.2.1	Grubbing with machines and some hand labour where necessary	ha	9.2		
C1.6.2.2	Grubbing with hand labour only when labour enhanced work is specified	ha	1		
C1.6.2.3	Grubbing for new fence lines (over a width of 2,0 m)	km	1		
C1.6.2.4	Grubbing for service trenches (max 600mm width)	m ²	600		
C1.6.3	Removal and grubbing of large trees and tree stumps:				
C1.6.3.1	Girth equal to or exceeding 1,0 m up to and including 2,0 m	No	10		
C1.6.3.2	Girth exceeding 2,0 m up to and including 3,0 m	No	2		
C1.6.3.4	Removal of trees in forests and plantations	ha	0.5		
C1.6.7	Re-clearing of previously cleared areas	ha			Rate only
C1.6.10	Disposal of hazardous waste material:				
C1.6.10.1	Disposal of hazardous waste material at an approved hazardous waste material facility	Prov Sum	1	10 000.00	10 000.00
C1.6.10.2	Handling cost, profit and all other charges in respect of item C1.6.10.1	%	R 10 000.00		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 1.7

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C1.7	LOADING AND HAULING				
C1.7.1	Loading from stockpile using machines and some hand labour where necessary	m ²	5 000.00		
C1.7.2	Loading from heaps or windrows using machines and/some hand labour where necessary	m ²	2 000.00		
C1.7.3	Loading by hand only from stockpile or heaps when labour enhancement work is specified or it is not possible to use machines	m ²	2 000.00		
C1.7.2	Hauling				
C1.7.2.1	Hauling material for use in the Works and off-loading it on the site of the Works:				
(a)	Soil, gravel, crushed stone and pavement layer material	m ³ - km	35 000.00		
(b)	Boulders and hard material	m ³ - km	4 500.00		
C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil or stockpile area:				
(a)	Cleared and grubbed material (organic matter and all other unsuitable or waste material)	m ³ - km	48 000.00		
(b)	Soil and gravel material	m ³ - km	12 000.00		
(c)	Boulders, hard material and concrete	m ³ - km	8 500.00		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 2.1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C2.1	GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES				
C2.1.1	Location, identification, protection and relocation of existing services				
C2.1.1.1	Contractor's obligations	Lump Sum	1		
C2.1.1.2	Permanent services relocation or protection work by others	PC Sum	1	30 000.00	30 000.00
C2.1.1.3	Handling costs and profit in respect of item C2.1.1.2 above	%	R 30 000.00		
C2.1.1.4	Permanent services relocation or protection work by the Contractor	Prov Sum	1		
C2.1.2	Existing Services location, detection and verification				
C2.1.2.5	Using hand excavation to locate, expose and verify services	m ³	150		
C2.1.3	Obtaining construction or work permits				
C2.1.3		Lump Sum	1		
C2.1.4	Provision of guarantees or deposits for services				
C2.1.4.1	Providing guarantees and deposits	PC Sum	1	15 000.00	15 000.00
C2.1.4.2	Handling costs and profit in respect of item C2.1.4.1 above	%	R 15 000.00		
C2.1.5	Provision of record drawings and applicable data				
C2.1.5		Lump Sum	1		
C2.1.6	Trench excavation (in soft material)				
C2.1.6.1	Trenches up to 1,0 m wide				
(a)	Up to 1,0 m deep	m ³	5250		
(b)	Over 1,0 m and up to 2,0 m deep	m ³	30		
(c)	Over 2,0 m deep etc. to be inserted, increased by additional 1,0 m depths as required	m ³			Rate Only
C2.1.6.2	Trenches over 1,0 m and up to 2,0 m wide				
(a)	Up to 1,0 m deep	m ³			Rate Only
(b)	Over 1,0 m and up to 2,0 m deep	m ³			Rate Only
(c)	Over 2,0 m deep etc., increased by additional 1,0 m depths as required	m ³			Rate Only
C2.1.7	Extra over items C2.1.6, C2.1.8 and C2.1.16 for excavating in:				
C2.1.7.1	Hard material irrespective of depth	m ³	450		
C2.1.7.2	Stabilised material irrespective of depth	m ³			Rate only
C2.1.9	Trench excavation using labour enhanced construction methods				
C2.1.9.1	Trenches up to 1,0 m wide (in soft material)				
(a)	Up to 1,0 m deep	m ³	150		
(b)	Over 1,0 m and up to 1,5 m deep	m ³	20		
C2.1.9.2	Trenches over 1,0 m and up to 2,0 m wide (in soft material)				
(a)	Up to 1,0 m deep	m ³	120		
(b)	Over 1,0 m and up to 1,5 m deep	m ³	30		
C2.1.9.3	Trenches up to 1,0 m wide (in intermediate material)				
(a)	Up to 1,0 m deep	m ³	52		
(b)	Over 1,0 m and up to 1,5 m deep	m ³	36		
C2.1.9.4	Trenches over 1,0 m and up to 2,0 m wide (in intermediate material)				
(a)	Up to 1,0 m deep	m ³	46		
(b)	Over 1,0 m and up to 1,5 m deep	m ³	31		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
BROUGHT FORWARD					
C2.1.11	Backfilling of trenches				
C2.1.11.1	Backfill compacted to 93 % (100 % for sand) of MDD (areas subject to traffic loads) using material:				
(a)	From the excavated trench material	m ³	125		
(b)	From other excavations on site	m ³			Rate only
(c)	From approved borrow areas	m ³	85		
(d)	From sources provided by the Contractor	m ³			Rate only
(e)	From commercial sources (G2)	m ³			Rate only
C2.1.11.2	Backfill compacted to 90 % (100 % for sand) of MDD or complying with the DCP requirements of Clause A2.1.8.2c) (areas not subject to traffic loads) using material:				
(a)	From the excavated trench material	m ³	6300		
(b)	From other excavations on site	m ³			Rate only
(c)	From approved borrow areas	m ³	2430		
(d)	From sources provided by the Contractor	m ³			Rate only
(e)	From commercial sources (state material type)	m ³			Rate only
C2.1.17	Removal and disposal of spoil material from trench excavations:				
C2.1.17.1	To spoil sites provided by the Employer as indicated in the Contract Documentation or as instructed by the Engineer	m ³			Rate only
C2.1.17.2	To spoil sites or dumping areas provided by the Contractor	m ³	130		
C2.1.19	Dealing with water during services work				
C2.1.19.1	Dealing with surface water	Lump Sum	1		
C2.1.19.2	Dealing with subsurface water	Lump Sum	1		
C2.1.20	Specified temporary works to control water inflow				
C2.1.20.1	Provide equipment	Lump Sum	1		
C2.1.20.2	Operate and maintain	day	60		
C2.1.20.3	Remove equipment	Lump Sum	1		
C2.1.25	Removal of existing services:				
C2.1.25.1	water PVC pipe 110mm	m	50		
C2.1.26	Disposal of existing services materials:				
C2.1.25.1	water PVC pipe 110mm	m	20		
C2.1.27	Demolition of existing manholes, access chambers and other service structures consisting of:				
C2.1.27.1	Unreinforced concrete	m ³	80		
C2.1.27.2	Reinforced concrete	m ³	120		
C2.1.27.3	Masonry	m ³	40		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 2.3

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C2.3	WET SERVICES				
C2.3.36	Relocation of existing water and sewerline The rate include relocation of any wet services not include in the drawings	PC Sum	1	150 000.00	150 000.00
C2.4.5	Handling costs and profit in respect of item C2.4.4 above if work done by other contractors	%	R 150 000.00		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 2.4

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C2.4	ENERGY AND OTHER SERVICES				
C2.4.4	Relocation of existing Eskom powerline The rate include relocation of 5 Eskom powerline pole including one transformer	PC Sum	1	450 000.00	450 000.00
C2.4.5	Handling costs and profit in respect of item C2.4.4 above	%	R 450 000.00		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 3.1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C3.1	DRAINS					
C3.1.1	Excavation for open drain:					
C3.1.1/1.6.1	Clearing					
C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	0.1			
C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	0.1			
C3.1.1/4.2.5	Excavating of materials in designated excavations, material obtained from					
C4.2.5.1	Soft excavation	m ³	3240			
C4.2.5.2	Boulder excavation class A	m ³	1620			
C4.2.5.3	Boulder excavation class B	m ³				Rate only
C4.2.5.4	Hard excavation (other than by blasting)	m ³	350			
C4.2.5.5	Hard excavation (by blasting)	m ³	84			
C3.1.1.1	Excavating all material situated within the following depth ranges below the surface level using conventional methods:					
(a)	0 m to 1,5 m	m ³	350			
C3.1.1.2	Extra over sub-item C3.1.1.1 for excavation in hard and boulder material, irrespective of depth	m ³	150			
C3.1.1.4	Excavating soft material situated 0 m to 1,5 m below the surface level using labour enhanced construction methods	m ³	250			
C3.1.1.5	Excavating intermediate material situated 0 m to 1,5 m below the surface level using labour enhanced construction methods	m ³	120			
C3.1.1/5.2.9	Removal of oversize material	m ³	530			
C3.1.1/4.2.12	Finishing the side slopes					
C4.2.12.1	Cuttings:					
(a)	In soft material	m ²	5200			
(b)	In boulder material class A and B	m ²	340			
(c)	In hard material	m ²	260			
(d)	In soft material using labour enhanced methods of construction	m ²	1200			
C4.2.12.2	Designated excavations	m ³	600			
C4.2.12.3	Designated excavations using labour enhanced methods of construction	m ³	210			
C3.1.2	Clearing, shaping and disposal of accumulated sediment in existing unlined open drains					
C3.1.2.1	Using conventional methods	m ³	319			
C3.1.2.2	Using labour enhanced construction methods	m ³	213			
C3.1.3	Excavation, clearing and disposal of accumulated sediment in existing lined drains and drainage systems					
C3.1.3.1	Using conventional methods (up to 1,5 m):					
(a)	Manholes and inlet and outlet structures	m ³	186			
(b)	Culvert barrels	m ³	85			
(c)	Concrete or other lined side drains	m ³	46			
TOTAL CARRIED FORWARD						

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
BROUGHT FORWARD					
C3.1.3.2	Using conventional methods (in excess of 1,5 m):				
(a)	Manholes and inlet and outlet structures	m ³	12		
(b)	Culvert barrels	m ³	12		
(c)	Concrete or other lined side drains	m ³	15		
C3.1.3.3	Using labour enhanced construction methods:				
(a)	Manholes and inlet and outlet structures	m ³	23		
(b)	Culvert barrels	m ³	12		
(c)	Concrete or other lined side drains	m ³	12		
C3.1.4	Excavation and disposal of material for subsoil drainage systems:				
C3.1.4.1	Excavating in all material situated within the following depth ranges below the surface:				
(a)	0 m to 1,5 m	m ³	830		
C3.1.4.2	Excavating soft material situated within 0 m to 1,5 m below the surface level using labour enhanced construction methods	m ³	132		
C3.1.4.3	Excavating intermediate material situated within 0 m to 1,5 m below the surface level using labour enhanced construction methods	m ³	85		
C3.1.4.4	Extra over sub-item C3.1.4.1 for excavation in hard and boulder material, irrespective of depth	m ³	390		
C3.1.5	Impermeable backfilling to subsoil drainage systems				
C3.1.5.1	Un-stabilised natural gravel obtained from approved sources on the site	m ³	580		
C3.1.5.2	G5 material obtained from commercial sources	m ³			Rate only
C3.1.5.3	Extra over items C3.1.5.1 and C3.1.5.2 for stabilisation with 4,0 % CEM II (32.5) cement	m ³	80		
C3.1.6	Construction of banks and dykes:				
C3.1.6.1	Banks and dykes using conventional methods	m ³	82		
C3.1.6.2	Banks and dykes using labour enhanced construction methods	m ³	125		
C3.1.7	Natural permeable material in subsoil drainage systems (approved crushed stone):				
C3.1.7.1	Crushed stone obtained from approved sources on the site (19mm)	m ³			Rate only
C3.1.7.2	Crushed stone obtained from commercial sources (19mm)	m ³	185		
C3.1.8	Natural permeable material in subsoil drainage systems (approved natural sand):				
C3.1.8.1	Natural sand obtained from approved sources	m ³			Rate only
C3.1.8.2	Natural sand from commercial sources	m ³	235		
C3.1.9	Pipes in subsoil drainage systems:				
C3.1.9.1	U-PVC pipes and fittings, normal duty, complete with couplings (state size and whether or not perforated or slotted)	m	600		
C3.1.10	Polymer film sheeting or similar approved material, for lining subsoil drainage systems:				
C3.1.10.1	0,15 mm thick	m ²	1150		
C3.1.11	Geotextiles (grade A5)				
		m ²	1150		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
BROUGHT FORWARD					
C3.1.13	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems:				
C3.1.13.1	Outlet structures	No	6		
C3.1.13.2	Inspection boxes	No	10		
C3.1.13.3	Junction boxes	No	21		
C3.1.13.4	Cleaning eyes	No	10		
C3.1.14	Caps for subsoil drain pipes:				
C3.1.14.1	Concrete caps	No	15		
C3.1.22	Test flushing of subsoil drain pipe systems	No	6		
C3.1.23	Subsoil drain outlet marker	No	6		
C3.1.24	Submission of as built drawings by the Contractor	Prov Sum	1		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 3.2

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C3.2	CULVERTS					
C3.2.1	Excavation for culvert structures:					
C3.2.1/C1.6	Clearing					
C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	0.05			
C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	0.08			
C3.2.1/C4.2	Excavating of materials in designated excavations, material obtained from					
C4.2.5.1	Soft excavation	m ³	450			
C4.2.5.2	Boulder excavation class A	m ³	150			
C4.2.5.3	Boulder excavation class B	m ³	150			
C4.2.5.4	Hard excavation (other than by blasting)	m ³	100			
C4.2.5.5	Hard excavation (by blasting)	m ³	40			
C3.2.1.1	Excavating all material situated within the following depth ranges below the surface level using conventional methods:					
(a)	0 m to 1,5 m	m ³	20			
C3.2.1.2	Excavating soft material 0 m to 1,5 m below the surface level using labour enhanced construction methods, or instructed by hand under Clause A3.2.7.2d):	m ³	20			
C3.2.1.3	Excavating intermediate material 0 m to 1,5 m below the surface level using labour enhanced construction methods, or instructed by hand under Clause A3.2.7.2d):	m ³	35			
C3.2.1.4	Extra over sub-item C3.2.1.1 for excavation in hard or boulder material, irrespective of depth	m ³	30			
C3.2.1.5	Extra over sub-item C3.2.1.1 for excavation in stabilised existing road layers, irrespective of depth	m ³	10			
C3.2.2	Backfilling:					
C3.2.2.1	Using the excavated material	m ³	150			
C3.2.2.2	Using imported selected material:					
(a)	From commercial sources (G5)	m ³				Rate only
(b)	From sources on site (G5)	m ³	50			
C3.2.2.3	Extra over sub-items C3.2.2.1 and C3.2.2.2 for soil cement backfilling					
(b)	With dry mixture of 3 % cement	m ³	50			
(c)	Variation in cement	kg	1500			
C3.2.2.4	Extra over sub-items C3.2.2.1 and C3.2.2.2 for screed layers (class of concrete indicated)	m ³	12			
C3.2.3	Concrete pipe culverts:					
C3.2.3.1	On Class A bedding (type and diameter indicated)					
i)	450mm dia pipe (Class 100D)	m	400			
ii)	525mm dia pipe (Class 100D)	m				Rate only
iii)	600mm dia pipe (Class 100D)	m	1800			
iv)	675mm dia pipe (class 100D)	m				Rate only
v)	750mm dia. (Class 100D)	m				Rate only
vi)	1050mm dia. (Class 100D)	m	100			
vii)	1500mm dia. (Class 100D)	m				Rate only
TOTAL CARRIED FORWARD						

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
BROUGHT FORWARD					
C3.2.5	Rectangular culverts with prefabricated elements:				
C3.2.5.1	Prefabricated portal culverts; wall and roof combination (size and type indicated)	m	30		
C3.2.6	Extra over items C3.2.3, C3.2.4 and C3.2.5 for constructing inclined culverts	m	10		
C3.2.7	Cast in situ concrete and formwork:				
C3.2.7.1	In Class A bedding, screeds, concrete backfill and the encasing for pipes, including formwork, (class 25/19)	m ³	20		
C3.2.7.2	In complete in situ floor slabs for rectangular culverts, manholes and catchpits including formwork, joints and Class U2 surface finish (class 25/19) (installed at a standard depth of 1,0 m)	m ³	70		
C3.2.7.3	In walls, excluding formwork but including Class U2 surface finish (class 25/19)	m ³	65		
C3.2.7.4	In roof slabs for rectangular culverts, excluding formwork but including Class U2 surfacing finish and joints (class 25/19)	m ³	85		
C3.2.7.5	In inlet and outlet structures including kerbs, chutes and downpipes, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surfacing finish (class 25/19)	m ³			Rate only
C3.2.7.6	Formwork of concrete under items C3.2.7.3 to 5 above (smooth)	m ²	240		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 3.3

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C3.3	CONCRETE KERBING AND CHANNELLING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS					
C3.3.1	Concrete kerbing:					
C3.3.1.1	Prefabricated kerbing SABS approved (class 25/19)					
(a)	(i) 300 x 150 x 50 Mountable kerb (fig 8a)	m	5400			
(b)	(ii) 100 x 250 Rectangular kerb (fig. 10)	m	200			
C3.3.1.2	Cast in situ kerbing					
(a)	(i) 300 x 200 x 50 Mountable kerb (class 25/19)	m	120			
(b)	(ii) 100 x 250 Rectangular kerb (class 25/19)	m	55			
C3.3.3	Extra over items C3.3.1 for concrete kerbing or concrete kerbing and channeling on curves					
C3.3.3.1	On curves of radii more than or equal to 5,0 m but less than 20 m	m	20			
C3.3.3.2	On curves with radii more than or equal to 1,0 m but less than 5,0 m	m	20			
C3.3.3.3	On curves with radii less than 1,0 m	m	20			
C3.3.6	Concrete chutes (typical designs):					
C3.3.6.1	Prefabricated concrete chutes (Class 25/19)	m				Rate only
C3.3.6.2	Cast in situ concrete chutes (Class 25/19)	m				Rate only
C3.3.6.3	Stone pitched chutes	m				Rate only
C3.3.7	Cast in situ concrete chutes:					
C3.3.7.1	Concrete (Class 25/19)	m ³	160			
C3.3.7.2	Formwork					
	Class F1 surface finish	m ²	70			
	Class U2 surface finish	m ²	150			
C3.3.7.3	Stone pitched chutes					
(a)	Grouted stone pitching	m ²	50			
(b)	Grouted stone pitching on a concrete bed (class 15/19)	m ²	45			
C3.3.8	Linings for open drains:					
C3.3.8.1	Cast in situ concrete lining (Class 25/19)	m ³	80			
C3.3.8.2	Class U2 surface finish to cast in situ concrete (trapezoidal drain)	m ²	580			
C3.3.8.3	Stone pitched lining (200 mm thickness)					
(a)	Grouted stone pitching (type of open drain indicated)	m ²	350			
(b)	Grouted stone pitching on a concrete bed (class of concrete and type of open drain indicated)	m ²	140			
C3.3.9	Formwork to cast in situ concrete lining for open drains (Class F2 surface finish):					
C3.3.9.1	To sides with formwork on the internal face only	m ²				Rate only
C3.3.9.2	To sides with formwork on both internal and external faces	m ²				Rate only
C3.3.9.3	To ends of slabs	m ²				Rate only
C3.3.10	Sealed joints in concrete and stone pitched linings of open drains (polysulphide drain)	m	200			
C3.3.11	Concrete screed or backfill below chutes (100mm, class 15/19)	m ³	80			
C3.3.12	Reinforcement:					
C3.3.12.3	(c.) Welded steel fabric	kg	3500			
C3.3.13	Polymer film sheeting (thickness specified) for concrete-lined open drains	m ²	1200			
TOTAL CARRIED FORWARD						

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
BROUGHT FORWARD					
<p>C3.3.15 Energy dissipaters in outlet structures</p> <p>C3.3.15.1 Precast concrete blocks in outlet structures</p> <p>C3.3.15.2 Stones set in outlet structures</p> <p>C3.3.16 Demolition and removal of existing kerbs and/or channel (specify maximum size)</p>		<p>No</p> <p>m²</p> <p>m³</p>	<p>6</p> <p>350</p> <p>85</p>		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 4.1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C4.1	BORROW MATERIALS					
C4.1.1	Compiling and implementing M&U plans					
C4.1.1.1	For borrow pits (ref to geotechnical investigation report)	No	3			
C4.1.1.2	For quarries	No				Rate only
C4.1.2	Additional material investigations during the supplementary exploration					
C4.1.2.1	Cost of additional trial pits and/or drilling and laboratory testing	Prov Sum	1	5 000.00		5 000.00
C4.1.2.2	Handling costs and profit in respect of item C4.1.2.1	%	R 5 000.00			
C4.1.3	Construction and maintenance of temporary haul and access roads					
C4.1.3.1	Temporary unsealed roads	km	8			
C4.1.4	Removing of the overburden					
C4.1.4.1	In borrow pits	m ³	3000			
C4.1.4.2	In quarries:					
(a)	Soft material	m ³				Rate only
(b)	Hard material (by blasting)	m ³	500			
C4.1.5	Excavating of materials in the borrow pits and quarries, material obtained from					
C4.1.5.1	Soft excavation	m ³	15000			
C4.1.5.2	Boulder excavation class A	m ³				Rate only
C4.1.5.3	Boulder excavation class B	m ³				Rate only
C4.1.5.4	Hard excavation (other than by blasting)	m ³	1000			
C4.1.5.5	Hard excavation (by blasting)	m ³				Rate only
C4.1.6	Providing crushing, screening and related plants					
C4.1.6.1	Single-stage crushing plant	No	1			
C4.1.6.2	Two-stage crushing plant	No				Rate only
C4.1.6.3	Multiple-stage crushing and screening plant	No				Rate only
C4.1.6.4	Screening plant	No				Rate only
C4.1.7	Producing the material by					
C4.1.7.1	Single-stage crushing	m ³	8000			
C4.1.7.2	Two-stage crushing	m ³				Rate only
C4.1.7.3	Multiple-stage crushing including screening	m ³				Rate only
C4.1.7.4	Screening only	m ³				Rate only
C4.1.8	Moving and re-erecting the crushing, screening and related plants on the site					
C4.1.8.1	Single-stage crushing plant	No				Rate only
C4.1.8.2	Two-stage crushing plant	No				Rate only
C4.1.8.3	Multiple-stage crushing and screening plant	No				Rate only
C4.1.8.4	Screening plant	No				Rate only
C4.1.9	Breaking down oversize material					
		m ³				Rate only
C4.1.10	Compacting the floor of the stockpile sites					
TOTAL CARRIED FORWARD						

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
BROUGHT FORWARD					
C4.1.12	Stockpiling the material				
C4.1.12.1	Material from a producing plant	m ³	8000		
C4.1.12.2	Material directly from the excavation	m ³			Rate only
C4.1.13	Removing surplus material from the stockpile	m ³			Rate only
C4.1.14	Removing the fill platform and temporary banks at the stockpile sites upon completion				
C4.1.14.1	Fill platform	m ³			Rate only
C4.1.14.2	Temporary banks	m ³			Rate only
C4.1.15	Shaping and finishing the borrow pit and quarry areas, and the stockpile sites				
C4.1.15.1	Shaping and finishing the borrow pit and quarry areas, and the stockpile sites:				
(a)	Borrow pits (ref to geotechnical investigation report)	ha	0.4		
(b)	Quarries	ha			Rate only
(c)	Stockpile sites	ha	0.04		
C4.1.15.2	Finishing of the borrow pit and quarry areas, and the stockpile sites using labour enhanced methods of construction:				
(a)	Borrow pits (ref to geotechnical investigation report)	ha			Rate only
(b)	Quarries (list all quarries separately)	ha			Rate only
(c)	Stockpile sites	ha			Rate only
C4.1.16	Personnel				
C4.1.16.1	Materials manager	month	10		
C4.1.16.2	Excavation controller	month			Rate only
C4.1.16.3	Stockpile controller	month			Rate only
C4.1.18	Compensation to landowners or legal occupants in respect of land acquisition, royalties and/or loss of crops				
C4.1.18.1	Amount allowed, expenditure to be approved or instructed by the Employer	Prov Sum	1	50 000.00	50 000.00
C4.1.18.2	Handling costs and profit in respect of item C4.1.18.1	%	R 50 000.00		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 4.2

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C4.2	CUT MATERIALS				
C4.2.1	Compiling and implementing M&U plans for the cuttings				
C4.2.1.1	Cuttings exceeding 5 000 m ³ up to 10 000 m ³	No			Rate only
C4.2.2	Additional material investigations during the supplementary exploration				
C4.2.2.1	Cost of additional trial pits and/or drilling and laboratory testing	Prov Sum	1	20 000.00	20 000.00
C4.2.2.2	Handling costs and profit in respect of item C4.2.2.1	%	R 20 000.00		
C4.2.4	Excavating of materials in box cuts, material obtained from				
C4.2.4.1	Soft excavation	m ³	27000		
C4.2.4.2	Boulder excavation class A	m ³	5000		
C4.2.4.3	Boulder excavation class B	m ³			Rate only
C4.2.4.4	Hard excavation (other than by blasting)	m ³	250		
C4.2.4.5	Hard excavation (by blasting)	m ³	35		
C4.2.7	Removal of unsuitable stable cut material to spoil				
C4.2.7.1	In layer thicknesses of 200 mm and less	m ³	14500		
C4.2.7.2	In layer thicknesses exceeding 200 mm	m ³			Rate only
C4.2.8	Excavate material to spoil in sites designated by the Contractor, material obtained from				
C4.2.8.1	Soft excavation, overburden and unsuitable material	m ³	5000		
C4.2.8.2	Boulder excavation class A	m ³	3000		
C4.2.8.3	Boulder excavation class B	m ³			Rate only
C4.2.8.4	Hard excavation (other than by blasting)	m ³	2000		
C4.2.12	Finishing the side slopes				
C4.2.12.1	Cuttings:				
(a)	In soft material	m ²	3200		
(b)	In boulder material class A and B	m ²	1750		
(c)	In hard material	m ²	530		
(d)	In soft material using labour enhanced methods of construction	m ²	490		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 4.4

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C4.4	COMMERCIAL MATERIALS				
C4.4.2	Commercial materials identified by the Contractor from commercial, private or other non-commercial suppliers				
C4.4.2.1	Pavement layer material:				
(a)	Type G1 material	m ³			Rate only
(b)	Type G2 material	m ³	6250		
(c)	G7 materials	m ³			Rate only
C4.4.2.3	Drainage blanket layer material	m ³			Rate only
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 5.1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C5.1	ROADBED					
C5.1.1	Roadbed construction and compaction					
C5.1.1.1	Compaction of in-situ material to 90 % of MDD	m ³	5600			
C5.1.3	Excavate material to spoil sites designated by the Contractor					
C5.1.3.1	Excavate material to spoil from roadbed construction, material obtained from:					
(a)	Soft excavation	m ³	7800			
(b)	Boulder excavation Class A	m ³	1200			
(c)	Boulder excavation Class B	m ³				Rate only
(d)	Hard excavation (other than by blasting)	m ³	145			
(e)	Hard excavation (by blasting)	m ³				Rate only
C5.1.3.2	Excavate material to spoil from roadbed construction, using labour enhancement, material obtained from:					
(a)	Soft excavation	m ³	500			
(b)	Intermediate excavation	m ³	200			
C5.1.4	Removal of unsuitable material to spoil					
C5.1.4.1	In layer thicknesses of 200 mm and less					
(a)	Stable material	m ³	3500			
(b)	Unstable material	m ³	500			
C5.1.4.2	In layer thicknesses exceeding 200 mm					
(a)	Stable material	m ³	340			
(b)	Unstable material	m ³	135			
C5.1.5	In-situ treatment of roadbed in hard material					
C5.1.5.1	In-situ treatment by ripping	m ³	4540			
C5.1.5.2	In-situ treatment by drilling and blasting	m ³	132			
C5.1.5.3	In-situ treatment by drilling and splitting the material using non-explosive, rock-breaking products	m ³				Rate only
C5.1.6	Roller-pass compaction					
C5.1.6.1	Grid rollers	m ²				Rate only
C5.1.6.2	Pad foot vibratory rollers	m ²	56000			
C5.1.6.3	Smooth drum vibratory rollers	m ²	1500			
C5.1.6.5	Impact rollers	m ²	56000			
C5.1.6.6	Pneumatic rollers	m ²				Rate only
C5.1.6.7	High energy impact compactor/roller (HEIC)	m ²				Rate only
C5.1.7	Construction of a roadbed trial section					
C5.1.7.1	Non wetting-up collapsing soil trial section at in-situ moisture content using conventional rollers and/or HEIC	m ³	300			
C5.1.7.2	Non wetting-up collapsing soil trial section by excavating the soil to stockpile and then importing the soil from the stockpile to controlled compacted layers	m ³	300			
C5.1.7.3	Wetting-up collapsing soil trial section	m ³	300			
C5.1.7.6	Roller-pass compaction.	m ³	300			
C5.1.13	Construction of a levelling layer					
C5.1.13.1	Over roadbed treatment in hard material compacted to 90 % MDD	m ³	150			
C5.1.13.2	Over a constructed pioneer layer compacted to 90 % MDD	m ³	125			
TOTAL CARRIED FORWARD TO SUMMARY A						

SECTION 5.2

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C5.2	FILL						
C5.2.1	Compiling and implementing M&U plans						
C5.2.1.2	For fills 1,0 km in length when less than 10 000 m ³	No	2				
C5.2.2	Fill construction						
C5.2.2.1	Normal fill material in compacted layer thicknesses of 200 mm and less:						
(b)	Compacted to 93 % of MDD	m ³	8000				
(c)	Roller-pass compaction	m ²	14000				
C5.2.2.2	Coarse fill material in compacted layer thicknesses exceeding 200 mm: but less than 500 mm						
(b)	Compacted to 93 % of MDD	m ³	3500				
(c)	Roller-pass compaction	m ²	2870				
C5.2.2.5	Rock fill embankment toe	m ³					Rate only
C5.2.2.6	Sand filter layer	m ³	130				
C5.2.2.7	Drainage blanket layer	m ³	600				
C5.2.3	Side-cut to fill compacted to 93 % of MDD in compacted layer thicknesses of 200 mm and less	m ³	350				
C5.2.5	Fill in sidewalk						
C5.2.5.1	Fill material in sidewalk compacted to 93 % of MDD	m ³	130				
C5.2.5.2	Fill material in sidewalk compacted to 93 % of MDD using labour enhanced methods of construction and light hand equipment.	m ³	300				
C5.2.7	Construction of a trial section						
C5.2.7.1	Normal fill	m ³	600				
C5.2.7.5	Roller-pass compaction	m ³	600				
C5.2.8	Breaking down oversize fill material on the road						
C5.2.8.1	By normal grid rolling as per clause A5.3.7.3b) (i) to (vii)	m ² -pass					Rate only
C5.2.8.3	By pad foot vibratory roller	m ² -pass					Rate only
C5.2.8.4	By vibratory roller	m ² -pass	35000				
C5.2.9	Removal of oversize material	m ³	160				
C5.2.10	Finishing off rock fill slopes						
C5.2.10.1	Finishing off rock fill slopes with soft material	m ³	150				
C5.2.10.2	Finishing off rock fill slopes with soft material using labour enhancement and light, hand equipment.	m ³	380				
C5.2.11	Finishing-off fill slopes, medians and interchange areas						
C5.2.11.1	Fill slopes	m ²	8200				
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 5.3

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C5.3	ROAD PAVEMENT LAYERS						
C5.3.1	Compiling and implementing M&U plans for the construction of all the pavement layers	No	1				
C5.3.2	Construction of pavement layers						
C5.3.2.1	Construction of layers using conventional construction methods:						
(a)	Lower selected subgrade layer (150mm G9) compacted to 93 % of MDD	m ³	7600				
(e)	Sand layer (100mm) compacted to 97 % of MDD	m ³	150				
(h)	Gravel shoulder layer (150mm) compacted to 95 % of MDD	m ³	1680				
(i)	Lower subbase gravel layer (unstabilised) (150mm G7) compacted to 95 % of MDD	m ³	7150				
(l)	Upper subbase gravel layer (150mm C4) compacted to 97 % of MDD	m ³	6500				
(y)	G2 crushed stone base layer (layer thickness indicated) compacted to 88 % of AD	m ³					Rate only
(aa)	G1 crushed stone base layer (layer thickness indicated) compacted to 88 % of AD	m ³					Rate only
C5.3.2.2	Construction of layers using labour enhancement:						
(a)	Lower selected subgrade layer (150mm) compacted to 93 % of MDD	m ³					Rate only
(c)	Sand layer (100mm) compacted to 97 % of MDD	m ³	160				
C5.3.9	Construction of a trial section						
C5.3.9.1	Construction of a trial section using conventional methods of construction						
(a)	Stabilised gravel layer (150mm) trial section	m ³	300				
(c)	Crushed stone base layer (150mm) trial section	m ³	300				
C5.3.9.2	Construction of a trial section using labour enhancement methods						
(a)	Stabilised gravel layer (150mm) trial section	m ³					Rate only
C5.3.10	Removal of a completed trial section						
C5.3.10.1	Stabilised layer	m ³	300				
C5.3.10.3	Crushed stone layer	m ³	300				
C5.3.11	Riding quality measurements						
C5.3.11.1	Using a 3,0 m straight edge	km	1500				
C5.3.11.2	Using a rolling straight edge	km	5600				
C5.3.11.3	Using an inertial profilometer	km					Rate only
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 5.4

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C5.4	STABILISATION							
C5.4.1	Pretreatment of gravel layers							
C5.4.1.1	Pre-treatment of 125mm base gravel layer	m ³	6500					
C5.4.1.2	Pre-treatment of 125mm gravel layer using labour enhanced methods of construction	m ³	1550					
C5.4.5	Cementitious stabilisation agents for pavement layers							
C5.4.5.1	Addition of cementitious stabilisation agents for pavement layers							
(a)	Cement CEM II (B-V) (V-S) 32.5N	t	52					
(b)	CEM V (A-V) 32.5N	t					Rate only	
C5.4.5.2	Addition of cementitious stabilisation agents for pavement layers and spreading the agent using bags and labour enhancement methods.							
(a)	Cement CEM II (B-V) (V-S) 32.5N	t	429					
(b)	CEM V (A-V) 32.5N	t	10					
C5.4.14	Trial section for a chemically stabilised layer	m ³	60					
TOTAL CARRIED FORWARD TO SUMMARY A								

SECTION 6.2

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C6.2	SEGMENTAL BLOCK PAVING LAYERS						
C6.2.1	Segmental block paving						
C6.2.1.1	Concrete block paving for side walk (SABS 1058 Class 35, type S-A, 80mm)	m ²	2700				
C6.2.2	Cast in-situ concrete edge and intermediate beams						
C6.2.2	Cast in-situ concrete edge and intermediate beams	m ³	110				
C6.2.3	Provision and application of approved herbicide and ant poison.						
C6.2.3.1	Provision of materials	PC Sum	1		10 000.00		10 000.00
C6.2.3.2	Contractor's charges and profit added to the prime cost sum	%	R 10 000.00				
C6.2.4	Re sanding of joints in segmental block paving						
C6.2.4.1	Concrete block paving for side walk (SABS 1058 Class 35, type S-A, 80mm)	m ²	2700				
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 8.1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C8.1	PRIME COAT							
C8.1.1	Prime Coat							
C8.1.1.1	MC-30 cut-back bitumen	ℓ	35840					
C8.1.2	Aggregate for blinding:							
C8.1.2.1	Natural sand	m ³	640					
C8.1.2.2	Crusher sand	m ³	950					
C8.1.3	Extra over item C8.1.1 for applying the prime coat accessible only to hand-held or light equipment	ℓ	80					
TOTAL CARRIED FORWARD TO SUMMARY A								

SECTION 9.1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C9.1	ASPHALT LAYERS					
C9.1.1	Asphalt mix designs					
C9.1.1.1	Stone skeletal mixes:					
(a)	Continuously graded base or surfacing (10NMPS, standard condition IB).	Lump Sum	1			
C9.1.1.2	Sand skeletal mixes:					
(a)	Continuously graded base or surfacing.	Lump Sum	1			
C9.1.2	Construction of trial sections					
C9.1.2.1	Asphalt layers (Stone skeletal mixes, 30mm paver placing technique)	m ²	200			
C9.1.2.2	Removal of trial section where so instructed by the Engineer.	m ²	200			
C9.1.3	Application of bond coat					
C9.1.3.1	Stable – grade 30 % net bitumen emulsion as specified. Applied with a calibrated distributor	ℓ	80			
C9.1.3.2	Applied in restricted areas using a portable pressure sprayer	ℓ				Rate only
C9.1.3.3	Applied by hand using brushes on all exposed transverse and longitudinal construction joints	ℓ				Rate only
C9.1.5	Asphalt surfacing					
C9.1.5.1	New construction					
(a)	Stone skeletal mix – continuously graded(30mm, 10NMPS, standard condition IB).	m ²	44900			
C9.1.6	Extra over pay item C.9.1.5.1 for placing small quantities of asphalt of less than 10 tons specially produced as specified in terms of Clause A9.1.7.1d)	t	1			
C9.1.7	Placing and compacting asphalt in restricted areas					
C9.1.7.1	Extra over payment items C9.1.5.1 (30mm, hand)	m ²	150			
C9.1.8	Surfacing of bridge decks					
C9.1.8.2	Surfacing (30mm layer thickness, stone skeletal, 13.2mm paver placing	t	42			
C9.1.13	Coring of asphalt layers					
C9.1.13.1	100 mm diameter	No	20			
C9.1.13.2	150 mm diameter	No				Rate only
C9.1.14	Surface regularity testing as described in Clause A9.1.8.4					
C9.1.14.1	Establishment of equipment: rolling straight-edge & three meter straight edge	No	2			
C9.1.14.2	Profiler Surveys utilising equipment as specified - Base layers and surfacing layers	km	11.2			
TOTAL CARRIED FORWARD TO SUMMARY A						

SECTION 11.1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C11.1	PITCHING, STONEMWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION						
C11.1.2	Stone pitching						
C11.1.2.2	Grouted stone pitching with mortar	m ²	280				
C11.1.2.3	Grouted stone pitching on a concrete bed (100mm thickness)	m ²	265				
C11.1.6	Concrete edge beams (Class 15/19)	m ³	38				
C11.1.7	Provision of approved herbicide and ant poison:						
C11.1.7.1	Provision of materials	PC Sum	1		10 000.00		10 000.00
C11.1.7.2	Contractor's charges and profit added to the prime cost sum	%	R 10 000.00				
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 11.2

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C11.2	NON-STRUCTURAL GABIONS							
C11.2.1	Foundation trench excavation:							
C11.2.1.1	Excavating all material situated within the following depth ranges below the surface level							
(a)	0 m to 1,5 m	m ³	54					
(b)	Exceeding 1,5 m and up to 3,0 m	m ³					Rate only	
C11.2.1.2	Extra over sub-item C11.2.1.1 for excavation in hard material, irrespective of depth	m ³	32					
C11.2.1.3	Excavating soft material within 1,5 m below the surface level using labour enhanced construction methods:	m ³	32					
C11.2.2	Surface preparation for bedding the gabion boxes and mattresses	m ²	440					
C11.2.3	Gabion boxes and mattresses:							
C11.2.3.1	Galvanized gabion boxes (Mesh Type 80 to SANS 1580:2005, having 3,4mm o/d frame wire and 2,7mm o/d mesh wire: 2,0m x 0,5m x 0,5m	m ³	75					
C11.2.3.3	Galvanized gabion mattresses (Mesh Type 80 to SANS 1580:2005, having 3,4mm o/d frame wire and 2,7mm o/d mesh wire: 4,0m x 1,0m x 0,3m	m ³	50					
C11.2.4	Geotextile (KAYMAT Grade U24 or similar approved)	m ²	350					
TOTAL CARRIED FORWARD TO SUMMARY A								

SECTION 11.4

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C11.4	ROAD RESTRAINT SYSTEMS							
C11.4.1	Erecting of guardrails at 3,81 m spacing							
C11.4.1.1	Complete galvanized system compliant to SANS 1350:							
(a)	On timber posts (Drawing reference)	m	510					
(d)	Extra over C11.4.1.1(a) for excavating holes of posts using labour enhanced methods (soft and intermediate)	m	100					
C11.4.6	Reflective plates							
C11.4.6.1	Steel plates	No					Rate only	
C11.4.6.2	Plastic plates	No	160					
TOTAL CARRIED FORWARD TO SUMMARY A								

SECTION 11.5

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C11.5	FENCING						
C11.5.1	Supply and erect new fencing material for new fences and for supplementing material in existing fences which are being repaired or removed:						
C11.5.1.1	Zinc-coated barbed wire (high tensile grade, 3,15mm x 2,50mm oval shape)	km	0.5				
C11.5.1.7	Standards (2,5kg/m, Y-shaped steel, 1850mm long)	No	10				
C11.5.1.8	Droppers (0,56kg/m ridgeback pattern steel, 1400mm long)	No	35				
C11.5.1.9	Straining posts, stays and anchors:						
(a)	Vertical						
(i)	Steel straining posts (101.6mm outside diameter, 2.95mm wall thickness fully galvanized with base plate and p	No	20				
(b)	Inclined						
(i)	Steel stays and anchors (60.33mm outside diameter, 2.95mm wall thickness, fully galvanised with base plate: 2	No	10				
(c)	Horizontal						
(i)	Steel stays and anchors (60mm diameter, 3,0mm wall thickness, fully galvanized 2 400mm long	No	10				
C11.5.2	New gates (size and type indicated)						
(a)	Single leaf, Government pattern farm gate (heavy) to CKS 146:						
(i)	4,2m wide; 1,4m high	No.	10				
(b)	Double leaf, 1 400mm high Government pattern farm gate (heavy) to CKS 146:						
(i)	2 x 4,2m wide	No.	5				
C11.5.3	Moving existing fences and gates:						
C11.5.3.1	Fences:						
(d)	Security fences	km					Rate only
C11.5.3.2	Gates (all types)	No					Rate only
C11.5.4	Dismantling existing fences and gates:						
C11.5.4.1	Fences:						
(d)	Security fences	km					Rate only
C11.5.4.2	Gates (all types)	No					Rate only
C11.5.9	Repairing existing fences (all Types)	km					Rate only
C11.5.10	Disposal of existing fencing materials						
C11.5.10.1	All types	km	0.1				
C11.5.10.6	Gates (all types)	No	10				
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 11.6

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C11.6	ROADS SIGNS							
C11.6.1	Road signboards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the sign board is constructed from:							
C11.6.1.3	Prepainted galvanized steel plate:							
(a)	Area 0 to 0,5 m ²	m ²	45					
(b)	Area exceeding 0,5 m ² but not 2,0 m ²	m ²	20					
(c)	Area exceeding 2,0 m ² but not 10 m ²	m ²					Rate only	
C11.6.1.4	Prepainted galvanized steel profiles (200 mm high panels):							
(b)	Area exceeding 0,5 m ² but not 2,0 m ²	m ²	10					
(c)	Area exceeding 2,0 m ² but not 10 m ²	m ²	20					
(d)	Area exceeding 10 m ²	m ²					Rate only	
C11.6.1.7	Regulatory signs, permanent							
(a)	600 mm diameter (1,4mm thickness chromadek, background and symbol retro-reflective class I)	No	32					
(b)	900 mm diameter (1,4mm thickness chromadek, background and symbol retro-reflective class I)	No					Rate only	
(c)	1200 mm diameter (1,4mm thickness chromadek, background and symbol retro-reflective class I)	No					Rate only	
C11.6.1.9	Warning signs, permanent							
(a)	600 mm diameter (1,4mm thickness chromadek, background and symbol retro-reflective class I)	No	22					
(b)	900 mm diameter (1,4mm thickness chromadek, background and symbol retro-reflective class I)	No					Rate only	
(c)	1200 mm diameter (1,4mm thickness chromadek, background and symbol retro-reflective class I)	No					Rate only	
C11.6.1.11	Supplementary plates to permanent regulatory or warning signs (1,4mm thickness chromadek, background and symbol retro-reflective class I)	m ²					Rate only	
C11.6.1.12	Supplementary plates to temporary regulatory or warning signs (1,4mm thickness chromadek, background and symbol retro-reflective class I)	m ²					Rate only	
C11.6.2.1	Background of retro-reflective material:							
(a)	Class I	m ²	60					
C11.6.2.2	Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:							
(a)	Class III	m ²	60					
C11.6.5	Excavation and backfilling for road sign supports (not applicable to kilometre posts)							
C11.6.5.1	Excavating soft material and backfilling	m ³	60					
C11.6.5.2	Excavating soft or intermediate material and backfilling using labour enhanced construction methods	m ³	30					
C11.6.5.4	Extra over item C11.6.5.1 for hard material excavation	m ³	15					
C11.6.5.5	Imported backfill material from commercial sources	m ³	25					
C11.6.8	Danger plates at culverts/structures							
C11.6.8.1	Size 150 x 600 mm (galvanised post and retro-reflective class I)	No	16					
TOTAL CARRIED FORWARD TO SUMMARY A								

SECTION 11.7

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C11.7	ROAD MARKINGS AND ROAD STUDS						
C11.7.1	Road marking:						
C11.7.1.1	White lines broken or unbroken						
	(a) 100mm wide	km					Rate only
	(b) 150mm wide	km					Rate only
	(c) 500mm wide	km					Rate only
C11.7.1.2	Yellow lines broken or unbroken						
	(a) 100mm wide	km					Rate only
	(b) 150mm wide	km					Rate only
C11.7.1.3	Red lines broken or unbroken	km					Rate only
C11.7.1.4	White lettering and symbols	m ²					Rate only
C11.7.1.5	Yellow lettering and symbols	m ²					Rate only
C11.7.1.6	Red lettering and symbols	m ²					Rate only
C11.7.1.13	Labour enhanced hand painted transverse lines for speed hump	m ²	150				
C11.7.1.14	Labour enhanced hand painted kerb markings	m ²	100				
C11.7.1.15	Labour enhanced hand operated pressure applied machine white lines broken or unbroken						
	(a) 100mm wide	km	5.6				
	(b) 150mm wide	km	5				
	(c) 500mm wide	km	0.2				
C11.7.1.16	Labour enhanced hand operated pressure applied machine yellow lines broken or unbroken						
	(a) 100mm wide	km	3				
	(b) 150mm wide	km	1				
C11.7.1.17	Labour enhanced hand operated pressure applied machine redlines broken or unbroken	m ²	120				
C11.7.1.18	Labour enhanced hand operated pressure applied machine white lettering and symbols	m ²	120				
C11.7.1.19	Labour enhanced hand operated pressure applied machine yellow lettering and symbols	m ²	35				
C11.7.5	Variations in rate of application:						
C11.7.5.1	White paint	litre (ℓ)					Rate only
C11.7.5.2	Yellow paint	litre (ℓ)					Rate only
C11.7.5.4	Retro-reflective beads	kg					Rate only
C11.7.6	Pre formed road marking tape						
C11.7.6.1	White (100 mm)	m	5.6				
C11.7.6.2	Yellow (150 mm)	m	3				
C11.7.7	Road studs						
C11.7.7.1	Permanent road studs compliant to SANS 1442 (type 3 white & yellow)	No	650				
C11.7.7.3	Temporary road studs compliant to SANS 1442 or 1463 (type/classification & colours stated)	No	30				
C11.7.7.5	Provision of temporary and permanent road studs	Prov Sum	1		5 000.00		5 000.00
C11.7.7.6	Handling cost, profit and all other charges of sub item C11.7.7.5	%	5 000.00				
C11.7.8	Setting out and premarking the lines (excluding traffic island markings, lettering and symbols)	km	16				
C11.7.9	Re-establishing the painting unit during the defects notification period and at other instances on instruction of the Engineer	No	1				
TOTAL CARRIED FORWARD TO SUMMARY A							

SECTION 11.8

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
					R	c
C11.8	LANDSCAPING AND PLANTING PLANTS					
C11.8.1	Trimming:					
C11.8.1.1	Machine trimming	m ²	500			
C11.8.1.2	Hand trimming	m ²	2000			
C11.8.2	Trimming using machines for trimming or shaping (alternative to subitem C11.8.1.1):					
C11.8.2.1	Bulldozer	h	24			
C11.8.2.2	Motor grader	h	24			
C11.9.2.2	By hand only	km	1.5			
C11.8.3	Preparing the areas for grassing:					
C11.8.3.1	Ripping	ha	1.2			
C11.8.3.2	Scarifying for loosening topsoil	ha	1			
C11.8.3.3	Topsoiling within the road reserve where the following materials are used:					
(a)	Topsoil obtained from within the road reserve or borrow areas	m ³	150			
(b)	Topsoil obtained from commercial sources by the Contractor	m ³				Rate only
C11.8.3.4	Topsoiling of borrowpits by using topsoil obtained from borrow areas or from the road reserve	m ³	250			
C11.8.3.5	Providing and applying chemical fertilisers and/or soil-improvement material:					
(a)	Lime	t				Rate only
(b)	Superphosphate	t	4.2			
(c)	Limestone ammonium nitrate	t	1.5			
(d)	2:3:2 (22)	t	2			
(e)	3:2:1 (25)	t	1.5			
(f)	Other fertilisers and / or soil-improvement materials if required	t				Rate only
C11.8.4	Grassing					
C11.8.4.3	Hydroseeding:					
(a)	Providing an approved seed mixture for hydroseeding	kg	115			
(b)	Providing an approved mulch	kg				Rate only
(c)	Hydroseeding	ha	1			
C11.8.5	Watering the grass when established by topsoiling only	kℓ	200			
C11.8.6	Watering the already planted grass, trees and shrubs during the growing season	kℓ	1000			
C11.8.7	Mowing the grass	ha	1			
C11.8.8	Anti-erosion compound or hydraulic mulches (specify type)	kg	1560			
C11.8.10	Unspecified work for landscaping	Prov Sum	1	10 000.00		10 000.00
C11.8.12	Removal of undesirable vegetation	m ²	120			
TOTAL CARRIED FORWARD TO SUMMARY A						

SECTION 11.9

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C11.9	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
C11.9.1	Finishing road and road reserve:				
C11.9.1.2	Single carriageway road	km	5.4		
C11.9.2	Treatment of old roads and temporary deviations				
C11.9.2.1	Conventional construction methods	km	1		
C11.9.2.2	By hand only	km	1		
TOTAL CARRIED FORWARD TO SUMMARY A					

SECTION 12.10

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C12.10	HARD EXCAVATION BY BLASTING							
C12.10.1	Excavation in hard rock using controlled blasting techniques	m ³	550					
TOTAL CARRIED FORWARD TO SUMMARY A								

SECTION 20.1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R c
C20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP				
C20.1.5	Financial contribution for an independent site/commercial laboratory	month	10		
TOTAL CARRIED FORWARD TO SUMMARY A					

SUMMARY A

Item	Description	Amount
1.2	GENERAL REQUIREMENTS AND PROVISIONS	R -
1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS	R -
1.4	FACILITIES FOR THE ENGINEER	R -
1.5	ACCOMMODATION OF TRAFFIC	R -
1.6	CLEARING AND GRUBBING	R -
1.7	LOADING AND HAULING	R -
2.1	GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES	R -
2.3	WET SERVICES	R -
2.4	ENERGY AND OTHER SERVICES	R -
3.1	DRAINS	R -
3.2	CULVERTS	R -
3.3	CONCRETE KERBING AND CHANNELLING, ASPHALT BERMS, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS	R -
4.1	BORROW MATERIALS	R -
4.2	CUT MATERIALS	R -
4.4	COMMERCIAL MATERIALS	R -
5.1	ROADBED	R -
5.2	FILL	R -
5.3	ROAD PAVEMENT LAYERS	R -
5.4	STABILISATION	R -
6.2	SEGMENTAL BLOCK PAVING LAYERS	R -
8.1	PRIME COAT	R -
9.1	ASPHALT LAYERS	R -
11.1	PITCHING, STONEMASONRY, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION	R -
11.2	NON-STRUCTURAL GABIONS	R -
11.4	ROAD RESTRAINT SYSTEMS	R -
11.5	FENCING	R -
11.6	ROADS SIGNS	R -
11.7	ROAD MARKINGS AND ROAD STUDS	R -
11.8	LANDSCAPING AND PLANTING PLANTS	R -

Item	Description	Amount
11.9	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	R -
12.10	HARD EXCAVATION BY BLASTING	R -
20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP	R -
TOTAL SCHEDULE A: ROADWORKS		R -

SCHEDULE B: STRUCTURES

SECTION 11.1 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C11.1	PITCHING, STONEMWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION						
C11.1.2	Stone pitching						
C11.1.2.1	Plain stone pitching						
(a)	(i) Method 1 to River banks to excess 20m beyond each wign walls	m ²	520				
C11.1.2.3	(ii) Method 1 to Approach embankment areas	m ²	135				
TOTAL CARRIED FORWARD TO SUMMARY B							

SECTION 11.2 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C11.2	NON-STRUCTURAL GABIONS							
C11.2.1	Foundation trench excavation:							
C11.2.1.1	Excavating all material situated within the following depth ranges below the surface level							
(a)	0 m to 1,5 m	m ³	50					
(b)	Exceeding 1,5 m and up to 3,0 m	m ³					Rate only	
C11.2.1.2	Extra over sub-item C11.2.1.1 for excavation in hard material, irrespective of depth	m ³	32					
C11.2.1.3	Excavating soft material within 1,5 m below the surface level using labour enhanced construction methods	m ³	32					
C11.2.2	Surface preparation for bedding the gabion boxes and mattresses	m ²	50					
C11.2.3	Gabion boxes and mattresses:							
C11.2.3.1	Galvanized gabion boxes (Mesh Type 80 to SANS 1580:2005, having 3,4mm o/d frame wire and 2,7mm o/d mesh wire: 2,0m x 0,5m x 0,5m	m ³	60					
C11.2.3.3	Galvanized gabion mattresses (Mesh Type 80 to SANS 1580:2005, having 3,4mm o/d frame wire and 2,7mm o/d mesh wire: 4,0m x 1,0m x 0,3m	m ³	75					
C11.2.4	Geotextile	m ²	120					
	Foundation trench excavation and backfilling:							
(b)	In all other classes of materials	m ³	50					
	Surface preparation for bedding the gabions	m ²	40					
	Gabions:							
(a)	Galvanized gabion boxes:							
(i)	1,0 x 1,0 x 1,0m dia. galvanized wire mesh	m ³	60					
	Filter fabric:							
(a)	Grade 3:							
(i)	Non Woven	m ²	100					
TOTAL CARRIED FORWARD TO SUMMARY B								

SECTION 11.4 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C11.4	ROAD RESTRAINT SYSTEMS							
C11.4.1	Erecting of guardrails at 3,81 m spacing							
C11.4.1.1	Complete galvanized system compliant to SANS 1350:							
(a)	On timber posts (Drawing reference: TSAR/TD/GR/01)	m	55					
(d)	Extra over C11.4.1.1(a) for excavating holes of posts using labour enhanced methods (soft and intermediate)	m	15					
C11.4.1.2	Terminal sections for 3,81 guardrails comprising of:							
(a)	End wings to SANS 1350	No	10					
(c)	Bridge adapters to SANS 1350	No	4					
C11.4.3	Project specific concrete barrier systems							
C11.4.3.2	Precast concrete New Jersey barriers	m	60					
C11.4.6	Reflective plates							
C11.4.6.1	Steel plates	No					Rate only	
C11.4.6.2	Plastic plates	No	30					
TOTAL CARRIED FORWARD TO SUMMARY B								

SECTION 13.1 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C13.1	FOUNDATIONS							
C13.1.3	Excavation:							
C13.1.3.1	Excavating soft material situated within the following successive depth ranges:							
(a)	0 m up to 1,5m	m ³	450					
(b)	> 1,5m and < 3,0m	m ³	50					
C13.1.3.2	Extra over subitem (a) for excavation in hard material irrespective of depth	m ³	12					
C13.1.3.3	Extra over subitem (a) for additional excavation required by engineer after the excavation has been completed	m ³	50					
C13.1.6	Access and drainage							
C13.1.6.1	(a) Access	Lump Sum	1					
	(b) Drainage where no access has been provided	Lump Sum	1					
C13.1.7	Backfill to excavations utilising:							
C13.1.7.1	Material from the excavation	m ³	20					
C13.1.7.2	Imported material	m ³	200					
C13.1.9	Fill within restricted area	m ³	100					
C13.1.10	Haul in excess of 1.0 km on excavated material and on material imported for backfill, foundationfill and fill for working platform	m ³ -km	1500					
C13.1.12	Overbreak in excavation in hard material	m ²	125					
C13.1.14	Foundation fill consisting of:							
C13.1.14.1	Rock fill	m ³	400					
C13.1.14.2	Crushed stone fill	m ³	40					
C13.1.14.4	Mass concrete Class 15/38	m ³	55					
C13.1.20	Dowel bars							
C13.1.20.1	High tensile bars							
(a)	25mm dia 2,0m length (Provisional)	kg	2000					
C13.1.22	Foundation lining:							
C13.1.22	Geo-fabric Kaymat -U19 (Provisional)	m ²	200					
TOTAL CARRIED FORWARD TO SUMMARY B								

SECTION 13.2 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C13.2	FALSEWORK, FORMWORK AND CONCRETE FINISH							
C13.2.1	Formwork to provide:							
(a)	Class F2 surface finish to:							
	(i) Vertical side of foundations	m ²	70					
C13.2.2	Vertical formwork							
(a)	Class F2 surface finish to:							
	(i) Portal Frames and Wing-walls	m ²	145					
	(ii) Edges of approach slabs	m ²	20					
(b)	Class F3 surface finish to:							
	(i) Exposed surfaces to bridge deck and concrete Guard posts	m ²	65					
C13.2.3	Horizontal formwork							
(a)	Class F3 surface finish to soffit of bridge deck:	m ²	15					
TOTAL CARRIED FORWARD TO SUMMARY B								

SECTION 13.3 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C13.3	STEEL REINFORCEMENT							
C13.3.1	Reinforcement for:							
C13.3.1.1	Steel reinforcement for:							
1.1	Foundation and Wing-walls:							
(c)	Welded Steel Mesh Fabric-888	kg	5150					
1.2	Bridge walls							
(c)	Welded Steel Mesh Fabric-888	kg	1450					
1.3	Bridge deck							
(c)	Welded Steel Mesh Fabric-888	kg	1980					
1.4	Approach Slabs							
(c)	Welded Steel Mesh Fabric-888	kg	1830					
1.5	Concrete Guard Posts							
(a)	Mild steel bars	t	0.1					
(b)	High-yield-stress steel bars Y16	t	1					
TOTAL CARRIED FORWARD TO SUMMARY B								

SECTION 13.4 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT		
				R	c	R	c	
C13.4	CONCRETE							
C13.4.1	Cast in situ concrete (Class of concrete and use or position in structure stated):							
C13.4.1.1	Strength concrete (class 25/30MPa):							
(a)	For Blinding	m ³	30					
(b)	Class (30/19MPa)							
(i)	Foundation Raft/Wing walls	m ³	120					
(ii)	Concrete infill to walls	m ³	30					
(iii)	Bridge deck Slab	m ³	20					
(iv)	Approach Slabs	m ³	45					
(v)	Concrete Guard Posts	m ³	2					
C13.4.11	Transporting and erecting precast concrete members (3600 x 3000 x 1200 Frames)	No	24					
C13.4.13	Complete demolition and disposal of existing structural concrete elements or parts existing structures:							
C13.4.13.1	Existing Bridge culvert	m ³	65					
TOTAL CARRIED FORWARD TO SUMMARY B								

SECTION 13.7 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C13.7	JOINTS						
C13.7.9	Specialist proprietary expansion joints:						
C13.7.9.1	Prime cost sum allowed for purchasing and taking delivery of expansion joints	PC Sum	1	10 000.00		10 000.00	
C13.7.9.2	Percentage on prime cost sum for charges and profit	%	R 10 000.00				
C13.7.10	Installation of specialist proprietary expansion joints:						
C13.7.10.1	Thermo Expansion Joint or similar approved between deck slabs, and approach slab	m	16				
TOTAL CARRIED FORWARD TO SUMMARY B							

SECTION 13.8 - B

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE		AMOUNT	
				R	c	R	c
C13.8	ANCILLARY STRUCTURAL ELEMENTS						
C13.8.6	Service ducts in structures						
C13.8.6.1	HDPE pipes (2 x 125mm)	m	20				
C13.8.6.2	Joint in ducts at bridge deck expansion joints	No	6				
C13.8.7	Numbers for structures						
C13.8.7.3	Numbers formed in concrete	No	2				
C13.8.10	Drainage pipes and weep holes:						
C13.8.10.1	Drainage pipes:						
(a)	Drain pipes (110mm dia. uPVC)-bridge deck	m	5				
C13.8.10.2	Weep holes:						
(a)	Weepholes (75mm dia. uPVC) wing-walls	m	6				
TOTAL CARRIED FORWARD TO SUMMARY B							

SUMMARY B

Item	Description	Amount
11.1-B	PITCHING, STONWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION	R -
11.2-B	NON-STRUCTURAL GABIONS	R -
11.4-B	ROAD RESTRAINT SYSTEMS	R -
13.1-B	FOUNDATIONS	R -
13.2-B	FALSEWORK, FORMWORK AND CONCRETE FINISH	R -
13.3-B	STEEL REINFORCEMENT	R -
13.4-B	CONCRETE	R -
13.7-B	JOINTS	R -
13.8-B	ANCILLARY STRUCTURAL ELEMENTS	R -
TOTAL SCHEDULE B: STRUCTURE		R -

SECTION E - ENVIRONMENTAL MANAGEMENT PLAN & PENALTIES

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
E	ENVIROMENTAL MANAGEMENT PLAN & PENALTIES				
E1	Penalty for unnecessary removal or damage to trees				
E1.1	2600mm girth or less	No		(8 000.00)	
E1.2	Greater than 2600mm, but less than 6180mm girth	No		(12 000.00)	
E1.3	Greater than 61800mm girth	No		(40 000.00)	
E2	Penalty for serious violations				
E2.1	Hazardous chemical/oil spill and/or dumping in non-approved sites	No		(12 000.00)	
E2.2	General damage to sensitive environments	No		(7 000.00)	
E2.3	Damage to cultural and historical sites	No		(7 000.00)	
E2.4	Pollution of water sources	No		(15 000.00)	
E2.5	Unauthorised blasting activities	No		(20 000.00)	
E2.6	Uncontrolled/unmanaged erosion per incident, depending on environment impacts (over and above rehabilitation at contractor's cost)	No		(5 000.00)	
E3	Penalty for less serious violations				
E3.1	(Littering on site	No		(1 200.00)	
E3.2	Lighting of illegal fires on site	No		(1 200.00)	
E3.3	Persistent or un-repaired fuel and oil leaks	No		(1 200.00)	
E3.4	Excess dust or excess noise emanating from site	No		(1 200.00)	
E3.5	Dumping of milled material in side drains or on grassed areas	No		(1 200.00)	
E3.6	Possession or use of intoxicating substances on site	No		(800.00)	
E3.7	Any vehicles being driven in excess of designated speed limits	No		(500.00)	
E3.8	Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife	No		(2 500.00)	
E3.9	Illegal hunting	No		(2 500.00)	
E3.10	Urination and defecation anywhere except in designated areas	No		(500.00)	
E4	Penalty to be deducted for non-compliance with requirements for traffic accommodation				
E4.1	Fixed penalty per occurrence	No.		(5 000.00)	
E4.2	Time-related penalty if remedial action not taken within the timeframe agreed with the Employer's Agent or his representative	day		(500.00)	
TOTAL CARRIED FORWARD TO SUMMARY					

CALCULATION OF TENDER SUM

CALCULATION OF TENDER SUM

ITEM	DESCRIPTION	AMOUNT
1	TOTAL SCHEDULE A: ROADWORKS	R -
2	TOTAL SCHEDULE B: STRUCTURE	R -
3	ENVIRONMENTAL MANAGEMENT PLAN AND PENALTIES	R -
4	SUBTOTAL (A)	R -
5	ADD CONTINGENCIES @ 5% SUBTOTAL (A)	R -
6	ADD CONTRACT PRICE ADJUSTMENT @ 2.5% OF SUBTOTAL (A) APPLICABLE FROM MONTH 7 AFTER COMMENCEMENT DATE	R -
7	SUBTOTAL (B)	R -
8	ADD VALUE ADDED TAX @ 15% OF SUBTOTAL (B)	R -
9	TOTAL TO FORM OF OFFER	R -

For the Tenderer:

Signed

Name

Position

Date

Tendered