

## SCHEDULE 1

## SECTION 1300

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>13.00</b>		<b>CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS</b>				
<b>13.01</b>		<b>Contractor's general obligations</b>				
		(a) Fixed obligations	L/Sum	1		
		(b) Value-related obligations	L/Sum	1		
		(c) Time-related obligations	Month	18		
<b>B13.02</b>		<b>Training, transport and community liaison:</b>				
		(a) Training:				
		(i) Provisional sum for training allowance to be paid to targeted labour when undergoing formal training.	Prov Sum	1	R500 000,00	R500 000,00
		(ii) Handling cost and profit in respect of item B13.02(a)(i) above (state % and extend as an amount)	%	500 000		
		(b) Transport:				
		(i) Provisional sum for transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site.	Prov Sum	1	R180 000,00	R180 000,00
		(ii) Handling cost and profit in respect of item B13.02(b)(i) above (state % and extend as an amount)	%	180 000		
		(c) Community liaison:				
		(i) Remuneration for community liaison officer	Prov.sum	1	R213 600,00	R213 600,00
		(ii) Remuneration for Project Steering Committee	Prov.sum	1	R240 000,00	R240 000,00
		(iii) Handling cost and profit in respect of item B13.02(c)(i) and item B13.02(c)(ii) above (state % and extend as an amount)	%	240 000		
<b>B13.03</b>		<b>Contract nameboard:</b>				
		(a) Supply and erect four (4) contract nameboards	L/Sum	4		
<b>13/22.26</b>		<b>Hand excavation to determine the positions of existing services</b>	<b>m³</b>	<b>250</b>		
<b>B13.04</b>		<b>Relocation of water network:</b>				
		(a) Provisional sum for the relocation of the existing water network	Prov.sum	1	R1 800 000,00	R1 800 000,00
		(b) Handling cost and profit in respect of item B13.04(a) above (state % and extend as an amount)	%	1800 000		
<b>TOTAL CARRIED FORWARD</b>						

## SECTION 1300

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>BROUGHT FORWARD</b>						
<b>B13.05</b>		<b>Relocation of electrical stand connections</b> (a) Provisional sum for the removal and re-installation of electrical stand connections and bulk electrical lines  (b) Handling cost and profit in respect of item B13.05(a) above (state % and extend as an amount)	Prov.sum	1	R3 200 000,00	
<b>B13.06</b>		<b>Occupational Health &amp; Safety:</b> (a) Preparation of a Health and Safety Plan  (b) Compilation of a Risk Assessment prior to construction  (c) Health and Safety Induction Training of employees  (d) Compilation and the keeping up to date of a Health and Safety file, which shall include all documentation required in terms of the Act  (e) Implementation of the Health and Safety Plan over the entire construction period	Sum  Sum  Sum  Sum  Month	1  1  1  1  18		
<b>B13.07</b>						
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 1400

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>14.00</b>		<b>HOUSING, OFFICES AND LABORATORY FOR THE ENGINEER'S SITE PERSONNEL</b>				
<b>14.01</b>		<b>Office and laboratory accommodation (Including glass wool ceiling insulation)</b>				
		(a) Offices (Interior floor space of Engineers Office and Boardroom)	m <sup>2</sup>	61		
		(b) Laboratory (Interior floor space of Laboratory Block)	m <sup>2</sup>	108		
		(c) Open concrete working floors, 150 mm thick	m <sup>2</sup>	55		
		(d) Roofs over open concrete working floors	m <sup>2</sup>	52		
		(e) Ablution units				
		(i) Ablution at Engineers Office	m <sup>2</sup>	9		
		(ii) Ablution Block	m <sup>2</sup>	35		
		(f) Stores (Store room & Cooking Unit)	m <sup>2</sup>	22		
<b>14.02</b>		<b>Office and laboratory furniture</b>				
		(a) Chairs	No	25		
		(b) Draughtsman's stools	No	4		
		(c) High chairs for laboratory	No	4		
		(d) Desks, complete with drawers and locks	No	5		
		(e) Drawing tables	No	2		
		(f) Conference tables	No	1		
<b>B14.03</b>		<b>Office and laboratory fittings Installations and equipment (To conform to municipal building regulations where applicable)</b>				
		(a) Items measured by number				
		(i) 220/250 volt power points	No	20		
		(ii) 400/231 volt 3-phase power points	No	6		
		(iv) Double 55 watt fluorescent light fittings complete with ballast and tubes	No	25		
		(vi) Hand wash basins complete with taps and drains	No	4		
		(vii) Laboratory basins complete with swanneck taps and drains	No	2		
<b>TOTAL CARRIED FORWARD</b>						

## SECTION 1400

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>BROUGHT FORWARD</b>						<b>R0,00</b>
<b>B14.03</b>		(viii) Extractor fans installed complete with own power connection	No	6		
		(x) Fire extinguishers, 9,0 kg, all purpose dry powder type, complete, mounted on wall with brackets	No	10		
		(xi) Air conditioning units with 2,2 kW minimum capacity, mounted and with own power connection	No	6		
		(xiii) Curing chamber for UCS specimens, complete with water connection, including the provision of brick partitions, plaster, paint and shelving, all complete according to the drawings	No	1		
		(xiv) General-purpose steel cupboards with shelves	No	6		
		(xv) Steel filing cabinets with drawers	No	6		
		(xvi) Refrigerators	No	3		
		(xvii) Bookcases	No	5		
		(xviii) Voltage stabilizers (UPS)	No	8		
		(xix) Steel plan cabinets	No	2		
		(xx) Floodlights complete with poles and 20 watts minimum LED bulbs	No	10		
		<b>(b) Prime-cost items and items paid for in a Lump Sum:</b>				
		(ix) Provision for cellular phone contracts with 500-minutes airtime allowance.	PC Sum	1	R36 000,00	R36 000,00
		(x) Handling cost and profit in respect of sub-item (b)(ix) above (state % and extent as an amount)	%	36 000		
<b>14.03</b>		<b>(c) Items measured by area:</b>				
		(iv) Constant-temperature baths (Concrete)	m <sup>2</sup>	4		
		(v) Foundations for laboratory equipment (Concrete)	m <sup>2</sup>	2		
<b>14.04</b>		<b>Car ports</b>				
		Car ports, as specified on the drawings, at offices and laboratory buildings	No	6		
<b>TOTAL CARRIED FORWARD</b>						

## SECTION 1400

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>BROUGHT FORWARD</b>						<b>R0,00</b>
<b>14.05</b>		<b>Housing for labourers</b>				
		(a) Housing as specified including beds, mattresses, bedside chest, chairs, tables, lockers, electricity, plug points, electrical light fittings, and burglar proofing	No	6		
		(c) Cooking unit, complete with stove, basin, concrete working table, shelving, sink and fuel (where applicable)	No	1		
<b>14.08</b>		<b>Services</b>				
		(a) Services at office and laboratories				
		(i) Fixed costs	L/Sum	1		
		(ii) Running costs	Month	24		
<b>14.10</b>		<b>Provision of photostat facilities</b>	<b>Month</b>	<b>24</b>		
<b>B14.11</b>		<b>Survey equipment (For items required refer to B14.11(a) to (l) in the project specifications)</b>	<b>L/Sum</b>	<b>1</b>		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 1500

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>15.00</b>		<b>ACCOMMODATION OF TRAFFIC</b>				
<b>B15.01</b>		<b>Accommodating traffic and maintaining temporary deviations</b>	<b>km</b>	<b>10</b>		
<b>B15.02</b>		<b>Earthworks for temporary deviations</b>				
		(a) Shaping of temporary deviations	km	5,00		
		(b) Cut and borrow to fill	m <sup>3</sup>	2 700		
		(c) Cut to spoil	m <sup>3</sup>	250		
<b>B15.03</b>	<b>LI</b>	<b>Temporary traffic-control facilities</b>				
		(a) Flagmen	man-day	2 112		
		(b) Portable STOP and GO-RY signs	No	6		
		(e) Road signs, R- and TR-series, (600mm in diameter)	No	75		
		(f) Road signs, TW-series, (1500mm sides)	No	12		
		(g) Road signs, STW-, DTG-, TGS- and TG-series (excluding delineators and barricades)	m <sup>2</sup>	8		
		(h) Delineators (DTG50J) (250 mm x 1000 mm):				
		(1) Single	No	150		
		(2) Mounted back to back	No	100		
		(i) Moveable barricade/road sign combination (1.8 m wide x 2.7 m high)	No	20		
		(j) Traffic cones (450mm high)	No	100		
		(k) Single guardrails attached to posts	m	220		
		(l) Movable barriers (Armco)	m	6		
		(m) Two-way communication devices (Handheld 5 watt Kirisun radio with one spare battery)	No	6		
		(n) Other traffic control measures ordered by the engineer				
		(i) Provision of other traffic control measures	Prov Sum	1	R100 000,00	R100 000,00
		(ii) Handling costs and profit in respect of subitem B15.03 (n)(i)	%	100 000		
<b>15.04</b>		<b>Relocation of traffic-control facilities</b>	<b>L/Sum</b>	<b>1</b>		
<b>15.05</b>		<b>Gravelling and repair of temporary deviations and existing gravel shoulders used as temporary deviations:</b>				
<b>TOTAL CARRIED FORWARD</b>						

## SECTION 1500

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>BROUGHT FORWARD</b>						<b>R0,00</b>
<b>15.06</b>		(a) Temporary deviations	m <sup>3</sup>	20		
		(b) Existing gravel shoulders	m <sup>3</sup>	20		
		<b>Watering of temporary deviations</b>	<b>kl</b>	<b>1 500</b>		
<b>15.07</b>		<b>Blading by road grader of:</b>				
		(a) Temporary deviations	km-pass	5,0		
		(b) Existing roads used as temporary deviations	km-pass	4,0		
		(c) Existing gravel shoulders used as temporary deviations	km-pass	5,0		
<b>B15.10</b>		<b>Accommodation of traffic where road is constructed in half widths</b>	<b>km</b>	<b>3,0</b>		
<b>15.12</b>		<b>Temporary culverts</b>				
		(a) Provision and laying of temporary prefabricated culverts complete				
		2) 600 mm dia class 100D concrete pipe culvert on class B bedding	m	50		
		(b) Re-use of prefabricated culverts complete				
		2) 600 mm dia class 100D concrete pipe culvert on class B bedding	m	15		
		(c) Eventual removal of prefabricated culverts	m	65		
		(d) Overhaul on excavated material carted to spoil, backfill material (but excluding portland cement), prefabricated culverts removed and reinstalled, and prefabricated culverts removed and stacked, for haul in excess of a free-haul distance of 1,0km	m <sup>3</sup> -km	250		
<b>B15.15</b>		<b>Provision of traffic safety equipment for use by the engineer.</b>				
		(a) Safety jackets	No	12		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 1700

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>17.00</b>		<b>CLEARING AND GRUBBING</b>				
<b>17.01</b>		<b>Clearing and grubbing</b>	<b>ha</b>	<b>7,6</b>		
<b>17.02</b>		<b>Removal and grubbing of large trees and tree stumps</b>				
		(a) Girth exceeding 1m up to and including 2m	No	10		
		(b) Girth exceeding 2m up to and including 3m	No	5		
<b>17.04</b>	<b>LI</b>	<b>Clearing and grubbing at inlets and outlets of hydraulic structures</b>	<b>m<sup>2</sup></b>	<b>105</b>		
<b>17.05</b>		<b>Cleaning out of hydraulic structures:</b>				
		(a) Pipes with an internal diameter up to and including 750mm	m <sup>3</sup>	5,0		
		(b) Pipes with an internal diameter exceeding 750mm	m <sup>3</sup>	5,0		
		(c) Box culverts up to and including 1,5m vertical dimension	m <sup>3</sup>	5,0		
		(d) Box culverts exceeding 1,5m vertical dimension	m <sup>3</sup>	5,0		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						



## SECTION 1800

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>18.00</b>		<b>DAYWORK SCHEDULE</b>				
<b>B18.01</b>		<b>Labourers:</b>				
		(a) Unskilled	hr	176		
		(b) Semi-skilled	hr	88		
		(c) Skilled	hr	88		
<b>B18.02</b>		<b>Foreman</b>	<b>hr</b>	<b>88</b>		
<b>B18.03</b>		<b>Tipper trucks:</b>				
		(a) 3 - 5 ton	hr	40		
		(b) 5,1 - 10 ton	hr	40		
<b>B18.04</b>		<b>Loader (0.5m³ bucket)</b>	<b>hr</b>	<b>40</b>		
<b>B18.05</b>		<b>Excavator (Cat 350 or similar)</b>	<b>hr</b>	<b>16</b>		
<b>B18.06</b>		<b>Grader (CAT 140G or similar)</b>	<b>hr</b>	<b>40</b>		
<b>B18.07</b>		<b>Vibratory roller (12ton)</b>	<b>hr</b>	<b>16</b>		
<b>B18.08</b>		<b>Grid roller</b>	<b>hr</b>	<b>16</b>		
<b>B18.09</b>		<b>Pedestrian roller (Bomag BW90 or similar)</b>	<b>hr</b>	<b>88</b>		
<b>B18.10</b>		<b>Rammers (wackers)</b>	<b>hr</b>	<b>88</b>		
<b>B18.11</b>		<b>Backhoe loader (Cat 416D or similar)</b>	<b>hr</b>	<b>88</b>		
<b>B18.12</b>		<b>Water truck (minimum 10 000 liter capacity)</b>	<b>hr</b>	<b>32</b>		
<b>B18.13</b>		<b>Dozer (D7 or similar)</b>	<b>hr</b>	<b>16</b>		
<b>B18.14</b>		<b>Flatbed truck</b>	<b>km</b>	<b>250</b>		
<b>B18.15</b>		<b>LDV (1800cc minimum)</b>	<b>km</b>	<b>450</b>		
<b>B18.16</b>		<b>Materials acquired under day works:</b>				
		(a) Provisional sum for materials acquired under day works	Prov Sum	1	R300 000,00	R300 000,00
		(b) Handling costs and profit in respect of sub-item B18.16(a) above	%	300 000		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 2100

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>21.00</b>		<b>DRAINS</b>				
<b>21.01</b>		<b>Excavation for open drains:</b> (a) Excavating soft material situated within the following depth ranges below the surface level:  (i) 0 m up to 1,5 m	m <sup>3</sup>	1 500		
<b>21.03</b>		<b>Excavation for subsoil drainage systems:</b> (a) Excavating soft material situated within the following depth ranges below the surface level:  (i) 0 m up to 1,5 m  (ii) Exceeding 1,5 m and up to 3,0 m  (b) Extra over subitem 21.03(a) for excavation in hard material irrespective of depth	m <sup>3</sup>  m <sup>3</sup>  m <sup>3</sup>	4 320  200  648		
<b>21.04</b>		<b>Impermeable backfilling to subsoil drainage systems</b>	m <sup>3</sup>	<b>540</b>		
<b>21.05</b>	LI	<b>Banks and dykes</b>	m <sup>3</sup>	<b>50</b>		
<b>21.06</b>		<b>Natural permeable material in subsoil drainage systems (crushed stone):</b> (b) Crushed stone obtained from commercial sources (coarse graded, 19mm nominal size aggregate, all haul included)	m <sup>3</sup>	1 080		
<b>21.07</b>		<b>Natural permeable material in subsoil drainage systems (sand):</b> (a) Sand from approved sources (all haul included)	m <sup>3</sup>	1 080		
<b>21.08</b>		<b>Pipes in subsoil drainage systems:</b> (b) Unplasticised PVC pipes and fittings, normal duty complete with couplings  (i) 160mm internal dia. perforated  (ii) 160mm internal dia. unperforated	m  m	2 130  280		
<b>21.10</b>		<b>Synthetic-fibre filter fabric</b> (a) Bidim A4	m <sup>2</sup>	5 400		
<b>21.16</b>		<b>Backfilling existing eroded side drains</b>	m <sup>3</sup>	<b>210</b>		
<b>21.17</b>		<b>Test flushing of pipe subsoil drains</b>	No	<b>50</b>		
<b>21.19</b>		<b>Selected backfill material under concrete-lined side drains compacted to 93% of modified AASHTO density</b>	m <sup>3</sup>	<b>500</b>		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 2200

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>22.00</b>		<b>PREFABRICATED CULVERTS</b>				
<b>22.01</b>		<b>Excavation</b> (a) Excavating soft material situated within the following depth ranges below the surface level:  (1) 0 m up to 1.5 m  (2) Exceeding 1,5 m and up to 3,0 m  (3) Exceeding 3,0 m and up to 4,5 m  (b) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m <sup>3</sup>	3 544		
			m <sup>3</sup>	7 594		
			m <sup>3</sup>	4 725		
			m <sup>3</sup>	3 966		
<b>22.02</b>		<b>Backfilling:</b> (a) Using the excavated material  (b) Using imported selected material  (c) Extra over subitems 22.02(a) and (b) for soil cement backfilling (with 3% cement of the dry mass)	m <sup>3</sup>	12 889		
			m <sup>3</sup>	300		
			m <sup>3</sup>	200		
<b>22.03</b>		<b>Concrete pipe culverts</b> (b) on class B bedding  (i) 450ø class 50D pipe culverts  (ii) 450ø class 100D pipe culverts  (ii) 600ø class 100D pipe culverts  (iii) 750ø class 100D pipe culverts  (iv) 900ø class 100D pipe culverts  (v) 1200ø class 100D pipe culverts	m	22		Rate Only
			m	100		
			m	80		
			m	1 500		
			m	1 000		
			m	0		Rate only
<b>22.05</b>		<b>Portal and rectangular culverts:</b> (b) Without prefabricated floor slabs  (i) 1800mm x 1800mm, Type 75 S	m			Rate Only
<b>22.07</b>		<b>Cast in situ concrete and formwork:</b> (b) In floor slabs for portal or rectangular culverts, including formwork and class U2 surface finish  (i) Class 25/19 concrete (ii) Class 15/19 (Blinding layer) (c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including class U2 surface finish  (i) Class 25/19 (ii) Class 15/19 (Blinding)	m <sup>3</sup>	75		
			m <sup>3</sup>	15		
			m <sup>3</sup>	75		
			m <sup>3</sup>	10		
<b>TOTAL CARRIED FORWARD</b>						

**SECTION 2200**

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>BROUGHT FORWARD</b>						
		(d) Formwork of concrete under subitem 22.07(c) above				
		(ii) Vertical formwork for F2 surface finish	m <sup>2</sup>	250		
		(iii) Horizontal formwork for F2 surface finish	m <sup>2</sup>	250		
<b>22.08</b>		<b>Concrete backfill for culverts</b>				
		(a) Class 15/19	m <sup>3</sup>	50		
<b>22.10</b>		<b>Steel reinforcement</b>				
		(b) High-tensile steel bars	t	8		
		(c) Welded steel fabric	t	5,0		
<b>22.14</b>		<b>Removing and stacking existing prefabricated culverts</b>				
	LI	(i) up to 600mm	m	25		
	LI	(i) up to 1500mm	m	25		
	LI	(i) up to 1800mm	m	25		
<b>22.18</b>		<b>Brickwork:</b>				
		(b) 230 mm thick	m <sup>2</sup>	350		
<b>22.19</b>		<b>Plaster</b>	m <sup>2</sup>	700		
<b>22.20</b>		<b>Benching</b>	m <sup>2</sup>	50		
<b>22.23</b>		<b>Service ducts:</b>				
		(a) Ordinary pipes				
		(1) uPVC pipes				
		(i) 110 mm dia.	m	500		
		(i) 250 mm dia.	m	250		
<b>22.24</b>		<b>Duct marker blocks</b>	No	50		
<b>22/33.11</b>		<b>Three roller passes compaction</b>				
		(a) Vibratory roller	m <sup>2</sup>	160		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 2300

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>23.00</b>		<b>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</b>				
<b>23.01</b>		<b>Concrete kerbing</b>				
	LI	(a)(i) 280 x 180 Semi Mountable (fig 7)(SANS 1058)(Drawing	m	300		
	LI	(a)(ii) 300 x 200 x 100 Mountable (fig 8C)(SANS 1058)(Drawing	m	300		
	LI	(a)(iii) 230 x 75 Rectangular (Standard Industrial Kerb)(SANS 1058)(Drawing)	m	9 400		
		(b) In-situ concrete kerbing (Class F3 surface finish including formwork)				
	LI	(i) 200 x 200 Edge Beam (Class 25/19 concrete)(SABS 1058)(Drawing	m	150		
	LI	(ii) Transition (Class 25/19 concrete)(SABS 1058)(fig 7 Semi Mountable to join fig 8C Mountable)	m <sup>3</sup>	20,0		
<b>23.02</b>		<b>Concrete kerbing-channelling combination (F3 surface finish including formwork)</b>				
	LI	(a) Prefabricated mountable kerb, SABS 927 fig 8C, with 300mm X 100mm wide cast in situ class 25/19 concrete channel	m	7 300		
<b>23.03</b>		<b>Concrete chutes (typical designs):</b>				
		(a) 300 mm precast concrete chute	m	70		
<b>23.06</b>		<b>Inlet, outlet, transition and similar structures</b>				
		(a) Concrete Class 25/19	m <sup>3</sup>	15,0		
		(b) Formwork (U2 surface finish)	m <sup>2</sup>	220		
<b>23.07</b>		<b>Trimming of excavations for concrete-lined open drains:</b>				
		(a) In soft material	m <sup>2</sup>	7 500		
<b>23.08</b>		<b>Concrete lining for open drains:</b>				
	LI	(a) Cast in situ concrete lining (class 30/19) in "Type A" V- drain	m <sup>3</sup>	563		
	LI	(b) Class U2 surface finish to cast in situ concrete for "Type A" side drain	m <sup>2</sup>	2 920		
<b>23.09</b>		<b>Formwork to cast in situ concrete lining for open drains (class F2 surface finish):</b>				
<b>TOTAL CARRIED FORWARD</b>						

## SECTION 2300

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>BROUGHT FORWARD</b>						
23.10	LI	(a) To sides with formwork on the external face only	m <sup>2</sup>	750		
	LI	(c) To ends of slabs	m <sup>2</sup>	200		
	LI	Sealed joints in concrete linings of open drains (Polyurethane Sealant, with primer "ABE Nitoseal PU" or similar approved and 10mm thick x 50mm deep softboard	m	200		
23.12		Steel reinforcement:				
	LI	(c) Welded steel fabric	m <sup>2</sup>	3 750,0		
23.13		Polyethylene sheeting (0.15 mm thick) for concrete-lined open drains	m <sup>2</sup>	3 750		
23.14		Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains	m	1 850		
23/33.04		Cut to spoil, including free-haul up to 0.5 km. Material obtained from:				
		(a) Soft excavation	m <sup>3</sup>	400		
		(b) Intermediate excavation	m <sup>3</sup>	100		
		(c) Hard excavation	m <sup>3</sup>	50		
		(d) Boulder excavation class A	m <sup>3</sup>	50		
		(e) Boulder excavation class B	m <sup>3</sup>	50		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

SECTION 3100

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>31.00</b>		<b>BORROW MATERIALS</b>				
<b>31.01</b>		<b>Excess overburden</b>	<b>m³</b>	<b>12 500</b>		
<b>31.03</b>		<b>Finishing-off borrow areas in:</b>				
		(a) Hard material	ha	0,2		
		(b) Intermediate material	ha	0,5		
		(c) Soft material	ha	3,0		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

**SECTION 3300**

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>33.00</b>		<b>MASS EARTHWORKS</b>				
<b>B33.01</b>		<b>Cut and borrow to fill, inclusive of all haul:</b> (a) Material in compacted layer thicknesses of 200 mm and less:				
		(i) Compacted to 90% of modified AASHTO density	m <sup>3</sup>	30 713		
		(ii) Compacted to 93% of modified AASHTO density	m <sup>3</sup>	77		
		(c) Rock fill (as specified in subclause 3209(c))	m <sup>3</sup>	1 500		
		(e) Pioneer layer (as specified in subclause 3307(c))	m <sup>3</sup>	1 491		
<b>33.03</b>		<b>Extra over item 33.01 for excavating and breaking down material in:</b>				
		(a) Intermediate excavation	m <sup>3</sup>	3 400		
		(c) Boulder excavation class A	m <sup>3</sup>	4		
		(d) Boulder excavation class B	m <sup>3</sup>	4		
<b>B33.04</b>		<b>Cut to spoil, inclusive of all haul. Material obtained from:</b>				
		(a) Soft excavation	m <sup>3</sup>	6 087		
		(b) Intermediate excavation	m <sup>3</sup>	1 000		
		(c) Hard excavation	m <sup>3</sup>	500		
		(d) Boulder excavation class A	m <sup>3</sup>	50		
		(e) Boulder excavation class B	m <sup>3</sup>	5		
<b>33.10</b>		<b>Roadbed preparation and the compaction of material</b>				
		(a) Compaction to 90% of modified AASHTO density	m <sup>3</sup>	8 775		
<b>33.11</b>		<b>Three roller passes compaction:</b>				
		(a) Vibratory roller	m <sup>2</sup>	1 000		
		(c) Grid roller	m <sup>2</sup>	785		
<b>33.13</b>		<b>Finishing-off cut and fill slopes, medians and interchange areas:</b>				
	<b>LI</b>	(a) Cut slopes	m <sup>2</sup>	2 532		
	<b>LI</b>	(b) Fill slopes	m <sup>2</sup>	52 825		
<b>33/16</b>		<b>Overhaul</b>	<b>m<sup>3</sup></b>	<b>30 000</b>		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

SECTION 3400



ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>34.00</b>		<b>PAVEMENT LAYERS OF GRAVEL MATERIAL</b>				
<b>B34.01</b>		<b>Pavement layers constructed from gravel taken from cut or borrow, inclusive of all haul:</b>				
		(a) Gravel selected layer compacted to:				
		(i) 93% of modified AASHTO density (Lower Selected Road Layer)(G9)(150mm thick)	m <sup>3</sup>	8 505		
		(ii)(1) 95% of modified AASHTO density (Upper Selected Walkway layer)(G7)(150mm thick)	m <sup>3</sup>	8 222		
		(d) Gravel Subbase (chemically stabilized) compacted to:				
		(i) 95% of modified AASHTO density (Shoulder)	m <sup>3</sup>	284		
		(ii) 96% of modified AASHTO density (C4 Subbase Road Layer)	m <sup>3</sup>	7 938		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 3500

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>35.00</b>		<b>STABILIZATION</b>				
<b>35.01</b>		<b>Chemical stabilization, extra over unstabilized compacted layers</b>				
		(a) 150mm C4 Shoulder	m <sup>3</sup>	284		
		(b) 150mm C4 Subbase	m <sup>3</sup>	7 938		
<b>35.02</b>		<b>Chemical stabilizing agent:</b>				
		(g) RoadCem CEM II/B-M (V-S) 32,5N	t	630		
<b>B35.14</b>		<b>Curing of stabilized work in accordance with Section 3503 (h)(v)</b>	m <sup>2</sup>	<b>52 920</b>		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 3600

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
36.00		<b>CRUSHED STONE BASE</b>				
36.01		<b>Crushed-stone base</b>  (a) Construct from type G3 material obtained from commercial sources and compacted to 88% of apparent relative density (150mm)	m <sup>3</sup>	7 655		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

**SECTION 4100**

## SECTION 5100

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
51.00		PITCHING, STONework AND PROTECTION AGAINST EROSION				
51.01		Stone pitching:				
	LI	(b) Grouted stone pitching	m <sup>2</sup>	1 250		
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						

## SECTION 5200

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>52.00</b>		<b>GABIONS</b>				
<b>52.01</b>		<b>Foundation trench excavation and backfilling:</b>				
	LI	(b) In all other classes of materials	m <sup>3</sup>	800		
<b>52.02</b>	LI	Surface preparation for bedding the gabions	m <sup>2</sup>	900		
<b>52.03</b>		<b>Gabions:</b>				
		(a) Galvanized gabion boxes				
	LI	(i) 1,0 m long by 1,0 m wide by 1,0 m high, 2.7 mm nominal internal diam by 80mm x 100mm mesh	m <sup>3</sup>	1 200		
	LI	(ii) 1,5 m long by 1,0 m wide by 1,0 m high, 2.7 mm nominal internal diam by 80mm x 100mm mesh	m <sup>3</sup>	300		
	LI	(iii) 2,0 m long by 1,0 m wide by 0,5 m high, 2.7 mm nominal internal diam by 80mm x 100mm mesh	m <sup>3</sup>	600		
	LI	(iv) 2,0 m long by 0,5 m wide by 0,5 m high, 2.7 mm nominal internal diam by 80mm x 100mm mesh	m <sup>3</sup>	50		
		(c) Galvanized gabion mattresses				
	LI	(i) 2,0 m long by 1,0 m wide by 0,3 m thick, 2.7 mm nominal internal diam by 80mm x 100mm mesh size	m <sup>3</sup>	300		
	LI	(ii) 3,0 m long by 1,0 m wide by 0,3 m thick, 2.7 mm nominal internal diam by 80mm x 100mm mesh size	m <sup>3</sup>	250		
<b>52.04</b>		<b>Filter fabric</b>				
		(a) Terramesh or similar approved	m <sup>2</sup>	1 800		
		(b) Bidim A4 or similar approved	m <sup>2</sup>	3 000		
<b>52/B33.01</b>		<b>Cut and borrow to fill, inclusive of all haul:</b>				
		(a) Material in compacted layer thickness of 200mm or less:				
		(i) Compacted to 90% of modified AASHTO density	m <sup>3</sup>	200		
<b>B53/1</b>		<b>Concrete structure for foundations</b>				
		(a) 25Mpa concrete footings	m <sup>3</sup>	150		
		(b) Reinforcement (all sizes)	ton	8		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 5400

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>54.00</b>		<b>GUARDRAILS</b>				
<b>54.01</b>	<b>LI</b>	<b>Guardrails on timber posts:</b> <b>(a) Galvanised</b>	<b>m</b>	<b>300</b>		
<b>54.02</b>		<b>Guardrails on steel posts:</b> (a) Galvanised	m			
<b>54.04</b>	<b>LI</b>	<b>End treatments:</b> <b>(a) End wings</b>	<b>No</b>	<b>24</b>		
		Terminal section Type B in accordance with the drawings where single guardrail sect long, complete with fixing detail to endblocksions are used, 11.43m at bridge including all plates	No	16		
		(d) End treatments in accordance with the drawings where single guardrail sections are used. Terminal section Type A, 19,05m long	No	16		
<b>54.06</b>	<b>LI</b>	<b>Reflective plates</b>	<b>No</b>	<b>50</b>		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

**SECTION 5500**

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
5500		FENCING				
B55.01	LI	a) Cleaning the fence line, 2m wide strip	km	0,1		
55.02		Supply and erect 2.4m high clear view fence , rate to include earthworks and concrete works	m	100		
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						

## SECTION 5600

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>56.00</b>		<b>ROAD SIGNS</b>				
<b>56.01</b>		<b>Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class 1 retro-reflective material, where the sign board is constructed from:</b> (c) Prepainted galvanized steel plate (chromadek 1,6 mm thick or approved equivalent):  (i) Area not exceeding 2 m <sup>2</sup>  (ii) Area exceeding 2 m <sup>2</sup> but not 10 m <sup>2</sup>				
			m <sup>2</sup>	150		
			m <sup>2</sup>	80		
<b>56.02</b>		<b>Extra over item 56.01 for using:</b> (a) Background of retro-reflective material of:  (i) Class 1, (Engineering grade)  (b) Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:  (i) Class ii  (ii) Class iii				
			m <sup>2</sup>	120		
			m <sup>2</sup>	70		
			m <sup>2</sup>			
<b>56.03</b>		<b>Road sign supports (overhead road sign structures excluded):</b> (a) Steel tubing  (i) 75 mm D-shaped (SABS 657)				
			t	5,0		
<b>56.05</b>	LI	<b>Excavation and backfilling for road sign supports</b>	m <sup>3</sup>	<b>60</b>		
<b>56.06</b>	LI	<b>Extra over item 56.05 for cement-treated soil backfill</b>	m <sup>3</sup>	<b>60</b>		
<b>56.08</b>		<b>Dismantling, storing and re-erecting road signs with a surface area of:</b> (a) Up to 2 m <sup>2</sup>  (b) Exceeding 2 m <sup>2</sup> but not 10 m <sup>2</sup>				
			No	20		
			No	20		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 5700



ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>57.00</b>		<b>ROAD MARKINGS</b>				
<b>57.01</b>		<b>Road-marking paint:</b> (g) Kerb markings (GM8)(Black & white)	m <sup>2</sup>	1 138		
<b>57.02</b>		<b>Retro-reflective road marking paint:</b> (a) White lines				
	<b>LI</b>	<b>(i) Unbroken; 150 mm wide</b>	<b>km</b>	<b>12</b>		
		(ii) Broken; 150 mm wide	km	1,000		
		(iii) Broken; 200 mm wide	km	0,150		
		(iv) Unbroken; 300 mm wide	km	0,25		
		(b) Yellow lines				
	<b>LI</b>	<b>(i) Unbroken; 100 mm wide</b>	<b>km</b>	<b>1</b>		
		(ii) Unbroken; 150 mm wide	km	0,1		
	<b>LI</b>	<b>(d) White lettering and symbols</b>	<b>m<sup>2</sup></b>	<b>300</b>		
	<b>LI</b>	<b>(e) Yellow lettering and symbols</b>	<b>m<sup>2</sup></b>	<b>50</b>		
	<b>LI</b>	<b>(f) Transverse lines, painted island and arrestor bed markings (any colour)</b>	<b>m<sup>2</sup></b>	<b>150</b>		
<b>57.04</b>		<b>Variations in rate of application:</b> (a) White paint	litre	200		
		(b) Yellow paint	litre	200		
		(d) Retro-reflective beads	kg	2 800		
<b>57.05</b>		<b>Road studs</b> (a) Uni-directional				
		(1) Stimsonite or similar	No	175		
<b>57.06</b>		<b>Setting out and premarking the lines</b> <b>(Excluding traffic-island markings,</b> <b>lettering and symbols)</b>	<b>km</b>	<b>14</b>		
<b>57.07</b>		<b>Re-establishing the painting unit at the</b> <b>end of the maintenance period</b>	<b>L/Sum</b>	<b>1</b>		
<b>57.08</b>		<b>Removal of existing, temporary or</b> <b>permanent road markings by:</b> (a) Sandblasting	m <sup>2</sup>	300		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 5800

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>58.00</b>		<b>LANDSCAPING AND PLANTING PLANTS</b>				
<b>58.01</b>		<b>Trimming:</b> (b) Hand trimming	m <sup>2</sup>	300		
<b>B58.03</b>		<b>Preparing for areas for grassing:</b> (b) Scarifying for loosening topsoil	ha	0,5		
		(c) Topsoiling within the road reserve, where the following materials are used:				
		(i) Topsoil obtained from within the road reserve or borrow areas (inclusive of all haul)	m <sup>3</sup>	3 125		
		(f) Stockpiling topsoil (inclusive of all haul)	m <sup>3</sup>	2 500		
<b>58.10</b>	<b>LI</b>	<b>Extra work for landscaping (Topsoiling)</b>	<b>Prov Sum</b>	<b>1</b>	<b>R300 000,00</b>	<b>R300 000,00</b>
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

## SECTION 5900

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
59.00		<b>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</b>				
59.01		<b>Finishing the road and road reserve:</b> (b) Single carriageway road	km	7,0		
59.02		<b>Treatment of old roads and temporary deviations</b>	km	2,5		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

**SECTION 6400**

**SECTION 7400**

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
73.00		CONCRETE BLOCK PAVING FOR ROADS				
73.01		Concrete block paving (interlocking (a) 80mm	m <sup>2</sup>	50 700		
		(b) 60mm	m <sup>2</sup>	5 400		
TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS						

ITEM	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>74.00</b>		<b>PATENTED EARTH RETAINING SYSTEMS</b>				
<b>74.01</b>		<b>Patented earth retaining systems:</b> (a) Loffelstein precast concrete blocks of type (L300)	m <sup>2</sup>	1 200		
<b>74.02</b>		<b>Excavation for concrete bases for earth retaining systems:</b> (a) in soft material	m <sup>3</sup>	450,0		
<b>74.03</b>		<b>Concrete bases for earth retaining systems</b>	m <sup>3</sup>	120,0		
<b>TOTAL CARRIED FORWARD TO SUMMARY OF SECTIONS</b>						

SUMMARY OF SECTIONS		
SECTION	DESCRIPTION	AMOUNT R
13.00	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	
14.00	HOUSING, OFFICES AND LABORATORY FOR THE ENGINEER'S SITE PERSONNEL	
15.00	ACCOMODATION OF TRAFFIC	
17.00	CLEARING AND GRUBBING	
18.00	DAYWORK SCHEDULE	
21.00	DRAINS	
22.00	PREFABRICATED CULVERTS	
23.00	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS	
31.00	BORROW MATERIALS	
33.00	MASS EARTHWORKS	
34.00	PAVEMENT LAYERS OF GRAVEL MATERIAL	
35.00	STABILIZATION	
36.00	CRUSHED STONE BASE	
51.00	PITCHING, STONEWORK AND PROTECTION AGAINST EROSION	
52.00	GABIONS	
54.00	GUARDRAILS	
55.00	FENCING	
56.00	ROAD SIGNS	
57.00	ROAD MARKINGS	
58.00	LANDSCAPING AND PLANTING PLANTS	
59.00	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	
64.00	CONCRETE FOR STRUCTURES	
73.00	CONCRETE BLOCK PAVING FOR ROADS	
74.00	PATENTED EARTH RETAINING SYSTEMS	
TOTAL CARRIED FORWARD TO SUMMARY OF SCHEDULES		

## CITY OF MBOMBELA

## MATSAFENI KAAPSCHEHOOP BUS ROUTE

SUMMARY OF SCHEDULES		
NO	DESCRIPTION	AMOUNT R
1	MATSAFENI KAPSCHEHOOP BUS ROUTE ROAD (6.28KM)	
2	Sub-Total A:Summary Schedules	
3	10% Contingencies	
4	Sub-Total B	
5	6% Escalation	
6	Sub-Total C	
7	VAT 15%	
8	TOTAL CONSTRUCTION COST	