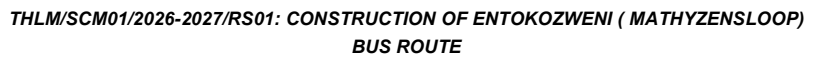
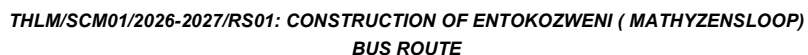




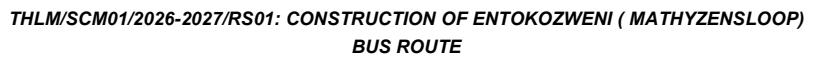
**CONSTRUCTION OF MATHYZENSLOOP BUS ROUTE
(BILL OF QUANTITIES)**

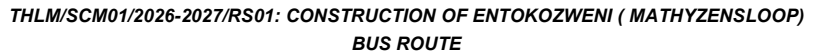
89

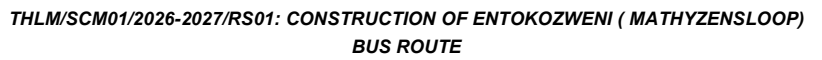
90

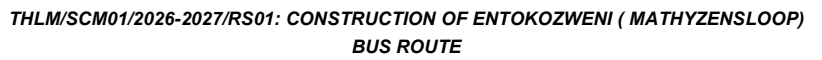


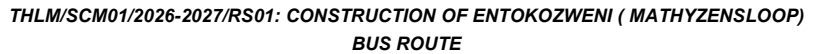
Item No.	LI	Description	Unit	Quantity	Rate	Amount
Section 1400		OFFICES FOR THE ENGINEER'S SITE PERSONNEL				
14.01		Office and laboratory accommodation:				
(e)		Ablution units	m ²	24,00		
(g)		Conference room	m ²	36,00		
14.02		Office and laboratory furniture:				
(a)		Chairs	no	24,00		
(f)		Conference tables (to seat up to 18 persons)	no	6,00		
14.03		Office and laboratory fittings, installations and equipment				
(a)		Items measured by number:				
(i)		220/250 volt power points	no	2,00		
(iii)		Double 80 watt fluorescent-light fittings complete with ballast and tubes	no	2,00		
(xi)		Air-conditioning units with 2,2 kW minimum capacity, mounted and with own power connection	no	2,00		
(b)		Prime cost items and items paid for in lump sum				
(ix)		Provision of Cellphone service, including the cost of calls in connection with contract administration and cellphone rental	Prime Cost	1,00	9 000,00	R 9 000,00
(x)		Provision of telephone services with fax facility including the cost of calls and fax transmission in connection with contract administration and telephone rental	Prime Cost	1,00	6 000,00	R 6 000,00
(xi)		Handling cost and profit in respect of subitem B14.03(b)(ix) and B14.03(b)(x) above	%	15 000,00		
14.08		Services:				
(a)		Services at offices and laboratories:				
(i)		Fixed costs	Lump Sum	1,00		
(ii)		Running costs	Mth	12,00		
14.10		Photostat and Fax Facilities:				
		Provision of photostat and faxing facilities	Mth	12,00		
		CARRIED FORWARD				

92

93

94

95

96



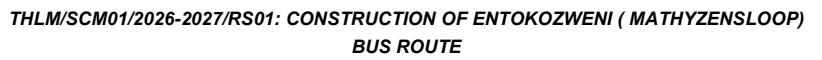
Item No.	LI	Description	Unit	Quantity	Rate	Amount
Section 2100		DRAINS				
21,01		Excavations for open drains:				
(a)	LI	Excavate soft material situated within the following depth ranges below the surface level:				
(i)		0m to 1.5m	m ³	1 125,00		
(i)		Exceeding 1.5m and up to 3.0m	m ³	-		
(b)		Extra over subitem 21.01 (a) for excavation in hard material, irrespective of depth (the rate should be inclusive of other methods of excavation/drilling/rock breaking)	m ³	675,00		
21,031		Excavation for subsoil drainage system:				
(a)	LI	Excavate soft material situated within the following depth ranges below the surface level:				
(i)		0m to 1.5m	m ³	1 021,00		
(i)		Exceeding 1.5m and up to 3.0m	m ³	Rate only		
(b)		Extra over subitem 21.03 (a) for excavation in hard material, irrespective of depth (the rate should be inclusive of other methods of excavation/drilling/rock breaking)	m ³	510,50		
21,06		Natural permeable in subsoil drainage systems (crushed stone)::				
(a)		Crush stones obtained from commercial sources (19mm stone)	m ³	25,00		
21,08		Pipes in subsoil drainage system:				
(a)		Unplasticized PVC pipes and fittings, normal duty, complete with coupling (150mm dia. slotted drain pipe)	m	15,00		
21.10		Synthetic-fibre filter fabric (A6 Bidum or similar approved)	m ²	2 940,00		
B21.12		Concrete outlet structures, manholes boxes, catchpits, junction boxes and cleaning eye for subsoil drainage system:				
(a)		2 No. of Outlet structures see drawing STD004	Prov Sum	25 000,00		
(b)		Contractor's charge to allow for handling costs and all other charges in respect of subitem B12.12 (a)	%	25 000,00		
2100		TOTAL CARRIED FORWARD TO SUMMARY				



Item No.	LI	Description	Unit	Quantity	Rate	Amount
Section 2200		PREFABRICATED CULVERTS				
22,01		Excavation:				
(a)	LI	Excavate soft material situated within the following depth ranges below the surface level:				
(i)		0m to 1.5m	m ³	840,00		
(i)		Exceeding 1.5m and up to 3.0m	m ³	-		
(b)		Extra over subitem 22.01 (a) for excavation in hard material, irrespective of depth (the rate should be inclusive of other methods of excavation/drilling/rock breaking)	m ³	588,00		
22,02		Backfilling:				
(a)		Using excavated material:	m ³	546,00		
(b)		Using imported material	m ³	210,00		
(c)		Extra over subitem 22.02 (a) and (b) for soil cement backfill	m ³	31,50		
22,03		Concrete pipe culverts:				
		Class B bedding/ Class 100D				
(a)		450mm diameter	m	144,00		
(b)		600 diameter	m	112,00		
(c)		825 diameter	m	-		
22,05		Portal and rectangular culverts:				
(a)		Complete with prefabricated floor slabs (900 wide x 300 deep - Class 175S SANS)	m	146,40		
(b)		Complete with prefabricated floor slabs (1200 wide x 450 deep Class 150S SANS)	m	141,52		
(b)		Complete with prefabricated floor slabs (1200 wide x 600 deep Class 150S SANS)	m	14,64		
		150mm Cast in situ concrete lining (Class 30/19) on top of portal culverts	m ³	106,07		
B22,14		Removing and stacking existing prefabricated culverts (all sizes)	m	132,00		
22,17		Manholes, catchpits, precast inlet and outlet structures complete				
(a)		Wingwall outlet structure, see drawing STD 004	No	1,00		
(b)		Manholes Complete see drawing STD003	No.	2,00		
2200		TOTAL CARRIED FORWARD TO SUMMARY				

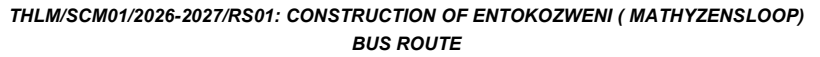


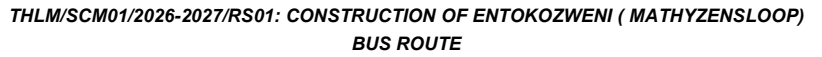
Item No.	LI	Description	Unit	Quantity	Rate	Amount
Section 2300		CONCRETE KERBING, CONCRETE CHANNELLING, OPEN CONCRETE CHUTES AND CONCRETE LININGS FOR OPEN DRAINS				
23,01		Concrete kerbing:				
(a)		Prefabricated battered concrete kerb to SABS 927:				
i		SABS Fig. 8c	m	342,00		
ii		SABS Fig. 3	m	1 792,09		
B23.02		Concrete kerbing-channelling combination:				
(b)	LI	Cast in situ concrete in edge beam using 30/19 concrete measuring 300 x 300mm	m	14,00		
23,07		Triming of excavation for concrete-lined oped drains				
(a)		In soft material	m ²	42,00		
(b)		In hard material (the rate should be inclusive of other methods of excavation/drilling/rock breaking)	m ²	-		
23,08		Concrete lining for open drains:				
(a)		Cast in situ concrete lining (Class 30/19 Stormwater drift as indicated on STD 03)	m ³	12,60		
(b)		Class F2 surface finish to cast in situ concrete Stormwater Drift as indicated on STD 03	m ²	63,00		
23,09		Formwork to cast in situ concrete lining for open drains (Class F2 surface finish				
(a)		To sides with formwork on the internal face only	m ²	32,00		
(c)		To end of slab	m ²	1,00		
23,10		Sealed joints in concrete linings of open drains (as indicated on STD 013)	m	12,00		
23,12		Steel reinforcement				
(a)		Welded steel fabric (Ref 395)	kg	2 897,20		
(c)		Welded steel fabric (Ref 617)	kg	389,38		
2300		TOTAL CARRIED FORWARD TO SUMMARY				

100



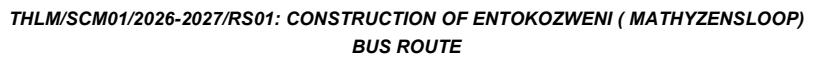
Item No.	LI	Description	Unit	Quantity	Rate	Amount
Section 3300		MASS EARTHWORKS				
33,01		Cut and borrow to fill, including free-haul up to 10km:				
(a)		Material in compacted layer thickness of 200mm and less:				
(i)		Compaction to 90% of modified AASHTO density	m ³	696,00		
(c)		Rockfill processing and compaction	m ³	160,00		
33,03		Extra over item 33.01 for excavating and breaking down material in:				
(a)		Intermediate material	m ³	348,00		
(b)		Hard material (the rate should be inclusive of other methods of excavation/drilling/rock breaking)	m ³	69,60		
(c)		Boulder material class A	m ³	rate only		
33,04		Cut to spoil, including free-haul up to 10km. Material obtained from:				
(a)		Soft material	m ³	3 744,00		
(b)		Intermediate material	m ³	1 042,00		
(c)		Hard material (the rate should be inclusive of other methods of excavation/drilling/rock breaking)	m ³	1 123,20		
(d)		Boulder material class A	m ³	rate only		
(e)		Boulder material class B	m ³	rate only		
33,09		Material bladed to windrow	m ³	348,00		
33,10		Roadbed preparation and the compaction of material				
(a)		Compaction to 90% of modified AASHTO density	m ³	1 413,27		
33,12		In situ treatment of roadbed:				
(a)		In situ treatment by ripping	m ³	1 413,27		
3300		TOTAL CARRIED FORWARD TO SUMMARY				

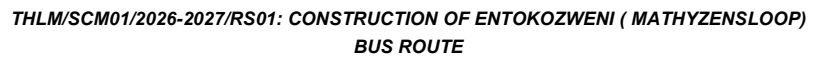
102

103



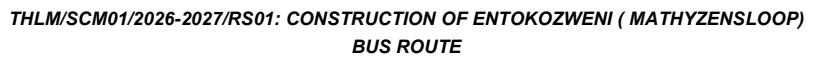
Item No.	LI	Description	Unit	Quantity	Rate	Amount
Section 5100		PITCHING, STONE WORK AND PROTECTION AGAINST EROSION				
		Please note that the items 51.01 (b) (i) and (ii),(c) (i) and (ii), (d) (i) and (ii) and (e) are to be executed by local Sub-Contractors as per Thembisile Hani Local Municipality's sub-contracting policy				
51,01		Stone pitching				
(b)		Grouted stone pitching (250mm thick, 1:3 cement; sand, grout, mix) - TYPE 1 STORMWATER CHANNEL				
(i)		Flat slope (less than 1:4 slope) (296m ²)	Prov-Sum	1,00	124 320,00	124 320,00
(ii)		Steep slope (greater than 1:4) (473,60m ²)	Prov-Sum	1,00	217 856,00	217 856,00
(c)		Grouted stone pitching (250mm thick, 1:3 cement; sand, grout, mix) - TYPE 2 STORMWATER CHANNEL				
(i)		Flat slope (less than 1:4 slope) (248m ²)	Prov-Sum	1,00	104 160,00	104 160,00
(ii)		Steep slope (greater than 1:4) (421,60m ²)	Prov-Sum	1,00	193 936,00	193 936,00
(d)		Grouted stone pitching (250mm thick, 1:3 cement; sand, grout, mix) - TYPE 3 STORMWATER CHANNEL				
(i)		Flat slope (less than 1:4 slope) (303,80m ²)	Prov-Sum	1,00	127 596,00	127 596,00
(ii)		Steep slope (greater than 1:4) (577,22m ²)	Prov-Sum	1,00	265 521,20	265 521,20
(e)		Grouted stone pitching (250mm thick, 1:3 cement; sand, grout, mix) - Headwalls (46m ²)	Prov-Sum	1,00	21 160,00	21 160,00
B51,08		Demolition and removal of existing stone pitched lined drains or channel (1,2 (Top Width) x 0,8 (Bottom Width) x 0,6 (Depth))	m ³	85,36		
5100		TOTAL CARRIED FORWARD TO SUMMARY				

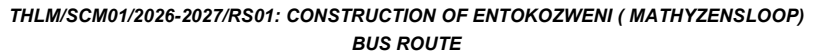
105

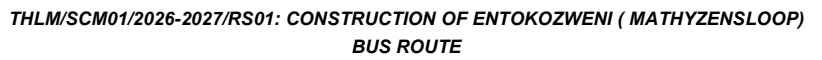
106

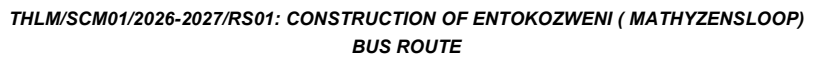


Item No.	LI	Description	Unit	Quantity	Rate	Amount
Section 5600		ROAD SIGNS				
56,01	LI	Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class 1 retro-reflective material, where the sign board is constructed from:				
(c)		Pre-painted galvanised steel plate (chromadek or approved equivalent):				
i.		Area not exceeding 2m ²	m ²	4,00		
ii.		Area exceeding 2m ² but not 10m ²	Rate only			
iii.		Area exceeding 10m ²	Rate only			
56,02		Extra over item 56.01 for using:				
(a)		Background of retro-reflective material:				
i.		Class I	m ²	4,00		
(b)		Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:				
i.		Class II	m ²	2,54		
56,03		Road-sign supports (overhead road sign structures excluded):				
(a)		Steel tubing (100mm diameter, 4mm wall	t	2,00		
(b)		Timber (140mm diameter, treated)	m			
56,05	LI	Excavation and backfilling for road sign supports (not applicable to kilometre posts)	m ³	2,43		
56,06		Extra over item 56.05 for cement-treated soil backfill	m ³	2,43		
5600		TOTAL CARRIED FORWARD TO SUMMARY				

108

109

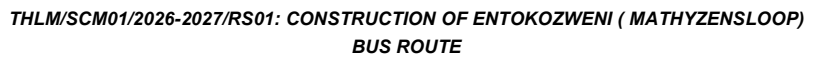
110



CARRIED FORWARD



Item No.	LI	Description	Unit	Quantity	Rate	Amount
		BOUGHT FORWARD				
		ENVIRONMENTAL MANAGEMENT PLAN				
		Contractor's time related obligations in respect of Environmental management plans and specifications month.	month	12,00		
C100.01		Penalty for unnecessary removal or damages to the tress for the following diameter sizes:				
	(a)	2600mm girth or less	No	rate only		
	(b)	Greater than 2600mm ,but less than 6180mm girth	No	rate only		
	(c)	Greater than 6180mm girth	No	rate only		
C100.02		Penalty for serious violations				
	(a)	Hazardous chemical/oil spill/or dumping in non-approved sites	No	rate only		
	(b)	General damage to sensitive environment	No	rate only		
	(c)	Damage to cultural and historical sites	No	rate only		
	(d)	Pollution of water sources	No	rate only		
	(e)	Unauthorised blasting activities	No	rate only		
	(f)	Uncontrolled/unmanaged erosion per incident, depending on environment impacts, plus rehabilitation at contractor's cost)	No	rate only		
C100.03		Penalty for less serious violations				
	(a)	Littering on site	No	rate only		
	(b)	Lighting of illegal fires on site	No	rate only		
	(c)	Persistent or un-repaired fuel and oil leaks	No	rate only		
	(d)	Excess dust or excess noise emanating from site	No	rate only		
	(e)	Possession or use of intoxicating substances on site	No	rate only		
		TOTAL CARRIED FORWARD TO SUMMARY				

113



THEMBISILE HANI LOCAL MUNICIPALITY



CONSTRUCTION COST OF THE CONSTRUCTION MATHYZENSLOOP BUS ROUTE

SCHEDULE A: ROADWORKS

SECTION	DESCRIPTION	AMOUNT
1200	General Requirements and Provisions	
1300	Establishment and General Obligations	
1400	Housing, Offices & Laboratories	
1500	Accommodation of Traffic	
1600	Overhaul	
1700	Clearing and Grubbing	
1800	Dayworks	
2100	Drains	
2200	Prefabricated Culvert Structure	
2300	Concrete Kerbing, Concrete Channelling, Open Chutes and Concrete Linings for Open Drains	
3200	Selection, Stockpiling and Breaking-down the Material from Borrow Pits, Cuttings and Existing Pavement Layers, and Placing and Compacting the Gravel Layers	
3300	Mass Earthworks	
3400	Pavement layers of gravel	
3500	Stabilisation	
5100	Pitching, Stonework and Protection Against Erosion	
5200	Gabions	
5400	Guardrails	
5600	Road Signs	
5700	Road Markings	
7300	Concrete Block paving for Roads	
8100	Testing Materials and Workmanship	
Section C	OHS and Environmental Plan	
Section E	Structured Training	
TOTAL SCHEDULE A: (CARRIED TO CALCULATION OF TENDER SUM)		



THEMBISILE HANI LOCAL MUNICIPALITY



CONSTRUCTION OF MATHYZENSLOOP BUS ROUTE

CALCULATION OF TENDER SUM

ITEM	AMOUNT
TOTAL SCHEDULE A: ROADWORKS	
TENDER (CONTRACT) SUM	
CONTINGENCIES (10%) (10% of TENDER SUM)	
SUB-TOTAL 1 (TENDER SUM + 10% CONTINGENCIES)	
ADD 15% VAT (15% of SUB-TOTAL 1)	
GRAND TOTAL (SUB-TOTAL 1 + 15% VAT)	
TENDER (CONTRACT) PRICE CARRIED TO FORM OF OFFER OF ACCEPTANCE	

Note: Tender Sum is the value of the offered total of the prices exclusive of VAT, Contingencies, CPA and specials materials but including contractual variations.

SIGNED ON BEHALF OF TENDERER:

DATE: