

SUMMARY OF QUANTITIES

GRAND SUMMARY OF BILL OF QUANTITIES

BILL ITEM	DESCRIPTION	AMOUNT (KShs)
1	Preliminaries and General Items	-
4	Site Clearance and Top soil stripping	-
5	Earthworks	-
7	Excavation and Filling for Structures	-
8	Culvert and Drainage Works	-
9	Passage of Traffic	-
10	Grading and Gravelling Works	-
12	Natural Material Base and Subbase	-
14	Cement and Lime Treated Material	-
15	Bituminous Surface Treatment and Surface Dressing	-
16	Bituminous Mixes	-
17	Concrete Works	-
20	Road Furniture	-
21	Miscellaneous Bridge/Drift Works	-
22	Schedule of Dayworks	
25	HIV/AIDS, Gender & Social Issues, Local Participation	
26	Land Acquisition, Axle Load Control, and Relocation of Services	
A.	Sub-Total (1)	
B.	Add 15% Variation of Price On Sub-Total 1	
C.	Add 10% Contingency on Sub-Total 1	
D.	Sub-Total 2 = A + B + C	
E	Add .03% For PPCBLof sub total (2)	
F.	Add 16% VAT on Sub-Total 2	
TOTAL (D+E)		

BILL OF QUANTITIES					
Bill No. 1: PRELIMINARIES AND GENERAL ITEMS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
1.01 (i)	Provide or rent accomodation for Engineer's senior and junior staff (i)Type I	month	24.00	65,000.00	1,560,000.00
1.01 (ii)	Provide or rent accomodation for Engineer's senior and junior staff (ii)Type II	month	24.00	55,000.00	1,320,000.00
1.01 (iii)	Provide or rent accomodation for Engineer's senior and junior staff (iii)Type III	month	24.00	40,000.00	960,000.00
1.01 (iv)	Provide or rent accomodation for Engineer's senior and junior staff (iv)Type IV	month	24.00	30,000.00	720,000.00
1.01 (v)	Provide or rent accomodation for Engineer's senior and junior staff (v)Type V	month	24.00	21,000.00	504,000.00
1.02	E.O item 1.01 for contractor's overhead and profit	%	1.00	5%	253,200.00
1.03	Provide or rent and maintain Engineer's Representative's office as shown on the drawings or as instructed by the Engineer for use during the duration of the Contract.	LS	1.00		
1.04	Provide or rent and maintain Engineer's Site Laboratory for the duration of the Contract.	LS	1.00		
1.05	Provide and maintain Laboratory equipment, reagents and other items as priced in Appendix 'A' to the Bill of Quantities for use by the Engineer's representative for the duration of the contract.	LS	1.00		
1.06 (A)	Provide and maintain furniture , tools and other items for the Engineers Representative office for the duration of the Contract as priced in Appendix 'B'.	LS	1.00		
1.06 (B)	Provide and maintain survey equipment as priced in Appendix C for the duration of the contract.	LS	1.00		
1.07	Provide with drivers, fuel and maintain one (1) new 4WD fully loaded Station Wagon of minimum diesel engine capacity 3000cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Veh-Month	24.00		
1.08	E.O item 1.07 for total aggregated mileage in excess of 5000 km per vehicle month.	Km	60,000.00		
1.11	Ditto item 1.09, but one (1) new 4WD standard double cabin pick-up of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Veh-Month	24.00		
1.12	E.O item 1.11 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	60,000.00		
1.13	Ditto item 1.09, but one (1) new 4WD Single cabin pick-ups with fibre glass body of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. engine capacity approved by	Veh-Month	24.00		
1.14	E.O item 1.13 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	120,000.00		
1.15	Allow a Prime Cost Sum of Kshs.7,200,000 for the RE's miscellaneous account to be spent in whole or part as directed by the RE against receipts	PC Sum	1.00		
1.16	E.O. item 1.15 for Contractor's overheads and profits.	%	1.00		
1.17	Allow a Prime Cost Sum of Kshs. 18,000,000.00 for attendance upon the Resident Engineer' staff.	PC Sum	1.00		
1.18	E.O. item 1.17 for Contractor's overheads and profits.	%	1.00		
1.19	Provide, erect and maintain publicity signs as directed by the Engineer.	No.	4.00		
1.20	Allow for lumpsum of Kshs. 3,000,000.00 for training of Engineer's staff	LS	1.00		
1.21	E.O. item 1.20 for Contractor's overheads and profits.	%	1.00		
1.22	Allow for Prime Cost Sum of Kshs. 3,000,000.00 for Geotechnical Investigations	PC Sum	1.00		
1.23	E.O. item 1.20 for Contractor's overheads and profits.	%	1.00		
Total Bill 5 Taken to Summary Page					5,317,200.00
Bill No. 4: SITE CLEARANCE AND TOP SOIL STRIPPING					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
4.01	Clear site on road reserve including removal of trees, hedges, bushes, other vegetation and deleterious organic material, grub up roots and back fill to 100% MDD (AASHTO T99) with approved material in accordance with the specification.	Ha	11.00		
4.02	Remove top soil not exceeding 200mm depth and spread or stockpile for reuse as directed by the engineer.	m³	23,100.00		
4.03	Allow a Provisional Sum of Kshs.1,000,000 for removal of any structures and obstructions as directed by the engineer. Payment to be on Dayworks basis.	Prov. Sum	1.00		
4.04	E.O. item 4.03 for Contractor's overheads and profits.	%	1,000,000.00		
Total Bill 4 Taken to Summary Page					-
Bill No. 5: EARTHWORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for the overhaul material. The cost of such shall be included in the rates and/or prices				
5.01	Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer	m³	13,900.00		
5.02	Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99)	m³	31,800.00		
5.03	Ditto item 5.01 but in hard material	m³	3,500.00		
5.04	Cut to spoil in soft material	m³	37,000.00		
5.05	Ditto item 5.04 but in hard material	m³	10,100.00		
5.07	Compaction of the top 150mm below formation level in cutting to 100% MDD (AASHTO T99)	m³	11,400.00		
5.08	Compaction of 150mm original ground below fills to 95% MDD (AASHTO T99)	m³	6,800.00		
5.09	Topsolling prior to grading in accordance with the specifications	m²	19,740.00		
5.10	Grassing over sideslopes in cuts and fills as directed by the engineer	m²	14,000.00		
5.11	Provide and place rockfill to swampy areas as directed by the engineer	m³	0.00		
5.12	Provide Filter fabric to swamp under, over and around rock fill	m²	0.00		
Total Bill 5 Taken to Summary Page					-
Bill No. 7: EXCAVATION AND FILLING FOR STRUCTURES					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices				
7.01	Excavate for structures in soft material	m³	1,456.00		
7.02	Ditto item 7.01 but in hard material	m³	156.00		
7.03	Provide,place and compact rockfill below and around structures.	m³	124.80		
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m²	11,211.28		
7.05	Excavate for gabions in soft material.	m³	242.42		
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m²	4,000.00		
7.07	Provide and place rock fill to gabion boxes	m³	727.27		
7.08	Place filter fabric under and/or behind gabion boxes and structures	m²	363.64		
7.09	Provide and backfill approved granular material around new structures, compact to 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m²	2,160.00		
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1.00		
7.11	Allow for river training in soft material	m³	18,000.00		
7.12	Extra over Item 7.11 for river training in hard material	m2	3,600.00		
7.13	Provide coffer dams as directed by the Engineer.	LS	1.00		
Total Bill 7 Taken to Summary Page					-
Bill No. 8: CULVERT AND DRAINAGE WORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation material and the cost of such be included in rates and prices				
8.01	Excavate for inlet,outfall,mitre and catch water drains in soft material	m³	500.00		
8.02	Ditto item 8.01 but in hard material	m³	110.00		
8.03	Excavation in soft material for pipe culverts, headwalls, wing walls, apron, toe walls and drop inlets and compaction of excavated ground as specified or as directed by the Engineer.	m³	1,200.00		
8.04	Ditto item 8.03 but in hard material	m³	290.00		
8.05	Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads	m	1,800.00		
8.06	As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts	m	300.00		
8.07	As for item 8.05 but 1200mm dia concrete pipes (precast to BS 5911 parts 1 & 3)for cross culverts	m	100.00		
8.08	As for item 8.05 but 450mm dia concrete pipes (precast to BS 5911 parts 1 & 3)for access culverts and sleeves	m	0.00		
8.09	Provide, place and compact class 15/20 concrete to beds, surround and haunches	m³	1,600.00		
8.10	Provide place and compact class 25/20 concrete for headwalls, wingwalls, aprons and toewalls to pipe culverts including all formwork and the provision and placing of reinforcement as shown in the drawings	m³	650.00		
8.11	Provide and place invert block drains with two course side slabs	m	1,000.00		
8.12	Construct in concrete class 15/20 side drains scour checks as instructed	m³	30.00		
8.13	Provide and place precast concrete slabs 600mm x 600mm x 100mm and place over open lined drains in trade centres and markets (reinforced with A142 wire mesh reinforcement)	No.	670.00		
8.15	Remove existing pipe culverts of any diameter either for re-use or to be discarded as directed by the Engineer	m	80.00		
8.16	Provide and place A142 wire mesh reinforcement	m²	4,110.00		
8.17	Provide, lay and joint ducts and sleeves including 150mm concrete (C15/20) (insert size in mm) heavy duty PVC class B with 150mm surround (precast to BS 5911 Parts 1 & 3) ducts/sleeves	m	150.00		
8.21	Provide,place and compact rockfill below culverts as per Clause 507 and 804 of the Specifications, drawings and as directed by the Engineer	m³	0.00		
Total Bill 8 Taken to Summary Page					-
Bill No. 9: PASSAGE OF TRAFFIC					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for the overhaul material. The cost of such shall be included in the rates and/or prices				
9.01	Construct and maintain diversions in maximum lengths of 5km sections as directed by the Engineer, including including 150mm wearing course gravel all signage, lighting and barriers	km	14		
9.02	Provide, spread, water and compact gravel as directed by the Engineer for maintenance ahead of works.	m³	16,200		
9.03	Allow for the passage of traffic through and around the works	LS	1		
9.04	Grade, water and compact existing road ahead of works	km	14		
Total Bill 9 Taken to Summary Page					-
BILL NO. 10: GRADING AND GRAVELLING WORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payments shall be made for gravel for blinding or hauling and the cost of such shall be included in the rates and prices				
10.01	Provide gravel wearing course, spread and compact to a finished thickness of 150mm to at least 95% M.D.D (AASHTO T-180) and shape to level and tolerance.	m³	1350		
Bill No. 12: NATURAL MATERIAL BASE AND SUBBASE					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for the overhaul material. The cost of such shall be included in the rates and/or prices				
12.01	Provide gravel subbase material, haul spread, compact to 95% MDD (AASHTO T180) and shape to level and tolerance	m³	17,700		
12.02	Provide gravel base material, haul spread, compact to 95% MDD (AASHTO T180) and shape to level and tolerance	m³	0.00		
Total Bill 12 Taken to Summary Page					-
Bill No. 14: CEMENT AND LIME TREATED MATERIAL					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
14.01	Provide and spread Lime as an improvement agent for Sub-Base	Tonne	280		
14.02	Provide and spread Lime as an improvement agent for Sub-Base and Base	Tonne	238		
14.03	Provide and spread Cement as an improvement agent for sub-base layer	Tonne	280		
14.04	Provide and spread cement as an improvement agent for base layers	Tonne	0		
14.05	Mix and process natural material with improvement agent for pavement layers as instructed by the Engineer or as specified	m³	17,630.00		
14.06	Protection and curing of cement / lime treated base and sub-base layers	m²	96,000.00		
Total Bill 14 Taken to Summary Page					-
Bill No. 15: BITUMINOUS SURFACE TREATMENT AND SURFACE DRESSING					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for the overhaul of bitumen/chippings as these shall be deemed to have been included in the rates				
15.01	Prepare surface of carriageway and shoulders, provide, heat and spray MC 30 cutback bitumen prime coat	Litres	117,600.00		
15.02	Prepare surface of carriageway and shoulders, provide, heat and spray 80/100 bitumen seal coat as first seal	Litres	117,600.00		
Total Bill 15 Taken to Summary Page					-
Bill No. 16: BITUMINOUS MIXES					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, place and compact Asphalt Concrete Type II to a 35mm thickness on carriageway and bus bays as directed by the Engineer.	m³	3,430.00		
16.06	Provide and erect Asphalt Concrete Type 1 bumps and rumble strips as directed by the Engineer at Bitumen Content of 5.5 - 7.0% by weight of total mix.	m³	56.00		
Total Bill 16 Taken to Summary Page					-
Bill No. 17: CONCRETE WORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of				
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m³	93.00		
17.02	Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and box culverts as shown in drawings.	m³	900.00		
17.03	Provide, place and compact concrete class 30(20) to aprons, wingwalls, abutments, piers, walls and bridge deck and beams as shown in drawings.	m³	933.00		
17.11	High yield reinforcement steel bars to specifications equal to or less than 16mm diameter bar size	TONNE	160.00		
17.12	High yield bond strength reinforcement steel to specifications greater than 16mm diameter bar size	TONNE	160.00		
17.13	Supply and install wire mesh grade 460 to BS 4461 size B1131 (10.9Kg/m2)to top and bottom of approach slabs	Tonne	5.00		
17.24	Provide & fix in place vertical formwork to achieve Class U F1 finish	m²	3,600.00		
17.25	As item 17.16 but horizontal	m²	1,650.00		
17.26	As item 17.16 but sloped.	m²	900.00		
17.30	Provide & fix in place vertical formwork to achieve Class U F3 finish	m²	900.00		
Total Bill 17 Taken to Summary Page					-
Bill No. 20: ROAD FURNITURE					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
20.01	Provide Road Reserve Boundary posts	No.	68		
20.02	Excavate for, provide & place 250x125mm precast concrete raised or ramped kerbs bedding and mortar jointed in support to carriageway,busbays and junctions as directed by the Engineer				
	(a) Straight	m	1,000		
	(b) Kerbs radius 12m - 6m	m	30		
	(c) Ditto but radius 5m - 1m	m	30		
20.03	As 20.02 but for flush kerbs 100 x 125mm	m	1,000		
20.04	Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows:				
	a) Warning signs	No.	50		
	b) Priority, prohibitory and mandatory signs	No.	30		
	c) Standard informatory signs	No.	10		
	d) Non standard informatory signs area				
	i) Less than 1.0 m²	No.	5		
	ii) More than 1.0 m² but less than 5 m²	No.	5		
20.05	Provide, deliver, paint and mark the road as specified or as directed by the Engineer, with white reflectorized thermoplastic paint from an approved supplier.	m²	3,400		
20.06	As item 20.05 but for yellow reflectorized thermoplastic paint	m²	1,700		
20.07	Provide and erect concere posts for guardrails complete with spacers (size and interval) as per specifications or as directed by the Engineer	No.	413		
20.08	Provide and erect flex-beam guardrails complete with connections as shown on the drawings or as directed by the Engineer	m	1,500		
20.09	Provide and erect edge marker posts as directed by the Engineer	No.	60		
Total Bill 20 Taken to Summary Page					-
Bill No. 21: MISCELLANEOUS BRIDGE/DRIFT WORKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
21.01	Provide 100 mm diameter drain pipes and insert heavy duty PVC 100mm diameter as instructed by the Engineer	No.	400		
21.02	Provide diameter weepholes and insert heavy duty PVC 100mm diameter on abutments or as instructed by the Engineer	No.	120		
21.03	Provide and fix hand rails 75 mm diameter on crash barriers, with hold down brackets at not more than 2.5 meter intervals	No.	3600		
21.04	Provide and apply bitumen emulsion or cutback bitumen or bitumen/rubber latex emulsion to all structural concrete in contact with fill material or cut soil.	m2	900		
21.05	Provide and place 0.5-1.0m wide granular material of bridge deck & ramps as shown on the drawing and as directed by the Engineer.	m	180		
21.06	Provide and place a 0.5m wide granular material of size 14/20 mm to structural concrete in contact with fill material.	m3	400		
21.07	Provide and place 150mm diameter PVC pipes of diameter 75 mm and length 300 mm to form storm drain pipes of the bridge deck	No.	72		
21.08	Provide and fix bearings as directed by the Engineer.	No	10		
21.10	Provide and place into position elastomeric laminated rubber fixed bearing class 3710443, size as shown in drawings or as shall be instructed by the Engineer	No.	48		
21.12	Provide and place into position galvanised flexi-beam guardrails including end pieces,nuts and bolts along the approaches to the bridges as per drawings	NO	120		
21.13	Provide and install a 0.5m wide drainage layer of class 14/20mm to structural concrete in contact with fill material	m²	300		
21.14	Provide and install movement joint and sealant for bridges and structures	m	60		
21.20	Provide and place into positions handrails along the edge of the carriageway as per drawings and as instructed by the Engineer	m	65		
Total Bill 21 Taken to Summary Page					
CHENCHA - SIMBAUTI - TINDERETI - NYANSIONGO ROAD					