

PROPOSED CIVIL AND BUILDING WORKS AT AWENDO 33/11KV SUBSTATION					
Item	Description	Unit	Qty	Rate	Amount (Kshs)
<b>ELEMENT No.1</b>					
<b>A</b>	<b>PRELIMINARIES AND ENABLING WORKS</b>				
1	Allow for temporary site office with notice-board, shelves, store for materials and tools storage and changing room for operatives and able to accommodate 10 people, furniture and meeting accessories including refreshments etc. during site meetings (once in amonth).	ITEM	1		
2	Allow for all necessary statutory approvals for the works by relevant County Authorities, replication of drawings to required formats by county government, endorsement by relevant professional persons and submit a set of approved drawings to client before commencement of the works.	ITEM	1		
3	Allow for registration of site/project and staff (foreman, Masons, Capenters, etc) with the National Construction Authority (NCA) including NCA fees (0.5 % of the Project Cost)	ITEM	1		
4	Allow for a qualified person conversant with Kenya Power safety regulations with capacity to receive safety electrical permits and to double up as 'Safety Officer' for the entire contract period	ITEM	1		
5	Allow for prompt communications and updates facilitation to client supervision team, including communication and project data storage facilities, laptops, had drives, airtime, etc (minimum 3 Nos.)	ITEM	1		
6	Allow for security and insurance for the proposed works	ITEM	1		
7	Allow for temporary sign post for the proposed works.	ITEM	1		
8	Allow for temporary hoarding for the proposed works	ITEM	1		
9	Allow for temporary metered electricity supply for the works ( if Lv supply within site) or a Generator for fabrication works.	ITEM	1		
10	Allow for a temporary sanitary facility on site preferably a pit latrine for staff on site and make good after works completion.	ITEM	1		
11	Allow for clean water on site for the construction works.	ITEM	1		
12	Allow for the provision of ground spot heights, contours and general site levelling.	ITEM	1		
<b>ELEMENT No.2</b>					
<b>A</b>	<b>SWITCH YARD REHABILITATION</b>				
1	Clear site of all existing bushes, shrubs and under-growth including grubbing up roots and burning the arising, (55x55) meters	SM	3025		
2	Excavate oversite vegetable soil average depth n.e 300mm and cart way and spread within the remaining kplc plot as directed.	CM	910		
<b>TOTAL CARRIED TO SAMMARY PAGE 1</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
3	Provide averagelly 600mm thick selected and approved imported murrum fill in switchyard, compacted in layers not exceeding 150mm thick using a 10 tonne vibrating roller to gradual slope as instructed making the final substation yard level.	CM	1820		
4	Prepare and apply Gradiator 4TC or equal and approved insecticide to surfaces of murrum fill and blinding as per Manufacturer's written instructions (to be done by a specialist subcontractor and guarantee given, a certificate as a proof required by client)	SM	2500		
5	Apply suitable weed killer, herbicide to surfaces of blinding as per the Manufacture's written instructions (to be done by a specialist subcontractor and guarantee given, a certificate as a proof required by client)	SM	2500		
6	1000 gauge polythene or other equal and approved mebrane laid on compacted and treated murrum with welted laps of 200mm wide.	SM	2200		
7	Supply and spread a uniform layer of 150mm thick 'one inch ' (25mm) ballast in switchyard	SM	2200		
<b>ELEMENT No. 3</b>					
<b>TRANSFORMER PLINTHS 2Nos.</b>					
<b>A</b>	<b>Excavations.(All Provisional)</b>				
1	Excavate for 2No. transformer plinth pits sizes (9400x6900)mm, depths n.e. 1.5m from final ground level.	CM	220		
2	Ditto exceeding 1.5m but n. e. 3m	CM	44		
3	Extra over excavation in rock.	CM	40		
4	Allow for keeping excavated pits water free by pumping, bailing or otherwise.	ITEM	1		
5	Allow for planking and strutting to uphold the foundations.	ITEM	1		
6	Return,fill and ram selected excavated materials around transformer plinth.	CM	95		
7	Removing excess excavated materials from Site and disposing off.	CM	125		
8	Selected hand paccked and compacted hardcore fill to make up levels for transformer plinths.	CM	65		
9	Compacting bases of the transformer plinths foundation bases and blinding with concrete mix (1:4:8 - 50 mm thick)	SM	80		
<b>B</b>	<b>High yielded steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.</b>				
1	Reinforcement bars T8, T10 and T12 to bases, upstand beams and top slabs for Tx. plinths all spaced @ 200 c/c.	KG	4500		
<b>C</b>	<b>Formwork</b>				
1	Vertical Sides of bases, 350mm girth	LM	55		
<b>TOTAL CARRIED TO SAMMARY PAGE 2</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
2	Steel/ wooden formwork to sides of plinths upstand beams and the plinths sides to produce a fairly smooth concrete surface finish (plastering concrete surfaces will not be allowed))	SM	1400		
<b>D</b>	<b>Reinforced Concrete</b>				
1	Class 25(20) concrete in the transformer foundation base 300mm thick.	CM	25		
2	Class 25(20) concrete in the plinth upstand beams.	CM	30		
3	Class 25(20) concrete in the plinths top slabs sizes (5000x2500)	CM	10		
<b>E</b>	<b>Hardcore fill</b>				
1	Well compacted hardcore fill in the plinths.	CM	50		
2	50mm thick concrete (1:4:8) blinding and DPM on the hardcore	SM	30		
<b>F</b>	<b>TX Sump Grating</b>				
1	Supply, fabricate and fabricated 1000 mm wide heavy duty grating made out of deformed R20 @ 50mm c/c welded to 50x50x4mm mild steel angle Iron, made in panels of approximately 1000mmx2500mm for easy placing in position. The grating panels to rest on mild steel angle oron 50x50x4mm thick embedded to sump walling and transformer plinth side wall using fish tailed lugs, with full welds, painted with zinc/red-oxide primer base coat and final Alluminium leafing paint to cover the transformer oil spillage sump.	ITEM	1		
<b>G</b>	<b>Finishes</b>				
1	Surfaces finish smooth trowelled in (1:3) cement/ Sand mortar including 50mm chamfer all round top edges of plinths.	SM	35		
<b>H</b>	<b>Transformer Ground Anchors</b>				
1	Excavate for 2No. Ground anchors size (1500x1500)mm depth n.e. 1.5m from stripped level and dispose off the spoil	CM	8		
<b>I</b>	<b>Vibrated mass concrete class 20/25 1:2:4 as described in;</b>				
1	Ground anchors	CM	10		
2	Allow for fixing ground anchors in place before concreting as instructed, client to provide the steel	ITEM	1		
<b>ELEMENT No. 4</b>					
<b>FOUNDATION PLINTHS</b>					
<b>6No. typical foundation plinths for 33&amp;11Kv bus</b>					
<b>A</b>	<b>Excavations. (All Provisional)</b>				
1	Excavate for 6No. Bus bar structure plinths foundation pits size (3200x2800) depths not exceeding 1.5m from final ground level.	CM	86		
2	Ditto exceeding 1.5m but n.e 3.0m.	CM	28		
3	Extra over excavation in rock.	CM	10		
4	Allow for keeping excavated pits water free by pumping, bailling or otherwise.	ITEM	1		
5	Allow for planking and strutting to uphold the foundations.	ITEM	1		
<b>TOTAL CARRIED TO SAMMARY PAGE 3</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
6	Return,fill and ram selected excavated materials around foundations.	CM	60		
7	Removing excess excavated materials from Site and disposing off.	CM	26		
<b>B</b>	<b>Vibrated reinforced concrete class 20/25 1:2:4 as described in;</b>				
1	Compacting bases of pits and blinding with mass concrete mix (1:4:8 - 50 mm thick)	SM	30		
2	Stub columns and foundation bases. Bases (2200x1800x300 thick) and stub columns (1600x1200x1500 high)	CM	27		
<b>C</b>	<b>High yieled steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.</b>				
1	Reinforcement bars T12 to bases and stub columns of bus bars.	KG	600		
2	Reinforcement bars T8 in rings.	KG	217		
<b>D</b>	<b>Foundation Bolts, washers &amp; Nuts</b>				
1	Supply and fix 25mm dia. X 600mm long hot dipped galvanized foundation bolts with flat and & spring washers, nuts and locknuts to Engineer's details (Sample to be provided and returned after fabrication)	No.	96		
2	Grouting the foundtion bolts in stub columns by setting to precision and securing them in place when pouring concrete.The threaded portion of the bolt to protrude at least 75mm above the finished plinth level and be protected from poured concrete.	No.	96		
<b>E</b>	<b>Formwork</b>				
1	Steel/ wooden formwork to sides of stub columns and bases to produce a fairly smooth concrete surface finish to stub columns faces. (plastering concrete surfaces will not be allowed))	SM	70		
2	Top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	12		
	<b>ELEMENT No. 4A</b>				
	<b>76No. typical foundation plinths for 33 &amp; 11Kv Air Break Switches,Post insulators,Current transformers, Voltage transformers and lightning arresters structures, as per the general arrangement drawing (GA)</b>				
<b>A</b>	<b>Excavations.</b>				
1	Excavate for 76No. structure plinths foundation pits size (2000x1800) depths not exceeding 1.5m from final ground level.	CM	487		
2	Ditto exceeding 1.5m but n.e 3.0m.	CM	91		
3	Extra over excavation in rock.	CM	11		
4	Allow for keeping excavated pits water free by pumping, bailling or otherwise.	ITEM	1		
5	Allow for planking and strutting to uphold the foundations.	ITEM	1		
6	Return,fill and ram selected excavated materials around foundations.	CM	383		
	<b>TOTAL CARRIED TO SAMMARY PAGE 4</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
7	Removing excess excavated materials from Site and disposing off.	CM	105		
<b>B</b>	<b>Vibrated reinforced concrete class 20/25 1:2:4 as described in;</b>				
1	Compacting bases of pits and blinding with mass concrete mix (1:4:8 - 50 mm thick)	SM	202		
2	Stub columns and foundation bases, (700x700x1500 high) and (1200x1200x300 thick) respectively.	CM	112		
<b>C</b>	<b>High yielded steel reinforcement bars including cutting, bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.</b>				
1	Reinforcement bars T12 to bases and stub columns of plinths.	KG	317		
2	Reinforcement bars T8 in rings.	KG	856		
<b>D</b>	<b>Foundation Bolts, washers &amp; Nuts</b>				
1	Supply and fix 25mm dia. X 600mm long hot dipped galvanized foundation bolts with flat and & spring washers, nuts and locknuts to Engineer's details (Sample to be provided and returned after fabrication)	No.	304		
2	Grouting the foundation bolts in stub columns by setting to precision and securing them in place when pouring concrete. The threaded portion of the bolt to protrude at least 75mm above the finished plinth level and be protected from poured concrete.	No.	304		
<b>E</b>	<b>Formwork</b>				
1	Steel/ wooden formwork to sides of stub columns and bases to produce a fairly smooth concrete surface finish to stub columns faces. (plastering concrete surfaces will not be allowed)	SM	531		
2	Top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	47		
	<b>ELEMENT No. 5</b>				
	<b>CABLE TRENCHES AND DUCTS</b>				
<b>A</b>	<b>Trench (600x600mm deep) length 200 metres at various locations (All Provisional)</b>				
1	Excavate for cable trench 1.2m wide from reduced level not exceeding 0.7 metres deep.	CM	170		
2	Load, cart away excavated materials and dispose at areas designated by local authority.	CM	101		
3	Backfill and ram selected excavated materials around trench walls.	CM	72		
4	50mm plain concrete(1:4:8) blinding on cable trench bases	SM	160		
<b>B</b>	<b>Vibrated reinforced concrete class 20/25 1:2:4 as described in;</b>				
1	In 150mm thick trench base.	CM	30		
2	In 150mm thick trench walls with fairly smooth face finish.	CM	40		
3	Provide and put in place (900x300x75mm) thick precast concrete trench covers reinforced with Y8 bars spaced at 100mm both ways with fairly smooth face finish on both sides, including angle iron size (25x25x3mm thick) galvanized protection cage all round the slab edges.	No.	667		
	<b>TOTAL CARRIED TO SUMMARY PAGE 5</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshe)
<b>C</b>	<b>High yielded steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.</b>				
1	Y 8 in cable trench @ 200 c/c both ways	KG	1950		
<b>D</b>	<b>Form work to</b>				
1	To sides of trench walls.	SM	590		
<b>E</b>	<b>Cable Ducts</b>				
1	Provide and put in place 150mm diameter heavy duty pvc cable ducts at various points surrounded 150mm mass concrete (1:2:4)	LM	300		
2	Provide and fix as necessary 150mm diameter PVC bends	No.	60		
<b>F</b>	<b>Ladder Cable Tray</b>				
1	Fabricate and fix in cable trench galvanized ladder cable tray 580mm wide and its rungs spaced at 300mm c/c , supported at intervals of 1500mm, and supported 150mm above trench bed.Main frame made out of (50x50x4mm thick) angle irons, Rungs made out of (50x4mm thick) and reinforced at intervals	LM	200		
<b>ELEMENT No. 6</b>					
<b>A</b>	<b>OIL INTERCEPTOR</b>				
1	Excavate starting from ground level a pit size (5mx3mx2m depth)	CM	32		
2	Return,fill and ram selected excavated materials around the interceptor walls	CM	22		
3	Removing excess excavated materials from Site and disposing off.	CM	10		
4	Compacting bases of pit and blinding with concrete mix (1:4:8 - 50 mm thick)	SM	7		
5	Concrete (1:2:4/25) reinforced with BRC A142 including 200mm laps, and all necessary tying wires and supports in slab 200mm thick.	SM	7		
6	Concrete block walling 225mm thick in cement/sand mortar (1:3) reinforced with 20SWG hoop iron at every two alternating courses.	SM	30		
7	25mm thick cement/sand water proof (1:4) rendering on wall surfaces and floor slab finished smooth and waterproofed.	SM	50		
<b>B</b>	<b>Sawn Formwork</b>				
1	Vertical sides of slabs and beams girth 150-300 high	LM	40		
2	Soffits of slab	SM	6		
<b>C</b>	<b>High yielded steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.</b>				
1	In slab and ring beams Y8 and Y10 @ 200 c/c	KG	450		
<b>D</b>	<b>Vibrated reinforced concrete class 20/25 1:2:4 as</b>				
1	Slab and beams	CM	6		
2	Provide and fix (600x450)mm heavy duty coated cast iron manhole covers and frames, or approved equivalent in the market	No.	2		
<b>TOTAL CARRIED TO SAMMARY PAGE 6</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
3	Soakpit 1.8m dia n.e 25ft deep to seepage laevel including filling with boulders and loose sand at top 1m layer with provision for inlet point for pvc pipes with cover slab 150mm with BRC layer overlying 3 masonry courses	ITEM	1		
4	Provide and lay 100mm medium gauge PVC pipes with 100mm concrete surrounded, connecting the plinth sumps to the oil interceptor.	LM	60		
5	Construct on site manholes to M.O.P.W. specifications including (600x450)mm heavy duty coated cast iron manhole covers or approved equivalent	No.	2		
<b>ELEMENT No. 6</b>					
A	<b>ACCESS ROAD (Paving Blocks)</b>				
1	Excavate for a 4m wide access road depth not exceeding 600mm starting from the reduced levels and cart away the spoil.	CM	216		
2	Level and compact Road Base with imported and approved murrum to an average thickness of 150mm in layers of 50mm thick to receive hardcore	SM	360		
3	Approved handpacked hardcore fill, average depth of 300mm and well compacted in layers of 150mm using a 10 tonne vibrating roller.	SM	360		
4	50mm thick approved and well compacted quarry dust blinding on hardcore surfaces	SM	360		
4	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid to slope on quarry dust and compacted.	SM	360		
5	125 x 250 mm Splayed kerb to BS 340 including 125 x 100 mm channel on and including concrete Class 'E' foundation and 100 mm haunching to back of a kerb including all necessary excavation, formwork and disposal.	LM	160		
6	Ditto curved to plan.	LM	16		
7	Extra over for junction between straight and curved kerbs.	No.	8		
8	Prepare surfaces and apply three coats of approved road marking paint: to Kerb stones and parking 75-150mm girth with kenya power branded colours.	LM	160		
9	Supply and install as shall be directed by client, 150mm diameter heavy gauge PVC pipes as ducts for cables crossing the access road including all necessary excavations, concrete surround 200mm ,to ducts .	LM	24		
B	<b>External Access Road (Murraum)</b>				
1	Excavate for a 5m wide access road, and approximatly 150m long.	ITEM	1		
2	Imported murrum fill compacted in layers of 150mm to march the existing murrum road	ITEM	1		
3	Allow for 600mm ID culvert including all the necessary concrete surrounding, head walls and wing walls.	LM	12		
4	Allow for mass concrete (1;2;4) at road side drains	CM	5		
<b>TOTAL CARRIED TO SAMMARY PAGE 7</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
<b>ELEMENT No. 7</b>					
<b>CONTROL BUILDING 10M X5M</b>					
<b>A</b>	<b>SUBSTRUCTURE</b>				
1	Excavate for foundation strip 700mm wide commencing at stripped level, not exceeding 1.5m deep.	CM	63		
2	Ditto but cable trenches, column bases.	CM	20		
3	Ditto but to reduce level for hardcore and floor slab.	CM	14		
4	Extra over for excavation in all classes of rock at any depth	CM	2		
5	Allow for all necessary planking and strutting.	ITEM	1		
6	Allow for keeping excavation free from general water.	ITEM	1		
<b>B</b>	<b>Mass Concrete Class P as described.</b>				
1	Plain concrete (1:4:8-20mm aggregates) in 50mm thick blinding to foundation strip, column bases and cable trench.	SM	35		
<b>C</b>	<b>High yield mild steel reinforcement bars from 8mm to 12mm including cutting, bending, spacer blocks, tying wire and fixing to BS 4449 in, strip foundation, substructure columns including footings and cable trench.</b>				
1	Y 12 in substructure columns and bases	KG	128		
2	Y 10 in foundation strip	KG	172		
3	Y8 in cable trench and column rings	KG	125		
<b>D</b>	<b>Sawn formwork to: -</b>				
1	Sides of substructure columns and strip foundation	SM	40		
2	Ditto but cable trench	SM	40		
<b>E</b>	<b>Vibrated reinforced concrete class 20/20 (1:2:4/25) as described in</b>				
1	Strip foundation (700mmx250mm)	CM	6		
2	Cable trenches 150mm thick	CM	4		
3	Column bases (100mmx1000mm)	CM	3		
4	Columns footings/stubs	CM	2		
5	concrete door ramps	CM	2		
<b>F</b>	<b>Substructure natural stone walling in cement sand mortar (1:3) including and reinforced with 20 SWG Hoop iron in every alternative course</b>				
1	200mm thick wall.	SM	60		
<b>G</b>	<b>Filling.</b>				
1	Return, fill and ram selected excavated materials around foundations.	CM	20		
2	Load cart away surplus excavated materials and dispose in areas designated by local authorities.	CM	16		
3	Selected hardcore filling, compacted in layers of 150mm thick to make up levels in control building to satisfaction of client	CM	20		
4	50mm thick approved and compacted murrum blinding on hardcore fill.	SM	43		
<b>TOTAL CARRIED TO SAMMARY PAGE 8</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
<b>H</b>	<b>Insecticide.</b>				
1	Prepare and apply "Premise 200 SC " or equal and approved insecticide to surfaces of blinding as per manufacturer's written instructions.	SM	50		
<b>I</b>	<b>Damp Proofing.</b>				
1	1000 gauge polythene DPM laid on the blinding including 200mm side and end overlaps.	SM	45		
2	Double BRC mesh reference No. A142 weighing 2.22kg per square meter including 150mm minimum end and side overlaps,bends, tying wires and spacer blocks.	SM	45		
<b>J</b>	<b>Vibrated reinforced concrete class 20/20 (1:2:4/25) as described in</b>				
1	150mm thick ground floor slab.	SM	45		
<b>K</b>	<b>Sawn formwork to;</b>				
1	Sides of ground floor slab and trench 100-150mm high	LM	80		
	<b>SUPERSTRUCTURE</b>				
<b>L</b>	<b>Damp Proof Course.</b>				
1	200mm wide damp proof course (DPC) laid with 1:3mix cement sand mortar.	LM	35		
	<b>Walling</b>				
<b>M</b>	<b>walling in cement sand mortar (1:3) including and reinforced with 20 SWG hoop iron in every two alternating course.</b>				
1	200mm thick medium dressed natural stone wall/approved concrete blocks/Machine cut stones to control room walling and gable.	SM	160		
<b>N</b>	<b>Sawn formwork to;</b>				
1	Vertical sides of ring beam	SM	15		
2	Ditto but soffit	SM	5		
3	Ditto but soffit of roof slab	SM	45		
6	Sides of roof slab 100-150mm high	LM	50		
<b>P</b>	<b>Steel reinforcement bars including cutting, bending, spacer blocks, tying wires and fixing. High tensile bars to BS 4461: 8mm to 12mm bars to:</b>				
1	Y 8 in rings	KG	100		
2	Y 10 in slab	KG	500		
3	Y 12 in columns and beams	KG	235		
<b>Q</b>	<b>Vibrated reinforced concrete class 20/20 (1:2:4/25) as described in</b>				
1	Columns	CM	3		
2	Ring beams	CM	4		
3	150mm thick roof slab	SM	50		
<b>R</b>	<b>Supply, fabricate and fix 5No. Steel trusses spanning 5000mm and hoisted to height not exceeding 4.50m high above finished floor level as described;</b>				
1	Trusses consisting of 50x50x4mm tie beam,rafters 50x50x3mm, struts and ties 50x50x3mm; all with 10 nos. mild steel cleats 100x50x4mm for purlins anchor, to heights not exceeding 4m spanning 5m with weight not exceeding 200kg Including fixing the same to wall.	NO	5		
	<b>TOTAL CARRIED TO SAMMARY PAGE 9</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
2	Zed purlins ZS6 100mm deep	LM	100		
3	Prepare and apply 2 coats of grey - oxide primer paint on roof structural steel work prior to hoisting/fixing in position and one final touch-up coat after erection.	ITEM	1		
4	Supply and fix BP760 box profile factory pre-painted gauge 26 roofing sheets to an approved colour laid with 94mm side laps and 150mm end laps fixed to steel 'Z' purlin (m/s) including 'J' bolts washers, nuts and rubber caps at 600mm centers	SM	100		
5	Ditto but 26Gx480mm with stiffeners ridge caps	LM	12		
<b>S</b>	<b>Rainwater Goods</b>				
1	Fabricate SHS 50x50x4mm thick steel fascia cladding framework structure 1000mm high, 50x50x4mm angle iron struts, including fixing into the wall with adequate wall passes as described to client satisfaction including application of 2 coats of red-oxide primer and a final touch-coat after erection.	SM	30		
2	Supply and fix BP760 box profile factory pre-painted gauge 26 cladding sheets to an approved colour laid with 94mm side and end laps to 1000mm high fixed to steel 50x50x4mm fascia cladding frame including 'J' bolts washers, nuts and rubber caps.including underside of cladding 500mm wide	SM	60		
3	Provide and fix and secure in place heavy duty PVC gutter to client's approval.	ITEM	1		
4	Extra over for stopped ends.	NO	4		
5	Ditto for 100mm diameter holes in gutter.	NO	2		
6	Allow for 100mm diameter medium gauge pvc down-pipe including fixing it to wall with brackets.	ITEM	1		
7	Extra over down pipes for swan neck	ITEM	1		
8	Extra over down pipes for bends	ITEM	1		
9	Extra over down pipe for shoe	ITEM	1		
<b>U</b>	<b>Aluminium Windows</b>				
1	Install aluminium casement sliding windows size (1200x1500mm high) complete with 6mm thick glazing. Also fabricate a mild steel grill made out of round bars R16 9pattern to decided by client) and fixed at each window and painted.	No.	4		
<b>V</b>	<b>Doors</b>				
1	Double leaf steel doors overall size (1650x3650mm) openable 1500x3600mm high in two panels 750mm wide consisting of 1.6mm thick plate welded to 50x25x3mm framework; 75x50x6mm main frame with wall anchors; client approved steel louvres size (400x300)mm fixed at top and bottom of all shutters as per the clients requirement.	NO	2		
2	Ditto but single leaf steel internal door 1200mm wide	NO	1		
3	Prepare and apply 2 coats of red oxide primer and 3 coats of gloss paint on all steel doors internally and externally. (Color scheme be provided by client)	ITEM	1		
<b>W</b>	<b>Finishes ( Walling)</b>				
1	13mm thick cement sand plaster (1:4) to walling internal surface and soffits of roof slab mixed with lime giving a smooth finish to receive paint	SM	160		
<b>TOTAL CARRIED TO SAMMARY PAGE 10</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
2	13mm cement sand mortar(1:4) on the walling external surface and the gable.	SM	120		
3	Prepare and apply undercoat, 2 coats and 2 coats of premium grade silk vinyl emulsion paint on all plastered surfaces internally. Ceiling to receive 2 coats of undercoat and 2 coats of brilliant white vinyl matt emulsion paint	SM	160		
4	Prepare 2 coats of external paint currently in the market (use paints recommended for external use, eg rough & tough)	SM	120		
<b>X</b>	<b>Flooring</b>				
1	20mm thick cement sand (1:3) screed for floor to receive terazzo.	SM	42		
2	30mm thick well polished terrazzo floor finish	SM	42		
3	32 x 2mm thick Plastic dividing strips.	LM	100		
<b>Y</b>	<b>Plinth Area.</b>				
1	12mm thick cement sand mortar(1:4) render to plinth.	SM	21		
2	Prepare and apply undercoat and three coats of bituminous gloss paint to plinth.	SM	21		
3	Prepare and lay one line of paving slabs all round control room.	SM	21		
<b>X</b>	<b>Flooring</b>				
1	20mm thick cement sand (1:3) screed for floor to receive terazzo	SM	42		
2	30mm thick well polished terrazzo floor finish	SM	42		
3	32 x 2mm thick Plastic dividing strips.	LM	108		
<b>Y</b>	<b>Plinth Area.</b>				
1	12mm thick cement sand mortar(1:4) render to plinth.	SM	21		
2	Prepare and apply undercoat and three coats of bituminous gloss paint to plinth.	SM	21		
3	Prepare and lay one line of paving slabs all round control room.	SM	21		
<b>Z</b>	<b>Cable Trench Covers</b>				
1	Provide 50x50x3mm angle iron embedded on the edges of cable trench to receive chequer plate covers	LM	30		
2	Provide 600x600x3mm thick chequer plate covers welded onto (1.5"x1.5"x3mm) SHS framework of same size to cable trench including provision of adequate handles to ease lifting to client approval, prime with undercoat and two coats of black paint (gloss)	NO	24		
	<b>ELEMENT No. 8</b>				
<b>A</b>	<b>ELECTRICAL INSTALLATIONS WORKS</b>				
1	Builders work in relation to Electrical power supply to various points in control room including chasing, conduits, recommended wiring cables, switches and socket boxes etc. Provide, fix and test the followig	ITEM	1		
2	12way-3hase distribution board (Havels) rated 100 Amps	No.	1		
3	Flourescent lamps 1200mm long complete with fittings	No.	6		
4	3-phase socket outlet 32Amps	No	1		
5	1-phase socket outlets 15 Amps	No	2		
	<b>TOTAL CARRIED TO SAMMARY PAGE 11</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
6	1-phase socket outlets 32 Amps	No	2		
7	MCBs-10amps 2No, 16Amps 2No, 32Amps 2No, 32Amps 3phase 1No,				
8	Earthing of the control room	ITEM	1		
9	Security lamps on control room external	No	4		
<b>B</b>	<b>Sub-Station Lighting</b>				
1	Supply 240 watts AC (LIGHT DEPENDENT TYPE) bulky head floodlights complete with energy saver 100 watts sodium metal halide lamps and other fittings (for kplc to install on the bus bars and lay the necessary cables)	NO	6		
	<b>ELEMENT No. 9</b>	ITEM	1		
<b>A</b>	<b>SMOKE DETECTORS</b>				
1	Allow for 3no.sensors for Hardwired Smoke detectors installations; including a battery back up; to be carried out by a nominated sub-contractor	ITEM	1		
2	Allow for general attendance on specialist contractor	ITEM	1		
3	Builder's work in connection with Smoke detector installations; cut away for and attend in all trades on the sub-contractor installing the following points in a mainly concealed system; including chases, holes and recess notching in timber etc; and making good all finishes for cut in boxes, electrical wiring, mounting brackets, smoke detector feeds, fire alarm points etc	ITEM	1		
	<b>ELEMENT NO. 10 - FIRE EXTINGUISHERS</b>				
<b>A</b>	<b>Supply and fix controlled discharge 9 litre water, carbon dioxide gas fire extinguisher manufactured to BS EN 3-9:2006, Bs 7863:2009, BS 5306-4:2001 and the cylinder manufactured to BS 5045 complete with the following:</b>				
	Pictorial instructions				
	Colour code				
	Servicable on site				
	Discharge horn and hose				
	Brass hot stamping				
	Operating valve				
	Local Fire Brigade approval				
1	Ditto but powder fire extinguishers	No	2		
2	Ditto but carbon dioxide fire extinguishers	No	2		
3	Ditto fire blanket 6' x 4' container	No	2		
4	Charge and fixing bracket	No	4		
5	Charge and fixing bracket for hoses	No	2		
	<b>TOTAL CARRIED TO SAMMARY PAGE 12</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
<b>ELEMENT No.11</b>					
<b>A</b>	<b>STORM WATER DRAINS (All Provisional)</b>				
1	Excavate on site drain trench not exceeding 1.5m deep including plunking and strutting, disposal of spoil to receive drainage channels and forming sloping sides in well compacted murrum bed.	LM	70		
2	Lay (300x450)mm precast concrete invert block drains to suitable fall with grooved edges and tongued, joints filled with cement/sand mortar (1:3) and laid on 75mm weak concrete bed.	LM	70		
3	Lay on sides of sloped trench (600x225x50mm) precast concrete slabs jointed in 1:3 mortar	SM	140		
4	Stone pitching in 1:3 mortar at various locations as directed by client	SM	150		
5	Allow for mass concrete (1:2:4) mix in drainage channels works	CM	10		
6	Fabricate grating overal size (600x6000mm long) made from angle irons size (75x75x8mm thick), spaced at 50mm with gratings made out of 75x75x6mm thick, including the sides angle irons 75x75x8mm embedded into drainage trench and three coats of gloss paint.	ITEM	1		
<b>ELEMENT No.12</b>					
<b>PPERIMETER WALLING(220M LONG X 2.5M HIGH)</b>					
<b>A</b>	<b>Walling Excavations</b>				
1	Excavate for foundation trench 1000mm wide commencing from ground level depth not exceeding 1.5m	CM	350		
2	Excavations for widening 75No. column bases size (1.0x1.0)m spaced at 3.0m c/c (75 pillars)	CM	10		
3	Extra over for excavation in all classes of rock at any depth.	CM	10		
4	Fill in and ram selected excavated materials around the substructural walling and columns.	CM	300		
5	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	50		
6	Provide all the necessary planking and strutting to uphold sides of trenches.	ITEM	1		
7	Allow for keeping all excavations water free by pumping, bailing or otherwise.	ITEM	1		
8	50mm thick (1:4:8) mass concrete blinding to walling and column bases	SM	220		
<b>B</b>	<b>Vibrated reinforced concrete class 20/25 1:2:4 as described in;</b>				
1	Foundation strip size (700x250)mm and columns size (1000x1000)mm.	CM	50		
2	Substructure and superstructure columns (200x200)mm	CM	6		
	(300x200)mm ground beam and ring beam size (200x200)mm respectively.	CM	23		
<b>TOTAL CARRIED TO SAMMARY PAGE 13</b>					

Item	Description	Unit	Qty	Rate	Amount (Kshs)
<b>C</b>	<b>High yielded steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.</b>				
1	T10 in foundation strip spaced @ 200mm both ways, ground beam and ring beams.	KG	2300		
2	T12 in column bases @ 200mm c/c both ways, and in columns.	KG	1750		
3	T8 in rings to columns, ground beam and ring beam @ 200mm c/c.		890		
<b>D</b>	<b>Sawn/Steel form work to</b>				
1	Vertical sides of substructure and superstructure columns, foundation strip, ground beam and ring beam.	SM	460		
<b>E</b>	<b>225mm thick natural stone/machine dressed stones/approved concrete blocks in substructure and superstructure walling in cement sand mortar (1:3) including and reinforcing with 20 SWG hoop iron in every two alternating course.</b>				
1	225mm thick in substructure walling	SM	365		
	25mm thick cement/sand (1:4 ) rendering on plinth area finished smooth to receive bituminous paint-600mm high	SM	140		
2	225mm thick and 2400mm high machine-cut or fair faced dressed natural or approved concrete blocks stone walling in cement/sand (1:3) mortar including 20SWG hoop-iron in every alternate courses. Internally plastered (1:4) cement/sand and trowelled smooth to receive paint. Externally horizontal joints keyed in cement /sand mortar 1:3 and moulds to columns and ring beams externally.	SM	580		
3	Prepare surface and apply three coats of greyish Crown permplast or any other approved external paint to the boundary wall plastered surfaces.	SM	580		
4	300mm wide pre-cast concrete coping twice weathered and throated fixed on walling.	LM	220		
<b>F</b>	<b>Expansion Joints 4No.</b>				
1	40mm thick construction joints in flex cell or equally approved expansion jointis including (25x25)mm expedite sealer.	No.	4		
<b>G</b>	<b>Razor Wire</b>				
	<b>Supply and fix Razor Wire at the top of boundary wall conforming to the following specifications:</b>				
1	Coil size-450mm diameter, Blade profile-ripper razor wire,Stretch factor-maximum of 10m per coil and secured to wall with galvanised steel plates @ 1m centres and 20mm thick and 600mm high galvanised rods embedded on each concrete column to secure the razor wire also.	LM	220		
	<b>TOTAL CARRIED TO SAMMARY PAGE 14</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	<b>ELEMENT NO. 13</b>				
	<b>Retaining wall-54LM</b>				
<b>A</b>	<b>(Substructures)</b>				
1	Clear site of existing fence and cart away	ITEM	1		
2	Excavate for foundation trench 1.5 m wide commencing at reduced level and n.e. 1.5m deep for wall and retaining wall.	CM	125		
3	Extra over for excavation in all classes of rock at any depth.	CM	10		
4	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	40		
5	Fill in and ram selected imported materials around foundation and columns	CM	85		
6	Allow for planking and strutting to uphold the foundations.	ITEM	1		
7	Allow for keeping all excavations water free by pumping, bailing or otherwise.	ITEM	1		
8	50mm thick (1:4:8) mass concrete blinding to retaining wall foundation base.	SM	55		
<b>B</b>	<b><u>Vibrated reinforced concrete class 25(20) as described in</u></b>				
1	Retaining wall base 1000x250mm	CM	15		
2	Retaining wall stub to 1m above ground	CM	40		
<b>C</b>	<b><u>Sawn/Steel form work to</u></b>				
1	Vertical sides of foundation strip-250mm girth	LM	110		
2	Vertical retaining walls	SM	250		
<b>D</b>	<b><u>Steel reinforcement bars including tying bending, spacer blocks, tying wires and fixing high tensile</u></b>				
1	Y12 in retaining wall base	KG	800		
2	Y10 in retaining wall upstands	KG	1000		
3	Y8 binders	KG	900		
	<b>ELEMENT No.14</b>				
	<b>PIT LATRINE</b>				
1	Completely renovate the existing pit latrine as may be directed by client during pre-bid site visit.	ITEM	1		
	<b>ELEMENT 15; GUARD HOUSE</b>				
	<b><u>SUBSTRUCTURES</u></b>				
<b>A</b>	<b><u>Excavation</u></b>				
1	Site excavate to reduce levels commencing from existing ground level;150mm deep and not exceeding 1.5m deep;	sm	7		
2	Excavate for strip foundation trench, commencing reduced level ; not exceeding 1.5m deep	cm	6		
3	Remove surplus soil from site to a place approved by local authority	cm	7		
<b>B</b>	<b><u>Mass concrete mix (1:4:8) in</u></b>				
	<b>TOTAL CARRIED TO SAMMARY PAGE 15</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
1	50mm thick blinding under strip foundations	sm	5		
	<b><u>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm2 at 28 days: in</u></b>				
2	150mm thick ground floor slab	cm	1		
	Strip foundations	cm	1		
	<b><u>Supply and fix steel bar in structural concrete work including cutting, bending, hoisting, tying wire, spacer blocks and supporting all in position:</u></b>				
3	8mm bars	kg	17		
	12mm bars	kg	29		
	<b><u>Mesh fabric reinforcement</u></b>				
4	Mesh reinforcement No. A142 size 200 x 200mm weighing 2.22 kg per square meter; in floor slab; including all necessary supports	sm	5		
	<b><u>Sawn formwork to:</u></b>				
5	Edges: slabs 75 - 150mm girth	lm	9		
6	Vertical sides; strip footing; 200mm high	sm	5		
<b>C</b>	<b><u>Walls</u></b>				
1	200mm thick natural coral stone foundation walls; machine dressed square; bedded and jointed in cement and sand (1:4) mortar; reinforced with 20SWG Hoop Iron in every alternate course	sm	8		
	<b><u>Hardcore</u></b>				
2	300mm thick hardcore of approved inert material; well watered and compacted in 150mm thick (maximum) layers	cm	2		
	<b><u>Blinding</u></b>				
3	50mm thick approved quality murrum blinding to surfaces of hardcore	sm	5		
	<b><u>Anti-termite treatment</u></b>				
4	Approved anti-termite chemical treatment; applied by approved professional pest control specialist; applied strictly in accordance with the manufacturers' instructions; ten(10) year guarantee	sm	5		
<b>D</b>	<b><u>DPM</u></b>				
1	Guage 1000 polythene damp proof membrane	sm	5		
<b>E</b>	<b><u>25mm thick cement/sand (1:4) rendering: on concrete or stonework; wood float finished to</u></b>				
1	Plinths ; externally	sm	5		
<b>F</b>	<b><u>Prepare surfaces and apply undercoat and two finishing coats black bitumastic or other equal approved water resistant paint on rendered surfaces to:</u></b>				
1	Plinths: externally	sm	5		
<b>G</b>	<b><u>R.C SUPERSTRUCTURE</u></b>				
	<b><u>Sawn formwork to</u></b>				
1	Sides and soffits beams	sm	5		
2	Bench slab	sm	1		
<b>H</b>	<b><u>Supply and fix square twisted steel bars in structural concrete work including cutting, bending, hoisting, tie wire, spacer blocks and supporting all in position</u></b>				
1	8mm bars	kg	18		
	<b>TOTAL CARRIED TO SAMMARY PAGE 16</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
2	12mm bars	kg	38		
<b>J</b>	<b><u>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm<sup>2</sup> at 28 days: in</u></b>				
1	Ring beam	cm	1		
2	Bench slab	cm	1		
<b>K</b>	<b><u>WALLS</u></b>				
	<b><u>External Walls</u></b>				
	<b><u>Machine dressed natural stone walling bedded in cement/sand mortar(1:4) with minimum stone crushing strength of 7N/mm<sup>2</sup>; reinforced with 20SWG Hoop Iron in every alternate course</u></b>				
1	200mm thick walls	sm	21		
2	Extra over external walling for horizontal pointing	sm	21		
	<b><u>Bituminous felt or other equal approved damp proof course: in cement/sand (1:3) mortar</u></b>				
3	200mm wide	sm	2		
<b>L</b>	<b><u>ROOF</u></b>				
	<b><u>The following in 4 No. purlins; steel structural roof; spanning 3.2m; hoisted to a height of approximately 2.4m from ground level</u></b>				
1	150 x 50 x 2mm Z purlins bedded in masonry wall with cement sand mortar	lm	15		
2	Drill holes in steel members for 12mm bolts in Z purlins	no	23		
3	12mm bolts	no	23		
4	Supply and fix 24g mild steel trough roofing sheets type LT5; factory prepainted to approved standard colour; laid with 150mm end lap and 94mm side laps; fixed to metal purlins including hook bolts, washers and nuts at 1000mm centres	sm	12		
	<b><u>Wrot Cypress: Prime grade</u></b>				
5	200 x 25mm fascia board; chamfered one edge	lm	15		
	<b><u>Prepare surfaces; apply three coats first grade oss paint to approval; on timber surfaces to</u></b>				
6	200mm girth; on fascia board	sm	3		
<b>M</b>	<b><u>OPENINGS</u></b>				
	<b><u>Windows</u></b>				
	<b><u>Mild steel casement windows ; fixed panes; custom made; sections to drawings and with approved ironmongery; sections divided with 25 x25 x 3mm thick RHS welded onto main frame 40 x 25 x 3mm RHS:</u></b>				
1	Ditto but 900 x 1200mm high	no	5		
	<b><u>Window Cill</u></b>				
2	Supply and fix clay window cills; bedded and jointed in cement/sand (1:3) mortar; pointed in matching coloured cement to windows	lm	6		
	<b><u>DOORS</u></b>				
3	Mild steel door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249	no	1		
	<b><u>Iron mongery</u></b>				
	<b>TOTAL CARRIED TO SUMMARY PAGE 17</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	<b>Supply and fix "Assa Abloy" or equal approved ironmongery; matching screws; locks to include a set of 3 keys; available from their authorised local dealers to approval</b>				
4	100mm mild steel butt hinges	no	3		
5	3 lever steel casement rebated door lock with handles	no	1		
	<b>Prepare surfaces, three coats gloss oil paint to metal surfaces</b>				
6	Doors internally	sm	2		
7	Doors externally	sm	2		
	<b>FINISHES</b>				
H	<b>FLOOR FINISHES</b>				
	<b>Screed; cement/sand (1:3) on concrete</b>				
1	30mm thick to receive floor tiles	sm	5		
	<b>Supply and fix coloured ceramic floor tiles on screed; joints pointed in matching cement grout to approval</b>				
2	300 x300 x 10mm thick tiles	sm	5		
J	<b>WALLING</b>				
	<b>Plaster: 13mm cement/lime putty/sand; steel trowelled; on masonry and concrete to</b>				
1	Walls and concrete surfaces	sm	5		
	<b>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on steel trowelled plaster to:</b>				
2	Walls and concrete surfaces	sm	5		
	<b>Backing: 10mm cement/sand (1:4); on masonry or concrete ; wood float finished to</b>				
3	Walls to receive ceramic tiles	sm	18		
	<b>Supply and fix coloured glazed ceramic wall tiles; on backing; joints pointed in matching cement grout</b>				
4	300 x 300 x 10mm thick tiles	sm	18		
5	300 x 50 x10mm thick border tile	lm	9		
6	Supply and fix matching pvc tile strip to tile edges	lm	36		
	<b>Plaster: 13mm cement/lime putty/sand; wood float; on masonry and concrete to</b>				
7	Walls and concrete surfaces; externally	sm	6		
	<b>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:</b>				
8	Walls and concrete surfaces	sm	7		
	<b>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:</b>				
9	Walls and concrete surfaces	sm	7		
K	<b>WATER SUPPLY</b>				
1	Allow for the supply of substation with piped water including all local authorities' charges, sub main pipes 1 inch diameter standard plastic pipes and all connections, testing and commissioning of all the plumbing works and installation of a water meter on site.	ITEM	1		
	<b>TOTAL CARRIED TO SAMMARY PAGE 18</b>				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
2	Supply and install 6000 litres capacity ROTO-TANK or similar approved plastic water tank, approved 1/2" watertap and 1200mm high masonry/concrete platform including all necessary required fittings and connections	ITEM	1		
<b>TOTAL CARRIED TO SAMMARY PAGE 19</b>					
	TOTAL FROM PAGE 1				
	TOTAL FROM PAGE 2				
	TOTAL FROM PAGE 3				
	TOTAL FROM PAGE 4				
	TOTAL FROM PAGE 5				
	TOTAL FROM PAGE 6				
	TOTAL FROM PAGE 7				
	TOTAL FROM PAGE 8				
	TOTAL FROM PAGE 9				
	TOTAL FROM PAGE 10				
	TOTAL FROM PAGE 11				
	TOTAL FROM PAGE 12				
	TOTAL FROM PAGE 13				
	TOTAL FROM PAGE 14				
	TOTAL FROM PAGE 15				
	TOTAL FROM PAGE 16				
	TOTAL FROM PAGE 17				
	TOTAL FROM PAGE 18				
	TOTAL FROM PAGE 19				
	<b>SUBTOTAL</b>				
	<b>ADD NCA FEES 0.5%</b>				
	<b>TOTAL</b>				
	<b>ALLOW 16% VAT</b>				
	<b>TOTAL CARRIED TO FORM OF TENDER</b>				
Amount in words:.....					
.....					
		<b>COMPANY</b>			
	Signed:				
	.....				
	Name:				
	.....				
	Address:				
	.....				
	Contract Period:				
	.....Weeks				

07/02/17