

No.	Description	Unit	Qty	Rate	Amount (Kshs)
	BILL No.1: PRELIMINARIES AND ENABLING WORKS				
	Location of and access to the Site				
A	The site of the proposed works is located in Bumala town, Busia County - The Contractor is therefore advised to visit Site, to acquint and familiarize himself/herself with the nature and position of the Site. No claims arising from the Contractor's failure to do site visit will be entertained.	ITEM	1		
	Prevention of Accidents, damage or loss.				
В	The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other nomal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities being carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.	ITEM	1	<del>/</del>	
	Site Security				<del></del>
С	The Contractor shall be entirely responsible for the security of all the Works, stores, materials, plant, personnel, etc, both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.	ITEM	1		
	Water connection				
D	The Contractor shall allow for supply and connection of metered water to the substation, maintain and pay all the connection and running costs for the entire contract period and then transfer the meter particulars to Kenya Power upon project hand-over. This includes allowing for the clean water for the works.	ITEM	1		
Е	Allow for temporary site office(Approx.100sqm)with provisions of site office meeting room complete with portable seats,table,white board,washrooms for project team,including all works and fittings.	ITEM	1		
F	Allow for insuarance for the works.	ITEM			

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Item	Description	Unit	Qty	Rate	Amount(ksh)
G	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		
Н	Allow for temporary sign post for the proposed works.	ITEM	1		
I	Allow for temporary supply of power connection/adequate generator for use for the works	ITEM	1		
J	Allow for all the necessary statutory approvals for the works by relevant county departments, replication of drawings to required formats, Endorsement by relevant proffesional persons; and submit a set of approved drawings before commencement and as built drawings to client on completion, including site and project registration with NCA. Provisional sum of 350,000KSH.	ITEM	1		
K	Allow for the Visitors book and site diary	ITEM	1		
L	Carefully demolish the existing Store, Guard house, Chainlink, Pit latrine, Control room, Existing	ITEM	1		
M	Allow for GeoTechnical Services Provisional Sum of Ksh 400,000	ITEM	1		
Z	Allow for materials samples testing from time to time including mill Certificates for all reinforcements and structural steel works delivered for the works. Copies to be attached at every stage of inspection for paymement and as may be requested by the Client	ITEM	1	-	
	Allow for attendance for Kenya power personnel to check earthing prior to blinding and backfilling all the excavated bases and earth grids including tests for resistvity to acceptable levels	ITEM	1		
	Supply and install 6000 litres an approved plastic water tank, approved 3/4" watertap and concrete platform including all nacessary required fittings and connections.	ITEM	1		
_	BILL No2:TRANSFOMER PLINTH.				
1	Excavations.				
A	Excavate for 1No. transformer plinth pit size (7000x5000)mm, depths n.e. 1.5m from original ground	СМ	60		
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Iten	Description	Unit	Qty	Rate	Amount(ksh)
В	Ditto exceeding 1.5m but n. e. 3m	CM	20		
С	Extra over excavation in rock.	CM	20	ļ ———	
D	Allow for keeping excavated pits water free by pumping, bailling or otherwise.	ITEM	1		
Е	Allow for planking and strutting to uphold the foundations.	ITEM	1		
F	Return, fill and ram selected excavated materials around transformer plinth.	СМ	40		
G	Removing excess excavated materials from Site and disposing off.	СМ	50		
Н	Compacting bases of the transformer plinth foundation base and blinding with concrete mix (1:4:8 - 50 mm thick)	SM	37		
2	High yieled steel reinforcement bars including cutting, bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.				
A	Reinforcement bars D8, D10 and D12 to bases, upstand beams and top slabs for Tx. plinth all spaced @ 200 c/c.	KG	1750		
3	Formwork				
A	Sawn formwork to sides of plinth upstand beams and the plinths sides to produce a fairly smooth concrete surface finish (plastering concrete surfaces will not be allowed))	SM	250		
4	Concrete				+
A	Class 25(20) concrete in the transformer foundation base 300mm thick.	СМ	15		
В	Class 25(20) concrete in the plinth upstand beams.	CM	15		+
С	Class 25(20) concrete in the plinths top slabs sizes (5000x2500)	СМ	6		1
5	Hardcore fill				<del></del>
A	Well compacted hardcore fill in the plinth	CM	15		
	50mm thick murram blinding and DPM on the hardcore	SM	10		
	Finishes				
- 1	Surfaces finish smooth trowelled in (1:3) cement/ Sand mortar including 50mm chamfer all round top edges of plinth.	SM	40		
7	Transformer Ground Anchor	$\dashv$	-		

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Item	Description	Unit	Qty	Rate	Amount(ksh)
A	Excavate for 1No. Ground anchors foundation size (1500x1500)mm depth n.e. 1.5m from stripped level and dispose off the spoil	СМ	1		
8	Vibrated reinforced concrete class 20/25 1:2:4 as described in;			-	
Α	Ground anchors Concrete.	CM	5		<del>                                     </del>
В	150 x 100mm Mild Steel U-Channels or any other approved size welded to triangular shape (1.8x1.2x.2.2mm) placed in D12 reinforced cage of size 2x1.5x1.0mm concrete stub; including excavation, backfilling, carting away, formwork and finishes.	NO	1		
С	Allow for transformer pit grating made of 50x50x6mm angle iron fixed on pedestal and wall of sump to suport grating .including grating with 20mm gaps on a mainframe of 50x50x6mm ms angles and similar size welded at 20mm centres including all painting ,steel work and fixing to client approval.	ITEM	Ī		
D	Oil sump chamber 3.6m x 1.9m x 1.5m deep, perimeter 200mm thick natural stone walling, internal plaster complete with Niru finnish, with ring beam size 250x 200mm with 4Nos. 12mm bars and 8mm shear links at 200mm spacing, 150mm thick cover slab reinforced with 150mm bars bothways at 150mm spacing, heavy duty man hole covers 450x 600mm; including pvc pipe 4" connecting with the main transfomer pit not exceeding 6m away in two components.	ITEM	1		
	SUMP RCC WALLING				
	Vibrated reinforced concrete class 25/20mm aggregate				
Α	Fare faced finish walling	СМ	5		
В	Formwork.			*****	-
	Vertical sides of base.	SM	49		
- 1	High yield deformed reinforcement bars to BS4449 including cutting, bending, tying , fixing and spacers blocks.				
A	D8 and D10	KG	170		
	BILL No.4 REFURBISHMENT OF EXISTING TRANSFOMER PLINTH.	10	170		
	TOTAL TO SUMMARY PAGE 4.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
Q	Refurbishment of the existing transfomer plinth to macth the new works.	ITEM	1		
	BILL No.5:ACCESS ROAD WORKS				
2	Paving blocks (Access road)				
A	Excavate for 5m wide access road depth not exceeding 750mm and cart away the spoil	СМ	262	15.000	
В	Average 300mm thick selected well compacted hardcore fill, compacted in layers of 150mm thick using 10 tonne vibrating roller to receive paving blocks	СМ	130		
С	300mm thick approved compacted murram fill in 150mm layers	СМ	130		
D	Allow for 10Nos. x900mm diameter pcc culverts on the main KENHA Earth-Drain to facilitate entry to KPLC station including excavations, backfill, head & wing walls, bases including connection to main tarmac road and new internal paved road,. Liaise with Relevant Highway Authority for design and approvals and necessary drawings	ITEM	1		
Е	Provide place and compact 150mm class 15(1:3:6) concrete bed and sarround to 900mm diameter culverts.	СМ	7		
F	Supply and install as shall be directed by client, 150mm diameter medium gauge PVC pipes as ducts for cables crossing the access road including all necessry excavations, concrete bedding, haunching and surround to ducts including self-soaking access manholes minimum size 900x900x1000mm deep in masonry wall plastered internally and externally, and pcc covers.	LOT	1	•	
G	50mm thick approved and well compacted quarry dust blinding on hardcore	SM	350		
Н	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid to slope on quarry dust and compacted	SM	350	3.	
I	125 x 250mm splayed kerb to BS 340 including 125 x 100mm channel: on and including concrete Class "E" foundation and 100mm haunching to back of kerb including all necessary excavation, formwork and disposal	LM	145		

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Item	Description	Unit	Qty	Rate	Amount(ksh)
J	Ditto but curved	LM	50		
3	Painting				
A	Prepare and apply approved gloss paint to kerbline; 125mm girth; colour to engineer's approval	LM	145		
	GATE				
A	Fabricate and fix a primary substation gate as per DRAWING the consisting of 75x50x8mm mainframes and 50x50x3m intermidiate members and bracings with small wicket openable door 1m wide with closing latches 14 gauge plate; ;including gate columns ,fastening,assembly and all works 6mx2.0m	NO	1		
В	Extra over for painting with cooperate colours and logo	ITEM	1		
С	Allow for facilitation of KPLC PM,PE, And Project Supervisor on communication and data provisional Sum of Ksh.1,200,000. for both electronic and print.	ITEM	1		
1	BILL No.5:SWITCH YARD EARHTWORKS AND BALLASTING.				
A	Clear the site of shrubs, grasses, bushes etc, grab up all their roots and burn the arising.	SM	2025		
В	Scoop loose top soil by cutting average 150mm deep to recieve imported fill	SM	2025		
С	Backfill to make up level with approved borrowed murrum/gravel and compact to 95% MDD(AASHTO T99) in layers of 150mm thick.	СМ	485		
	Prepare and apply Gradiator 4TC or equal and approved insecticide and Herbicide to surfaces of blinding as per Manufacturer's written instructions and issue warranty	SM	2025	110000000000000000000000000000000000000	
	1000 gauge polythene or other equal and approved membrane laid on compacted and treated quarry dust with welted laps of 200mm wide.	SM	2025		
	Supply and spread uniformly 150mm thick; 30-40mm singly graded and approved ballast in switch yard.	SM	2025		
Н	precast concrete chanel 200mm high at the ballast perimeter to prevent ballast spill over as restraint.	LM	183		
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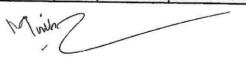
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	Supply and install 150mm diameter medium gauge PVC pipes as ducts, with and including 150mm thick concrete class 20 surround and murrum compaction underlying pipe bases as per as per engineer's instruction to all marked locations to recieve control cables and direct			
	them to cable tranch include and NOT limited to PVC bend, Tee, straight pece not exceeding 3m to each equipment	LM	75	
	BILL No.6:DRAINAGE WORKS			
	Excavate, cut and shape in a V formation an earth drain into any material and cart away to County Government designated damping site.	СМ	228	
	Supply and lay 300mm diameter 600x450x 225mm Precast concrete invert drain blocks, including with two (2) courses side slabs 600mmx225mmx80mm PCC side slabs on both sides laid on a 100mm thick murram well compacted. All jointed in 1:3 cement/sand mortar.	LM	160	
C	Ditto but side slabs size; 600x270x75mm thick	LM	456	
	Construct 8.0m long open drain channel size; 450mm wide and 450mm deep, 150mm thick reinforced concrete walling and base; including 63x63x4mm thick MS angle line embedded in concrete with fish-tailed 12mm diameter x 125mm long MS inserts, in drain walling to recive steel gratting (ms);	ITEM	2	
E .	D10 at 150mm centres both ways	KG	105	
	Provide fabicated 8.0m long heavy duty grating; 450mm wide with 20mm ribbed bars welded in MS angle 63x63x4mm thick frame at 50mm centres. Prepare and apply gloss primer and two coats of 1st grade aluminium gloos paint.	ITEM	2	
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Item	Description	Unit	Qty	Rate	Amount(ksh)
G	2.4m high x10A gauge chainlink fence, complete with 4mm diameter5 strands of galvanized plain wire pass through 3.0m high 50x50X 6mm galvanised steel sections posts placed at 3.0m centers, 12 gauge barbed wire including, excavation and erection works, 1:3:6 mix mass concrete surround at 600mm deep.	LM	40		
	Drop Manholes				
Н	Drop Manholes 600 x 600 x 450mm average deep (Internal) comprising:1000 x1000 x 150 mm thick mass concrete Class 20 base: 150mm Solid concrete block walls: 150mm Thick VRC Class 20 top slab/or cover; with heavy duty meshed/grilled manhole cover: 12mm internal render to base and walls: including step irons: all necessary excavation, disposal and formwork, with outlet PVC pipes as per type A or B across the sitchyard terminating to the open drain max 10 no chambers;	ITEM	ĺ		
	BILL No.7 CONTROL BUILDING (15mx7m)				
A	Excavations			Si	
1	Excavate starting from ground level for foundation strip 1000mm wide and coloum bases and cart away the excvated materials.	СМ	75		
2	Ditto exceeding 1.5m but n,e 3mm depth.	CM	10		
3	Ditto but cable trenches, column bases.	CM	35		X110000
4	Allow for all necessary planking and strutting.	ITEM	1		
5	Allow for keeping excavation free from general water.	ITEM	1		
6	Selected hand packed and well compacted hardcore fill/boulders average thickness n.e 400mm to stablize the foundation strip.	СМ	25		
В	Mass Concrete Class P as described.				
1	Plain concrete (1:4:8-20mm aggregates) in 50mm thick blinding to foundation strip, column bases and cable trench.	SM	85		
С	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.				
1	D12 in substructure columns and bases and ground beam	KG	500		
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Item	Description	Unit	Qty	Rate	Amount(ksh)
2	D10 in foundation strip	KG	800		
3	D8 in cable trench and column rings	KG	450	*****	
D	Sawn formwork to: -				
1	Sides of substructure columns and strip foundation	SM	65		
2	Ditto but cable trench	SM	35		
E	Vibrated reinforced concrete class 20/20 (1:2:4/25) as described in			4	
1	Strip foundation (1000mmx300mm)	CM	15		
2	Cable trenches 150mm thick	СМ	15		
3	Column bases (1000mmx1000mmx300mm thick)	СМ	5		
4	Columns footings/stubs	СМ	5		
5	Ground beam (450x200mm)	СМ	5		
6	concrete door ramps including BRC A142 reiforcement.	СМ	2		
F	Substructure approved natural stone walling in cement sand mortar (1:3) including and reinforced with 20 SWG Hoop iron in every alternative course			-	
1	200mm thick wall.	SM	100		
G	Filling.			*	
1	Return, fill and ram selected imported murram around foundations.	СМ	60		
2	Load cart away surplus excavated materials and dispose in areas designated by local authorities.	СМ	75	~~	
3	Selected hand packed hardcore filling, compacted in layers of 150mm thick to make up levels in control building to required levels.	СМ	45	318 700	
4	50mm thick approved and compacted murram blinding on hardcore fill.	SM	105		
_	Insecticide.				
1	Prepare and apply "Premise 200 SC " or equal and approved insecteide to surfaces of blinding as per manufacturer"s written instructions.	SM	105		
	Damp Proofing.				
1	1000 gauge polythene DPM laid on the blinding including 200mm side and end overlaps.	SM	105		
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Item	Description	Unit	Qty	Rate	Amount(ksh)
J	Mild steel bar to BS 4449;				
1	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	105		
K	Vibrated reinforced concrete class 20/20 (1:2:4/25) as described in				
1	150mm thick ground floor slab.	SM	110		
2	450x200mm ground beam	CM	5	V=-02-1-12	
L	Sawn formwork to;				
1	Sides of ground floor slab and trench 75-150mm high	LM	45		
	SUPERSTRUCTURE				
M	Damp Proof Course.				
1	200mm wide dump proof cource (DPC) laid with 1:3mix cement sand mortar.	LM	45	7.11 <u> </u>	
	Walling				
N	Approve stone walling in cement sand mortar (1:3) including and reinforced with 20 SWG hoop iron in every two alternating course.				
1	200mm thick medium dressed natural stone wall/approved concrete blocks/Machine cut stones to control room walling and gable.	SM	200		
P	Sawn formwork to;				
1	Vertical sides of ring beam	SM	50	0	
2	Ditto but soffits beams	SM	100		
3	Ditto but soffit of roof slab	SM	105		
4	Sides of roof slab 100-150mm high	LM	50		
Q	Steel reinforcement bars including cutting, bending, spacer blocks, tying wires and fixing. High tensile bars to BS 4461: 8mm to 12mm bars to:				
1	D8 in rings	KG	300		
2	D10 in slab	KG	1350		
3	D12-16 in columns and beams	KG	900		<u> </u>
R	Vibrated reinforced concrete class 20/20 (1:2:4/25) as described in				
1	Columns	CM	5		
2	Ring beams	CM	5		
3	150mm thick roof slab	SM	105		
S	Supply, fabricate and fix 6No. Steel trusses spanning 5000mm and hoisted to height not exceeding 4.50m high above finished floor level as described;				
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Item	Description	Unit	Qty	Rate	Amount(ksh)		
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 7m with weight not exceeding 200kg, Including fixing the same to roof slab.	NO	6				
2	Zed purlins ZS6 100mm deep	LM	160				
3	Prepare and apply 2 coats of red - oxide primer paint on roof structural steel work prior to hoisting/fixing in position and one final touch-up coat after erection.	roof structural steel work prior to hoisting/fixing in	ITEM	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 c/c.	SM	200				
5	Ditto but vertical face of cladding	SM	55				
6	Ditto but for eave covering	SM	50				
7	26Gx480mm with stiffeners ridge caps	LM	16				
8	Fabricate SHS 50x50x4mm thick steel facsia 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	60				
9	Supply and fix 450x450mm extractor fan in the battery room including the wiring accessories.	NO	1				
10	Purpose made 14 gauge box gutter 900mm girth, srewed/welded to gutter stool on 50x25x3mm thick M.S fixed to rafters at 600mm centres; internally painted with two coats of black bituminous paint, externally with one coats of red oxide primer and two coats of finishing silver alluminium paint	LM	32	K!			
11	Extra over for stopped ends.	NO	4				
12	Ditto for 100mm diameter holes in gutter.	NO	2				
13	Allow for harvestig the rain water fro the gutters into the ground mounted water tank including all the piping works using 100mm dia, pipes, bends and holding/fixing to wall mechanism.	ITEM	1				
T	Mediam duty anodized aluminium windows complete						
	with all necessary framing, million, transome,						
	mosquito						
	proofed hooded permanent vents, all necessary pegs,						
	prime, quality handle, pointing with approved mastic						
and the	TOTAL TO SUMMARY PAGE 11.			Environment			

Main

Item	Description	Unit	Qty	Rate	Amount(ksh)
seal	ant all round, 6mm thick laminated glass				
1 Wir	ndow overall size 1200 x 1500 mm high; 2No. Sliding ves	NO	13		
U Bur	glar proofing				
1 50 1 weld SHS	nm Diameter round mild bars welded to each other at mm centres both ways with every alternate bars ded to window frames (m.s) 50X50x3mm Sincluding priming (2 coats) the grill with red oxide at and final gloss paint (2 coats)	SM	30		
	ply and lay HD pvc ducts, 200mm dia, sleeves for ver cables exits	LM	20		
V Wir	ndow Cills				
3 curv	x 150 x 30 mm thick concrete window cill with one yed edge including bedding and pointing in cement sand mortar (1:3)	LM	25		
	pare and apply two coats of brick red paint and 2 final ts og gloss paint	SM	6		
DO	ORS				
lour pan	d steel Bat and insect proofing screens panels in rver opening, including 13 x13 x 3mm flat frame in els; welded one face with and including coffee tray ge wire mesh: one shop coat red oxide primer: to				
1 On a	all doors	NO	12		
2 750s into wall dept	able leaf steel doors 2000x3000mm high in two panels min wide consisting of 1.6mm thick plate welded 50x25x3mm frames;75x50x6mm main frame with anchors;louvre blades into 500mm and bottom 1m th all 1.6mm thick;-main entrance as per the drawing yided.	NO	1		
3 Ditte	o 1000x3000 steel door single leaf	NO	1	1.50	
4 Ditt	o 1500x3000 steel door double leaf	NO	1		
5 of g	pare and apply 2 coats of red oxide primer and 3 coats gloss paint on all steel doors internally and externally. It is scheme be provided by client)	ITEM	1		
V Fin	ishes ( Walling)				
l surf	um thick cement sand plaster (1:3) to walling internal ace and soffits of roof slab mixed with lime giving a oth finish to receive paint	SM	290		
1 surf	ace and soffits oth finish to re	of roof slab mixed with lime giving a	of roof slab mixed with lime giving a SM eceive paint	of roof slab mixed with lime giving a SM 290 sceive paint	of roof slab mixed with lime giving a SM 290 sceive paint

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Item	Description	Unit	Qty	Rate	Amount(ksh)
2	13mm cement sand mortar(1:3) on the walling external surface and the gable.	SM	290		
3	Prepare and apply undercoat, 2 coats and 2 coats of premium grade silk vinyl emmulsion paint on all plastered surfaces internally. Ceiling to receive 2 coats of undercoat and 2 coats of brilliant white vinyl matt emulsion paint	SM	290		
4	Prepare 2 coat s of external paint currently in the market (use paints recommended for external use, eg rough & tough)	SM	290		
w	Flooring				
1	20mm thick cement sand (1:3) screed for floor to receive terazzo.	SM	105		
2	30mm thick well polished terrazzo floor finish	SM	105	10.500 No.	
3	32 x 2mm thick Plastic dividing strips.	LM	150		
X	Plinth Area.				
1	12mm thick cement sand mortar(1:4) render to plinth.	SM	45		
2	Prepare and apply undercoat and three coats of bituminous gloss paint to plinth.	SM	45		
3	Prepare and lay one line of paving slabs all round control room.	SM	21		
Z	11kv board Supports				
1	Provide and fix on control building trench, as 11kv board supports made out of (100x50x6mm thick) steel channels, including cutting, fabrication, priming and gloss paint as instructed by client. Total lenths of channels 80m.	LM	80		
	Cable Trench Covers				
2	Provide 700x700x6mm thick chequer plate covers to (600x600)mm cable trench including provision of adequate collapsable handles, stoppers and any other necessary framing all round, to client approval.	SM	10		
3	Ditto (1300x1300x6mm thick)mm covers	SM	25	W	
	ELEMENT No. 10				
Α	SMOKE DETECTORS				
1	Allow for 6no.sensors for Hardwired Smoke detectors installations; including a battery back up; to be carried out by a nominated sub-contractor	ITEM	1		
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Item	Description	Unit	Qty	Rate	Amount(ksh)
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		
	ELEMENT No. 11				
A	ELECTRICAL INSTALLATIONS WORKS				
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, complete with (a) 6pcs 32A MCBs (b) 4pcs, 2-phase 20A MCBs (C) 4pcs. 1-phase 6A MCBs (d) 4pcs 1-phase 10A MCBs	ITEM	1		
3	Consumer unit 4-way 100A, complete with 100A double pole switch, 10A MCB, 20A MCB, 32A MCB &20A MCB.	No	1		
4	Fluorescent lamps 1200mm long complete with fittings/equivalent in the market with sample for approval.	No	12		
5	3-phase socket outlet 32Amps	NO	1		
6	1-phase socket outlets 20 Amps	NO	6		
7	1-phase socket outlets 32 Amps	NO	2		
8	Photo-cell sensor for security lights around control building.	NO	1		
9	Earthing of the control room	ITEM	1		
10	Security lamps on control room external, LED 100A.	NO	6		
THE CONTRACTOR	FIRE EXTINGUISHERS				
	Supply and fix controlled 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: Charge and fixing bracket, Pictorial instructions, Colour code, Servicable on site, Brass hot stamping and Operating valve as described				
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Item	Description	Unit	Qty	Rate	Amount(ksh)
F	9 litre carbon dioxide fire extinguisher complete with re- fills, discharge horn and fittings to wall bracket, as manufactured by Angus or equal and approved.	No.	4		
G	9Kg dry powder multi-purposed fire class A'B and C as manufactured by Angus Fire Armour ABC multi-purpose model AP 9 K or equal and approved.	No.	4		
Н	1200x1200mm woven glass fire blanket with 0.025 wink thermal conductivity.	No.	2		
I	4.5Kg Co2 Powder Fire Extinguisher as Angus Fire Armour.	No.	4	× × × × × × × × × × × × × × × × × × ×	
J	Ditto but powder fire extinguishers	NO	2		
K	Ditto fire blanket 6' x 4' container	NO	2	·	
L	Supply and fix 450mm diameter extructor fan in the battery room	NO	1	-	
	ELEMENT No. 12				
	RAIN WATER HARVESTING				
1	Supply and install 10000 litres approved plastic water tank with outlet gate valve 1 inch including water tank platform made of masonry and concrete as per drg, and raised 600mm. Approved 3/4" watertap and required fittings and connections.	ITEM	1		
2	Distribute water within the substation from the ground mounted water tank to the guard house approx. 80metres away, using 20mm PPR pipes including excavation of water pipe water trench, backfilling, all connections and accessories.	ITEM	1		
3	Construct a suitable shed for the water tank made out of (75x75x6mm thich SHS), bracings, roof and painting to protect the tank from direct sunshine.	ITEM	1		
4	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		
5	Allow for 0.5HP water pump and the necessary connections including power supply and lockable shade.  ELEMENT No. 13	No	1		
A	PAVING SLABS				
4-9		al allestavi		NAME OF TAXABLE PARTY.	
	TOTAL TO SUMMARY PAGE 15.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
1	150mm thick Hardcore bed : deposited, spread, levelled and compacted : to receive sand bed	SM	60		
2	50mm Sand bed : levelled and compacted to receive paving	SM	60		
3	50x 600 x 600mm precast concrete (class 20) paving slabs : laid on sand bed (measured separately) : jointed and pointed in cement mortar (1:4)	SM	60		
	BILL No.8:CABLE TRENCHES				
	Trench (600x600mm deep) length approx. 190M				
A	Excavate for cable trench 1.2m wide from ground level not exceeding 1.0m metres deep.	СМ	198	: 	
В	Load and cart- away excess excavated materials from site to County Government Approved damping site	СМ	120		
С	Backfill and ram selected excavated materials around trench walls.	СМ	30		
D	50mm plain concrete(1:4:8) blinding on cable trench base	SM	171		
Е	Allow for all necessary plunking and stritting	ITEM	1		
F	Allow for disposal of general water by pumping. Bailing or otherwise.	ITEM	1		
	Vibrated reinforced concrete class 20/25 1:2:4 as described in;				
Н	150mm thick trench base.	СМ	30		
I	150mm thick trench walls with fairly smooth face finish.	СМ	68		
	Allow for connecting the new cable trenches to the old trenches including hacking and cutting old reinforced concrete works to merge with the new ones.	ITEM	1		
	TOTAL TO SUMMARY PAGE 16.			or wall at the part	

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Item	Description	Unit	Qty	Rate	Amount(ksh)
K	Provide and put in place (900x400x50mm) thick precast concrete trench covers reinfoced with Y8 bars spaced at 100mm both ways with fair face finish on both sides, inside a 50x50 angle framing including priming and corrosion protective coat	NO.	530		
L	Supply and fix galvanized perforated steel cable trays from 30mm thick 50 mm400mm wide in two layer including mounting on the trench and all joints and bends.	LM	250		
	High yieled steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.				
M	D 8 in cable trench @ 200mm C/C Both ways	KG	1885	ļ	
	Fair Face - Form work to:				
N	Vertical sides of trench walls.(Internally and Externally)	SM	480		
P	Vertical side of trench base-(75-150mm)	LM	380		
Q	Allow screeding/sloping and water drainage including all outlet pipes at cable trench ends	ITEM	1		
	Supply and fix earthing material To include 150No. Earth Rods, 120mm sq Copper (Soft drawwn) -Min 1000m, connectors clamps and lugs including bolts and nuts to conect mat connect to existing Grid .Allow for earth pits and measurements on innitial and final resistivity less than 0.05ohms, And all other associated accesories .(furnish drawing to client for approval)	ITEM	1		
	BILL No.9:BUSBAR FOUNDATION PLINTHS STRUCTURE (Substructure Works -All provisional)				
1	33 And 11kv Busbar structure Fdn. Works				
(	Excavate for 6No. foundation pits size (2000X18000)mm depth n.e 1.5m from ground level.	СМ	8		
В	Allow for keeping excavated pit water free by pumping, pailling or otherwise.	ITEM	1		
	Allow for planking and strutting to uphold the coundations.	ITEM	1		
_	Removal of excess excavated materials from site and cutaway.	СМ	4		
t	Compacting foundation base of the gantry plinth pit and plinding it with concrete mix (1:4:8 - 50 mm thick)	SM	7		
7	TOTAL TO SUMMARY PAGE 17.		10,317	HALLE.	

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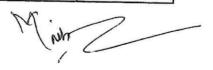
Item	Description	Unit	Qty	Rate	Amount(ksh)
F	Class 25(20) concrete in foundation bases and stub columns sizes respectively	СМ	23		
G	Plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	12		
	High yieled steel reinforcement bars including cutting, bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.				
Н	Reinforcement bars D12 bars and D10 rings to bases and stub columns of Bus structure @ 200 c/c	KG	1213	V. V.	
I	Supply and fix all galvanized steel bolts M28x1000mm long Including poring anchoring holding in position and allowing for all bolts nuts washers and bottom cleats.	NO	96		
j	Allow for entire site surveying including spot-heights and contour profiles for establising working levels and substation drainage level system a provisional sum of Ksh.300,000.	ITEM	1		
	BILL No.9:GUARD HOUSE				
	SUBSTRUCTURES		+		
	Excavation		-		
Α	Site excavate to reduce levels commencing from existing ground level; 150mm deep and not exceeding 1.5m deep;	SM	7		
В	Excavate for strip foundation trench, commencing reduced level; not exceeding 1.5m deep	СМ	6		
С	Remove surplus soil from site to a place approved by local authority	СМ	7		
	Mass concrete mix (1:4:8) in				
D	50mm thick blinding under strip foundations	SM	5		
	Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm2 at 28 days; in				
Е	150mm thick ground floor slab	CM	1		
F	Strip foundations	CM	1		
	Supply and fix steel bar in structural concrete work including cutting, bending, hoisting, tying wire, spacer blocks and supporting all in position:	2.11			
_	D8	KG	17		
Н	D12	KG	29		
10.00	TOTAL TO SUMMARY PAGE 18.		THE STATE		THE SECOND STATES

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	Mesh fabric reinforcement				
Ι	Mesh reinforcement No. A142 size 200 x 200mm weighing 2.22 kg per square meter; in floor slab; including all necessary supports	SM	5		
	Sawn formwork to:				
J	Edges: slabs 75 - 150mm girth	LM	9		
K	Vertical sides; strip footing; 200mm high	SM	5		<del> </del>
	Walls				
L	200mm thick naturall 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		
	Hardcore				
M	300mm thick hardcore of approved inert material; well compacted in 150mm thick (maximum) layers	СМ	2		
	Blinding				
N	50mm thick approved quality murram blinding to surfaces of hardcore	SM	5	V. 1. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
	Anti-termite treatment				
0	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		
	DPM				
P	Guage 1000 polythene damp proof membrane	SM	5		<b>*</b> • • • • • • • • • • • • • • • • • • •
	25mm thick cement/sand (1:4) rendering; on concrete or stonework; wood float finished to				
Q	Plinths; externally	SM	5		
	Prepare surfaces and apply undercoat and two finishing coats black bitumastic or other equal approved water resistant paint on rendered surfaces to:				
	Plinths: externally	SM	5		
	R.C SUPERSTRUCTURE				
	Sawn formwork to				
S	Sides and soffits beams	SM	5		
178	TOTAL TO SUMMARY PAGE 19.	- 11		Victoria de la compansión de la compansi	

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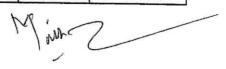
Item	Description	Unit	Qty	Rate	Amount(ksh)
Т	Bench slab	SM	1		
	Supply and fix square twisted steel bars in structural	<b></b>		-	
	concrete work including cutting, bending, hoisting, tie				
	wire, spacer blocks and supporting all in position				
A	D8	KG	18		
В	D12	KG	38		
	Vibrated reinforced insitu concrete class 20/20; with				
	minimum cube crushing strength of 20N/mm2 at 28				
	days; in				
С	Ring beam	СМ	1		
D	Bench slab	CM	1		
	WALLS				
	External Walls				
	Machine dressed natural stone walling bedded in				<del> </del>
	cement/sand mortar(1:4) with minimum stone				
	crushing strength of 7N/mm2; reinforced with 20SWG				
	Hoop Iron in every alternate course				
Е	200mm thick walls	SM	21		
F	Extra over external walling for horizontal pointing	SM	21		
	Bituminous felt or other equal approved damp proof				<del>                                     </del>
	course; in cement/sand (1:3) mortar	1			
G	200mm wide				
-	ROOF	SM	2		
-					
	The following in 4 No. purlins; steel structural roof; spanning 3.2m; hoisted to a height of approximately				
	2.4m from ground level				
_	150 x 50 x 2mm Z purlins bedded in masonry wall with				
	cement sand mortar	LM	15		
I	Drill holes in steel members for 12mm bolts in Z purlins	NO	23		
J	12mm bolts	NO	23		- 178 - 1790 UES
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-					
L. I.	TOTAL TO SUMMARY PAGE 20.	design		30.346.EU-17E1	



Item	Description	Unit	Qty	Rate	Amount(ksh)
K	Supply and fix 24g mild steel trough roofing sheets type IT5; 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		
L	Ditto for side cladding-ALL 4 sides, fixed to 100 high steel fascia claddind frame incuding J-bolts, washers, nuts and rubber cups, including underside of cladding 500mm wide, including 14 gauge galvanised gutters and 100mm downpipes 24 gauge secured to wall with brackets 900mm c/c.	SM	14		
	<u>OPENINGS</u>				
	Windows				
	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;				
N	Ditto but 900 x 1200mm high	NO	5	, pro	
	Mild steel door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249				
0	Supply and fix clay window cills; bedded and jointed in cement/sand (1:3) mortar; pointed in matching coloured cement to windows	LM	6		
	DOORS				
P	Mild steel door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249	NO	1		
	Iron mongery				
	Supply and fix "Assa Abloy" or equal approved iron mongery; matching screws; locks to include a set of 3 keys; available from their authorised local dealers to approval				
Q	100mm mild steel butt hinges	NO	3	 	
	3 lever steel casement rebated door lock with handles	NO	1		
	Prepare surfaces, three coats gloss oil paint to metal surfaces	1,0	*		
S	Doors internally	SM	2		
	TOTAL TO SUMMARY PAGE 21.			# # # S	See W. Harry May 2011

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Item	Description	Unit	Qty	Rate	Amount(ksh)
T	Doors externally	SM	2	W-31_0000	1,000,000,000,000,000,000,000,000,000,0
	FINISHES				
	FLOOR FINISHES				
	Screed; cement/sand (1:3) on concrete				
U	30mm thick to receive floor tiles	SM	5		
	Supply and fix coloured ceramic floor tiles on screed; joints pointed in matching cement grout to approval				
V	300 x300 x 10mm thick tiles	SM	5		
	WALLING				
	Backing: 10mm cement/sand (1:4); on masonry or concrete; wood float finished to				
A	Walls to receive ceramic tiles	SM	18		
	Supply and fix coloured glazed ceramic wall tiles; on backing; joints pointed in matching cement grout				
	300 x 300 x 10mm thick tiles	SM	18		
	300 x 50 x10mm thick border tile	LM	9		
В	Supply and fix matching pvc tile strip to tile edges	LM	36		
	Plaster; 13mm cement/lime putty/sand; wood float; on masonry and concrete to				
	Walls and concrete surfaces; externally	SM	6	News III	
С	Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:				
	Walls and concrete surfaces	SM	6		
	BILL NO.10:PIT LATRINE				
	Excavation				
A	Oversite excavation to reduce levels commencing from existing ground level;150mm deep	SM	5		
В	Excavate from reduced level strip foundation and not exceeding 1.5m deep.	СМ	4		
	TOTAL TO SUMMARY PAGE 22.				



Item	Description	Unit	Qty	Rate	Amount(ksh)
С	Excavate from reduced level strip foundation and not exceeding 3.0m deep.	СМ	3		
D	Excavate from reduced level strip foundation and not exceeding 4.5m deep.	СМ	3		
Е	Excavate from reduced level strip foundation and not exceeding 6.50m deep.	CM	3		
F	Extra over excavation in rock	CM	2		
G	Remove surplus soil from site to a place approved by local authority	СМ	12		
	Mass concrete mix (1:4:8) in				
H	50mm thick blinding in strip foundations	SM	5		
	Vibrated reinforced insitu concrete class 20/20; with				
	minimum cube crushing strength of 20N/mm at 28				
	days; in				
I	150mm thick ground floor slab	SM	5		-
J	Strip foundations	СМ	1		
	Supply and fix steel bar in structural concrete work				
	including cutting, bending, hoisting, tying wire, spacer				
	blocks and supporting all in position:				
K	10mm bars	KG	77		
	Mesh fabric reinforcement				
L	Mesh reinforcement No. A142 size 200 x 200mm				
	weighing 2.22 kg per square meter; in floor slab; including all necessary supports	SM	5		
	Sawn formwork to:				
	Edges: slabs 75 - 150mm girth	SM	9		
-	Vertical sides; strip footing; 200mm high	SM	9		
	Walls				
	200mm thick natural 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	14		
	Anti-termite treatment				
+					
7	TOTAL TO SUMMARY PAGE 23.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
В	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	3		
	<u>DPM</u>	-55			
С	Guage 1000 polythene damp proof membrane	SM	5		
	25mm thick cement/sand (1:4) rendering; on concrete or stonework; wood float finished to				
D	Plinths; externally	SM	5		
	Prepare surfaces and apply undercoat and two finishing coats black bitumastic or other equal approved water resistant paint on rendered surfaces				
Е	Plinths: externally	SM	5		
	Sawn formwork to				
F	Sides and soffits beams	SM	6		
	Supply and fix square twisted steel bars in structural concrete work including cutting, bending, hoisting, tie wire, spacer blocks and supporting all in position				
G	D8	KG	24		
Н	D12	KG	47		
	Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm at 28 days; in			-	
T	Ring beams	CM	1		
	External Walls				
	Machine dressed natural stone walling bedded in cement/sand mortar(1:4) with minimum stone crushing strength of 7N/mm2; reinforced with 20SWG Hoop Iron in every alternate course				
U	200mm thick walls	SM	21		
V	Extra over external walling for horizontal key pointing	SM	21		
	TOTAL TO SUMMARY PAGE 24.				



Item	Description	Unit	Qty	Rate	Amount(ksh)
Tonic	Bituminous felt or other equal approved damp proof course; in cement/sand (1:3) mortar				
W	200mm wide	SM	2		<del>                                     </del>
	SUNDRIES				
X	Make holes on 100mm thick concrete slab for 150mm diameter PVC pipe	NO	1		
Y	Provide and fix 100mm thick PVC vent with cap average length 3m	LM	3		
	ROOF			100 8 4	
Α.	The following in 4 No. purlins; steel structural roof; spanning 3.2m; hoisted to a height of approximately 2.4m from ground level				
Α	150 x 50 x 2mm Z purlins bedded in masonry wall with cement sand mortar	LM	15		
В	Drill holes in steel members for 12mm bolts in Z purlins	NO	23		
С	12mm bolts	NO	23	***	
D	Supply and fix 26g 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		
	Ditto for side cladding-ALL 4 sides, fixed to 100 high steel fascia claddind frame incuding J-bolts, washers, nuts and rubber cups, including underside of cladding 500mm wide, including 14 gauge galvanised gutters and 100mm downpipes 24gauge secured to wall with brackets 900mm c/c.	SM	14		
	OPENINGS				
	Concrete Louvres		-		
	150 x150 x 150mm concrete louvre blocks fixed with cement sand mortar (1:3)	SM	2		
_	Window Cill				
j	Supply and fix 200mm clay window cills; bedded and jointed in cement/sand (1:3) mortar; pointed in matching coloured cement to windows	LM	6		
1	DOORS	-	-		

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Item	Description	Unit	Qty	Rate	Amount(ksh)
Н	Mild steel light door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249	NO	2		
	Iron mongery				
	Supply and fix "Assa Abloy" or equal approved iron				
	mongery; matching screws; locks to include a set of 3 keys; available from their authorised local dealers to				
	approval				
I	100mm mild steel butt hinges	NO	2		
J	3 lever steel casement rebated door lock with handles	NO	2	***************************************	
	Prepare surfaces, three coats gloss oil paint to metal surfaces			,	
K	Doors internally and externally	SM	4		
	FINISHES	J		199	
	FLOOR FINISHES				
	Screed; cement/sand (1:3) on concrete				
L	30mm thick to receive floor tiles	SM	5		
	Supply and fix approved ceramic floor tiles on screed;				
	joints pointed in matching cement grout to approval				
М	300 x300 x 10mm thick approved ceramic tiles	SM	5		
	WALLING				
	Backing: 10mm cement/sand (1:4); on masonry or			-	
	concrete; wood float finished to				
N	Walls to receive ceramic tiles	SM	23		<b> </b>
	Supply and fix coloured glazed ceramic wall tiles; on				
	backing; joints pointed in matching cement grout				
О	300 x 300 x 10mm thick tiles	SM	23		
P	300 x 50 x10mm thick border tile	LM	14		
Q	Supply and fix matching pvc tile strip to tile edges	LM	56		
	Plaster; 13mm cement/lime putty/sand; wood float; on masonry and concrete to				
R	Walls and concrete surfaces; externally	SM	21		
	Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:	2111			
_	Walls and concrete surfaces	SM	21		
TE	TOTAL TO SUMMARY PAGE 26.				2007 - 3010 CO

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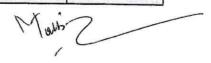
Item	Description	Unit	Qty	Rate	Amount(ksh)
	BILL No.10: PERIMETER WALLING-BOUNDARY	WALL	2.4M HI	GH	
	(Substructures)				
L	Excavate for foundation trench 600mm wide commencing at reduced level and not exceeding 1.5m deep.	СМ	168		
M	Extra Excavations for widening column bases size	СМ	95		
N	Ditto exceeding 1.5m but n.e 3.0m	CM	189		
0	Extra over for excavation in all classes of rock at any depth.	СМ	30	81	
P	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	СМ	123		
Q	Fill in and ram selected imported materials around foundation and columns.	СМ	78	16	
R	Provide all the necessary planking and strutting to uphold sides of trenches.	ITEM	1		
S	Allow for keeping all excavations water free by pumping, bailing or otherwise.	ITEM	1	The life of	
T	50mm thick (1:4:8) mass concrete blinding to walling and column bases	SM	174		
	Vibrated reinforced concrete class				
	20/25 1:2:4/25 as described in;				
U	Foundation strip size (200x600)mm	СМ	23		
V	Column bases (1000x1000x300)mm	СМ	19		
W	Columns (200x300)mm	CM	15		
X	Plinth beam 300x200mm	CM	8		
	Sawn/Steel form work to				
A	Vertical sides of column	SM	106		
В	Vertical sides of ground beam	SM	110		
	Steel reinforcement bars including tying bending				
	spacer blocks tying wires and fixing high tensile				
	bars to BS 4461				
C	D8-D16	KG	3850		
	225mm thick natural stone substructure walling in cement sand mortar (1:3) including and reinforced with 20 SWG hoop iron in every two alternating course.		2000		
F	225mm thick natural stone wall	SM	278	-	
2100	TOTAL TO SUMMARY PAGE 27.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
G	25mm thick cement/sand (1:4) rendering on plinth area finished smooth to receive bituminous paint-400mm high	SM	76		
Н	Allow for and create 100mm diameter weep holes at ground level every3.0m centers on masonry/concrete wall sand mortar.	NO.	68		
2	Superstructure-Walling				
I	200mm thick machine-cut or fair faced dressed natural or approved concrete blocks stone walling in cement/sand (1:4) mortar including 20G hoop-iron in every alternate courses. Internally plastered and external horizontal joints keyed in cement/sand mortar (1:3)	SM	454	8	
J	350mm wide pre-cast concrete coping twice weathered and twice throated fixed to wall.	LM	150		
K	(800x550)mm square concrete coping weathered and throated on all sides fixed to double columns.	NO.	9	10.72	
L	(550x450)mm square concrete coping weathered on all columns.	NO.	59		
M	extra over for key pointing externally	SM	454	2-20-20-20-	
N	allow for internal plaster whole wall	SM	454		
3	Expansion Joint				
N	40mm thick construction joint in flex cell or equall and approved expansion joint and (25x25)mm expedite sealer	SM	15		
4	Razor Wire			- 1.10//	
	Supply and fix Razor Wire at the top of boundary wall conforming to the following specifications.		х		
0	Coil size-450mm diameter, Blade profile-ripper razor wire, Stretch factor-maximum of 10m per coil and secured to wall with galvanised steel plates at 1m centers.	LM	185		
	BILL No.11:CIRCUIT BRAKER FOUNDATION.				
A	Excavate foundation pits commencing from ground level and not exceeding 1.5m deep	СМ	10		
В	Ditto Exceeding 1.5m but not exceeding 3.0m	СМ	6		
С	Extra -Over for excavating in all classes of rock	СМ	2		
D	Allow for all necessary plunking and strutting	ITEM	1		
27	TOTAL TO SUMMARY PAGE 28.		hiji svi	1. C. P. Park 15.	get mer og det i vijet.

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Item	Description	Unit	Qty	Rate	Amount(ksh)
Е	Allow for disposal of general water by pumping, bailing or otherwise	ITEM	1		
F	Return, Ram and Fill Selected Excavated materials around the foundations	СМ	3		
G	Load and Cart-Away surplus excavated materials from site to County Government Approved damping site	СМ	8		
Н	Level and Compact bases of pits to receive blinding.	SM	7		
	Blinding(Plain Concrete Class 15)				
I	75mm thick (1:4:8) Concrete blinding to pit bottoms	SM	7		
	Vibrated Reinforced Concrete Class 25/20 mm Aggregat es In:				
J	200mm Thick base	СМ	3		
K	Stub columns	CM	4		
L	Allow for supply and placement of concrete for bedding and thickening, including filling and making good. Concrete to be class25(25MPa) using 20mm nominal maximum aggregate size, including all necessary formwork, compaction, curing and finishing to required levels and profiles.	СМ	30		
	High yieled steel reinforcement bars including cutting,b ending, tying and fixing in place, spacer blocks and tying wires to BS 4449.				
M	D8-12mm	KG	230		<u> </u>
	Fair - Face FormWork to:				<u> </u>
N	To vertical sides of bases -( 150-225mm)	LM	24		
0	To vertical sides of stub-Columns	SM	17		· · · · · · · · · · · · · · · · · · ·
P	Plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths	SM	6		
	Supply and fix all galvanized steel bolts min M24X650mm long Including poring anchoring holding in position and allowing for all bolts nuts washers and bottom plates.	No.	16		



Item		Unit	Qty	Rate	Amount(ksh)
	BILL No.12: STEEL GALVANIZED STRUCTURES				
	Supply Fabricated Steel Structures Bus Bars, The steel structures shall be manufactured from hot-rolled structural steel sections of tensile strength of 430-460N/mm2, yield strength of 255N/mm2, density of 7860kg/mm2 galvanizing thickness of >110 microns as per drawings attached including all welding and nuts and bolts connections, stiffiner plates/cleats, washers, etc, including transporting to site and delivery to site in a well coded manner, fully assembled to ascertain completeness and handed over to client ready for erection.Notes: 1) All Holes To Be 18mm diameter where applicable for M16 Bolts unless otherwise stated. 2) All Steelwork to Be Free From Rust, Rust, Dust Burrs E.T.C Then Galvanised By Hot Dip. Process, Thickness and Quality of Zinc Coating to Withstand Test of 729. 3) Assembly Bolts, Nuts and washers to Conform TO BSS 916 and the Quantity Supplied to Include 10% Spare Allowance. 4). Fabricators Are To Designate All Steelwork Items and Provide Erection Mark Plans.5) All Individual Steel Parts to Be Marked - KPLC				
A	BUS BAR Structure 33 And 11 kv -1.8Tonnes	No.	6		
I	Allow for concrete grouting finishes and making good at switch gear foundations after KPLC erects Concrete poles, Provisional su of 350,000 Ksh.	ITEM	1		
J	Allow factory visit Provisional sum of Ksh. 350,000 for inspection and tests before, during and after, in workshop/factory fabrication and galvanization. All requird tests shall be carried out by client Inspection Team/Engineers to Accept/Reject every process, Quality, Workmanship etc before delivery to site as specified in Technical Specifications for steel structures, including all facilitation/transport and communication for Project implementation team.	ITEM	1		
K	Allow for assembly and Erection of GANTRE lattices structure upon the delivery on site,	ITEM	1		
	TOTAL TO SUMMARY PAGE 30.			1 Sec. (10)	

N/ who

SUMMARY		
TOTALS CARRIED FROM SUMMERY PAGE 1		
TOTALS CARRIED FROM SUMMERY PAGE 2		
TOTALS CARRIED FROM SUMMERY PAGE 3		
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