PROPOSED CIVIL WORKS FOR 66KV BAYS AT LIMURU 66/11 KV SUBSTATION

Item No.	Description	Unit	Qty	Rate	Amount (Kshs)
	PRELIMINARIES				
	Location of and access to the Site				
A	The site of the proposed works is located within Limuru Town at Limuru KPLC premises. The bidder is advised to visit Site, to familiarize himself with the nature and position of the Site. No claims arising from the Contractor's failure to do site visit will be entertained.				
	Pricing items of preliminaries				
B	Prices SHALL BE INSERTED against items of "preliminaries" in the tenderer's priced Bills of Quantities. The Contractor is advised to read and understand all preliminary items. The Contractor shall be deemed to have included in his prices or rates for the various items in the Bills of Quantities or Specification for all cost involved in complying with all the requirements for the proper execution of the whole of the Works in the Contract				
	Prevention of Accidents, damage or loss.				
C	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.				
	Existing Services				
D	Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services. The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services, and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the Client.				
	Safety Personnel				
E	Contractor should allow for a qualified saferty person conversant with **Kenya Power** contractors safety regulations for the entire contract period who will be responsible for receiving work permits in daily basis The working hours shall be those generally given by the client in accordance with the safety regulations. No work shall start in the absence of the safety person having received permit to work from the relevant authorizing officer. **(**Refer to attached safety requirements for Contractors working within and without KPLC)	ITEM	1		
	Insurance				
F	Allow for Insurance Cover for the proposed works and workers.	ITEM	1		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
	Site Security				
A	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		
	Sign Boards				
B	The Contractor shall allow for providing erect publicity, project details, directional, safety, etc sign boards, maintaining and later clearing away on completion a site sign board. The positioning, the size, type of construction and lettering shall be to client's approval.	ITEM	1		
	Power for the Works				
C	Allow for **adequate Capacity Generator** or apply for power connection on site for the supply of power for use for the works.	ITEM	1		
	Approvals				
D	Allow a Provisional Sum of Kes. 250,000.00 for facilitation for Kplc PM, PE & Project Supervisors on communications and data for both electronic and print	ITEM	1		
	Visitor's Book and Site Diary				
E	The Contractor shall keep on the Site a visitors' book for recording the names of all persons who visit the site for the purpose of the project. He shall also maintain on the Site a diary in which he shall record site activities on a daily basis and particularly any occurrence which bears on the progress of the Works in any way. The visitors' book and the diary shall be surrendered to the Client at the completion of the project or at any other time that he may be directed.	ITEM	1		
	Site Offices				
F	The Contractor shall allow for providing, maintaining and later clearing away on completion adequate (about $10m^2$) site offices with standard furniture for the use of the Project Manager and site meetings.	ITEM	1		
	Storage of Materials				
G	The Contractor shall provide at his own risk and cost where directed on the site weatherproof lockup sheds for the safe storage and custody of material for the Works and for the use of workmen engaged thereon and shall remove such sheds and make good damaged or disrupted surfaces upon completion to the satisfaction of the Project Manager.	ITEM	1		
	Water				
H	Allow for clean water for the works	ITEM	1		
	Tests				
I	The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called by the Client for his approval or rejection and any other samples in the case of rejection until such samples are approved by the Client and the Client may reject any materials or workmanship not in his opinion up to to the approved samples.	ITEM	1		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
A	Reroute either by moving or lowering the ground existing sewer-line including construction of drop-down manholes or otherwise as directed by the Enginner.	ITEM	1		
B	Demolish the existing chain-link fence on concrete posts, approx. 60.0m; hand-over well rolled chainlink and barbed wire and cart away the concrete posts and other debris.	ITEM	1		
C	Ditto but 10 No. circular concrete reinforced with chicken wire uni-huts (houses) of 14.0m circumference and 2.2m high. Cart away the debris and handover the metal roofing material to client.	ITEM	1		
D	Ditto but 2No. rectangular shaped huts of perimeter 19.0m each and 2.3m high.	ITEM	1		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
	SWITCHYARD EARTHWORKS, LEVELLING & BALLASTING				
A	Clear site of all small trees, shrubs, grasses, bushes etc, grab up their roots and burn the arising.	SM	1000		
B	Cut and remove from site small trees of average girth over 300mm but not exeeding 600mm.	ITEM	1		
C	Remove tree stumps average girth over 300mm but not exceeding 600mm.	ITEM	2		
D	Allow for providing the entire land spot heights and the contours profiles for establishment of the working levels and in order to match the levels of the existing substation levels..	ITEM	1		
E	Bulk excavation commencing from ground level to make stepped terraces to match the existing adjacent substation levels.	CM	734		
F	Backfill to make up level with borrowed and approved gravel to make up levels and compacted to 95% MDD (AASHTO T99) in layers of 150mm thick.	CM	300		
G	Excavate oversite to remove top vegetable soil average 150mm thick and cart away.	SM	266		
H	Oversite grading to make level the entire site	SM	1000		
1	Prepare and apply an approved weedicide and herbicide to surfaces of proposed switching yard as per the Manufacture's written instructions and of 5 years and beyond guatantee.	SM	1000		
J	Supply and lay 1000 gauge polythene or other equal and approved membrane laid on compacted and treated quarry dust with welted laps of 200mm wide.	SM	940		
K	Supply and spread uniformly 150mm thick (1"-2.5") ballast in switchyard singly graded	SM	940		
L	Construct fair face plain concrete strip (1:3:6)mix, size; 150x300mm high along both side of drainage and spread ballast. Make opening to allow run-off water from the switchyard to the drains.	LM	100		
	ACCESS ROAD, DRIVEWAY & PARKING				
M	Excavate to 250mm deep commencing from stripped level and cart away to designated damping area by the County Government.	CM	58		
	Filling				
N	300mm thick handpacked hardcore, filling leveled, well rammed and consolidated in 150mm thick layers	SM	230		
O	50mm Thick quarry dust blinding on compacted hardcore (ms)	SM	230		
P	250 x 125mm High pre-cast concrete kerb bedded and jointed in cement and sand (1:4) mortar including 325x100mm thick mass concrete class 20/20 in foundation and haunching at the back, all necessary formwork and excavations.	LM	100		
Q	Extra-over ditto for curved on plan to various radii	LM	20		
R	250 x 125mm High pre-cast concrete channels	LM	100		
S	Extra-over ditto for curved on plan to various radii	LM	20		
T	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid in herringbone pattern laid to slope on quarry dust (measured separately) and compacted	SM	230		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
	66KV EQUIPMENT FOUNDATIONS				
A	Excavate foundation pits commencing from reduced level and not exceeding 1.5m deep	CM	104		
B	Ditto but over 1.5m but not exceeding 3.0m	CM	26		
C	Extra -Over for excavating in all classes of rock	CM	60		
D	Allow for all necessary plunking and strutting	ITEM	1		
E	Allow for disposal of general water by pumping, bailing or otherwise	ITEM	1		
F	Return, ram and fill selected excavated, and approved borrow materials around the foundations	CM	71		
G	Load and Cart-Away surplus excavated materials from site to County Government Approved damping site	CM	59		
	Blinding(Plain Concrete Class 15)				
H	50mm thick (1:3:6) Concrete blinding to pit bottoms	SM	70		
	Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:				
I	Bases	CM	18		
J	Stub columns	CM	39		
K	15mm thick average to plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	30		
	High yieled steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.				
L	D8-16mm	KG	2915		
	Fair - Face FormWork to:				
M	To vertical sides of stub-Columns	SM	210		
	CABLE TRENCHES				
	Cable Trenches (600x600mm deep)				
A	Excavate for cable trench 900mm wide and coomencing from reduced level not exceeding 1.5m metres deep.	CM	27		
B	Load and cart- away excess excavated materials from site to County Government Approved damping site	CM	27		
C	Backfill and ram selected excavated materials around trench walls.	CM	9		
E	50mm thick Plain concrete blinding (1:3:6)mix (Class 15/20 mm Aggregate)	SM	45		
F	**Vibrated reinforced concrete class 20/25 1:2:4 as described in;**				
G	100mm thick trench bed	SM	45		
	150mm thick trench walls with fairly smooth face finish.	SM	60		
H	**Road Crossing**				
I	Supply and lay 4No. Lines of 150mm diameter UPV Cclass 41 ducts.	LM	24		
	150mm thick Plain concrete (1:3:6)mix (Class 15/20 mm Aggregate				
	UPVC concrete haunching sorround.	CM	1		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
A	Provide and put in place (900x300x75mm) thick precast concrete cable trench covers reinfoced with D8 bars spaced at 100mm both ways with fair face finish on both sides. **[Note: The concrete used for precast covers shall be Class 30]**	No.	200		
B	Supply and fix 14 Gauge galvanized perforated steel cable trays; 300mm wide and 50mm deep including mounting on the trench on well secured hangers/support (ms) and all jointed by welds and bended as approprite to client satisfactory.	LM	60		
C	Supply and fix steel fabricated cable tray support structure of 40x25x3mm thick; girth 1300mm, to receive/support cable tray (ms) fixed with rowl bolts or welded on 150mm long M.S fish-tail inserts in the vertical sides of concrete cable trench wall at 1000mm centres and well primed with gloss primer paint and two coats of 1st grade gunmetal gloss paint.	NO	60		
	High yieled steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.				
D	D 8 in cable trench 150mm C/C Both ways	KG	600		
	Fair Face - Form work to:				
E	Vertical sides of trench walls.(Internally and Externally)	SM	120		
F	Allow cable trench bed screeding/sloping to drain run-off water including making outletholes and supply and fix PVC outlet pipes.	ITEM	1		
	DRAINAGE WORKS				
G	Excavate, cut and shape in a V formation an earth drain into any material and cart away to County Government designated damping site.	CM	10		
H	Supply and lay 300mm diameter 600x450x 225mm Precast concrete invert drain blocks All jointed in 1:3 cement/sand mortar.	LM	50		
	RETAINING WALL				
I	Excavate strip foundation and collumn pits commencing from ground level and not exceeding 1.5m deep	CM	20		
J	Extra -Over for excavating in all classes of rock	CM	8		
K	Return, Ram and Fill Selected Excavated materials around the foundations	CM	7		
L	Load and Cart-Away surplus excavated materials from site to County Government Approved damping site	CM	13		
	Blinding(Plain Concrete Class 15)				
M	50mm thick (1:3:6) Concrete blinding to pit bottoms and strip foundation.	SM	45		
	Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:				
N	200mm thick strip foundation and column bases.	CM	10		
O	Columns and top beam	CM	4		
	High yieled steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks				
P	D8-12mm	KG	500		
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty		
A	225mm thick quarry natural stone bedded and jiointed in cement and sand (1:3)mortar, including 20 gauge x 25mm hoop iron in every alternate course	SM	100		
B	15mm average thickness of render finish of stone walling.	SM	100		
C	Allow for chieseling 110mm diameter holes on masonry wall to receive PVC pipe for weep holes (ms)	ITEM	1		
D	Supply and fix 110mm diameter 225mm long PVC ducts for weep holes, including provision of filter materials on the open side.	NO	100		
	FENCE & GATE				
E	2.4m high x10A Gauge chain-link complete with 4mm diameter 5 strands of galvanized plain wire passing through hole in the 3.0m high 125x125mm cranked reinforced concrete posts placed at 3.0m centers, 3No. strands of 12Gauge barbed wire on 450mm cranks, including, excavation and erection works, mortised in 1:3:6 mix mass concrete surround 600mm deep, including 125x125mm concrete strut posts at approprite locations.	LM	70		
F	Fair face plain concrete strip (1:3:6)mix, size; 150x200mm high to anchor and hold chain-link in the ground, incliding excavation and carting away the excavated materials.	LM	70		
G	Fabricate and fix a primary substation gate as per the provided drawing	NO	1		
H	Excavate gate pillar bases commencing from reduced levels and cart away the spoil.	CM	8		
I	Plain concrete (1:4:8-20mm aggregates) in 50mm thick blinding for gate column bases.	SM	6		
J	Vibrated reinforced concrete class 20/20 (1:2:4/25) for gate column bases	CM	2		
K	Ditto but 400x400mm gate columns with fair face finish.	CM	4		
L	Fair face formwork to sides of gate columns	SM	35		
M	High yield mild steel reinforcement 8mm,12mm and 16mm bar including cutting, bending, spacers, tying wire and fixing to BS 4449 in, column bases and columns	KG	340		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
	STEEL GALVANIZED STRUCTURES **Supply Fabricated Steel Structures for 66kV equipment including Bus Bars, Voltage and Current transformers, Surge Diveters, Post Insulators and Isolators, Lighting mast etc. The steel structures shall be manufactured from hot-rolled structural steel sections of tensile strength of 430-460N/mm^2, yield strength of 255N/mm^2, density of 7860kg/mm^2 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.** **<u>Notes:</u> 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	CTs Structure; size 200x200x6mm thick SHS and 2.40m long - Approx. 165 Kgs each.	PCS	6		
B	CTs Structure; size 200x200x6mm thick SHS and 2.40m long - Approx. 165 Kgs each.	PCS	6		
C	Post InsulatorStructure; size 200x200x6mm thick SHS and 3.0m long - two-legged - Approx. 420 Kgs.	PCS	4		
D	Isolator (Air break switch); size 200x200x6mm thick and 3.0m high; two-legged -Approx.500kg each.	PCS	4		
E	Surge Diverter Structure, size 150x150x6mm thick SHS and 2.40m long, two-legged -120Kgs each	PCS	6		
F_0	66kV Terminal Gantry (Lattice) (2 vertical Gantries -9300.0m overall height and Horizontal Boom/Girder) -8.35m long - Approx.2000kg	PCS	2		
F_1	Lighting mast structure - Aprox.365Kg.	PCS	2		
G	Allow for grouting after KPLC erection of structures	ITEM	1		
H	Supply and fix all galvanized steel bolts min M28x1000mm long including poring anchoring holding in position and allowing for all bolts nuts washers and bottom plates.	No.	64		
I	Ditto but M25x650mm long	No.	120		
J	Allow a provisional sum of Kes. 450,000.00 for factory visit, 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 6no.(IAC members ,PE,PM)	ITEM	1		
	TOTAL CARRIED TO SUMMARY PAGE				

SUMMARY PAGE

	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		
	SUB-TOTAL		
	ADD 16% VAT		
	GRAND TOTAL CARRIED TO FORM OF TENDER		

Amount in words:.....

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Company Stamp

Signed: .....

Name: .....

Address: .....

Insert Conctract Period: ……Weeks