



Kenya Power

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Stima Plaza, Kolobot Road
Nairobi, Kenya*

M/s.

6th July, 2015

Dear Sir/Madam

ADDENDUM 1 TO TENDER NO.KP1/9AA-2/PT/56-ID/14-15 - FOR PROVISION OF BUILDING & CIVIL WORKS AT KILIFI 132/33KV SUBSTATION

1. RELATIONSHIP WITH THE PRINCIPAL TENDER DOCUMENT

Save where expressly amended by the terms of this Addendum, the Principal Tender Document shall continue to be in full force and effect.

The provisions of this Addendum shall be deemed to have been incorporated in and shall be read as part of the Principal Tender Document.

2. Section VII – There is additional Technical Specifications for AC Distribution and Auto Changeover Board which is hereby attached.
3. Section IX – The bill of quantities has been revised and is hereby attached.
4. Section X – Evaluation criteria clause 6.4 the weighted bid score formula has been amended to read as follows:-

$$B = \left[\frac{E_{low}}{c} x + \frac{r}{r^{(high)}} (1-x) \right] - D$$

Where, D is an absolute value given by:

$$D = \left| \frac{E_{cont.} - E_{eng}}{E_{eng}} \right|$$

Where:

D=Bidder's deviation from Engineers Estimate

$E_{cont.}$ = Contractor/Bidders bid amount

E_{eng} = Engineers Estimate

N/B

All other definitions remains the same as per tender document.

5. The tender closing date has been extended from 8th July, 2015 to 15th July, 2015 at 10.00am.

All other terms and conditions of the tender remains the same.

Yours faithfully,

For: KENYA POWER & LIGHTING COMPANY LIMITED.


BERNARD NGUGI
SUPPLY CHAIN MANAGER(PROCUREMENT).



Technical specifications for ac distribution and auto changeover board.

I Dimensional specifications.

1. The plates shall be made of mild steel of **2.0mm thickness**.
2. The Front, Back, Top and Side Plates shall be joined by folding and interlocking the overlapping edges. The overlapping edges/flaps shall be bolted together by use of **counter Sunker bolts/Screws**
3. The panel shall sit on a rectangular base (shoe) of **100mm** in height.
4. Earthing Copper strip (2mm thick by 800mm long) must be installed at the base of both side plates.
5. The bolts shall flash on the outer surface of the plates and shall not protrude for more than 2mm on the inner surface of the panel.
6. The base of the panel should have two removable glanding plates with the following holes;
 - a) 2nos. 32mm² diameter on the side with input contactors.
 - b) 6nos. 25mm² diameter on the distribution side.
 - c) 6nos. 20mm² diameter on the distribution side.
7. The top plate shall be fitted with a **lamp holder bracket with a hole** for fitting a standard lamp.
8. The front shall be a **double door** each hinged on either side breaking at the centre with a **3-point lock-rod latch mechanism** and a detachable key. Also shall have a **pocket** for putting drawings on inner side.
9. The auto changeover shall be 2000mm x 800mm x 1800mm.

II Auto-changeover components and specifications.

1. 2 no. 200A input contactors 240V AC
2. 1 no. 4-pole manual bypass switch

3. Facility for manual and electrical interlocking of the 2 input contactors.
4. Control voltage for the auto-changeover to be 240V AC.
5. Facility for phase failure relay for the 2 input sources.
6. Facility for voltage presence indication for the 2 input sources.
7. Facility for the auto/manual operation of the panel.
8. Facility to switch between preferred & alternative source.
9. Facility to show whether in auto or manual mode.
10. Facility to show the voltage and current level of the busbar.
11. 200A rated copper busbar.
12. Wiring to be done with 2.5mm² insulated copper wire.
13. Current carrying wires to be black with clearly indicated ferrule labels showing the phase.
14. Earthing wiring to be done using yellow/green wires.
15. Control cabling to be done using grey colour wires with ferrule marking.
16. Voltage carrying wires to be colour coded (Red, Yellow, Blue, Black)
17. Facility to select the phase-phase voltage levels.
18. Facility to pick contacts indicating loss of AC to the remote terminal unit.
19. 8 no. four-pole 32A miniature circuit breakers.
20. 4 no. four-pole 63A miniature circuit breakers.
21. 10 no. double-pole 16A miniature circuit breakers
22. 4 no. double-pole 2A miniature circuit breakers
23. 2 no. double-pole 6A miniature circuit breakers

The preferred source will always be in service. Once the preferred source is lost, the alternative source is picked after a set time delay. Once the preferred source is back, it should then be picked.



PROPOSED CIVIL WORKS AT KILIEI 132/33 KV SUBSTATION					
BILL OF QUANTITIES					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
SECTION 1					
Preliminaries					
A	Allow for a temporary site office ,notice board, shelves and , store for materials and tools storage. To accomodate 7 people and all furniture and meeting accesories	ITEM	1		
B	Allow for clean water for the works	ITEM	1		
C	Allow for all the necessary statutory approvals for the worksby relevant county authorities ;Replication of drawings to required formats by county government;Endorsement by relevant proffessional persons; and submit a set of approved drawings before commencement and as built drawings to client on completion,including site registration & NCA fees.	ITEM	1		
C	Allow for temporary sign post for the proposed works	ITEM	1		
D	Allow for security and insurance for the proposed works	ITEM	1		
E	Allow for supply of power connection for use for the works.	ITEM	1		
F	Allow for a qualified personel conservant with Kenya Power safety regulations for the entire contract period;with capacity to receive safety permits and double up a 'safety officer'	ITEM	1		
G	Allow for prompt communication and updates facilitation to client supervision team including communication and project data storage,laptops,hard drives,airtime etc	ITEM	1		
TOTAL THIS PAGE					



	SECTION. 4				
	DRAINAGE WORKS				
A	PERIMETER OPEN DRAIN				
a	Excavate on site drain trench not exceeding 1.5m deep including plucking and strutting, disposal of soil to receive drainage channels and forming sloping sides in well compacted murrum bed. (hydraulic depth 1m ,Trapezoidal area 0.9sm)	LM	450		
b	Lay (600mm) dia precast concrete invert block drains to a suitable fall with grooved edge and tongued joints filled with cement/sand mortar (1:3) and laid on 50mm thick plain concrete bed 100mm	LM	450		
c	Supply and lay on sides of sloped trench (75x230mm wide) precast concrete slabs jointed in 1:3 cement sand mortar,including proper joint treatment with waterproof mortar;	SM	1500		
d	Extra over for allowing inlet openings from collection chambers 150mm with PVC pipe;all including surface treatment and joint sealant max 40 inlet ponts	ITEM	1		
B	MAN HOLES				
a	Drop Manholes 600 x 600 x avrg 450mm 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 30 no chambers;	ITEM	1		
b	collection chamber widenig at gate area for silt sedimentation entry 1000 x 1000 x avrg 1500 mm deep (internal) comprising :1800 x1800 x 150 mm thick mass concrete Class 20 base : 150mm Solid concrete block walls : with light duty meshed/grilled manhole cover : 12mm internal render to base and walls : all necessary excavation, disposal and formwork. INCLUDING 450mm ogee to drain to soakpit	NO	4		
c	Extra over for concreting gap between wall and drain with 150mm thick lean concrete with smooth steel finish to slope in the drain side	SM	250		
	TOTAL THIS PAGE				
ITEM	DESCRIPTION	UNIT	QTY	RATE	
	SECTION. 4				

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	DRAINAGE WORKS.				
C	HEADWALL AND CULVERT				
	<u>Precast concrete Class 20 (mix 1:2:4) 20-15mm aggregate as described finished fair on all exposed surfaces including bedding, jointing and pointing in cement and sand (1:3) mortar.</u>				
a	Culvert Type; 600mm diameter (internal) concrete pipe; including all excavations and disposal; with murrum compaction in culvert bases murrum compacted backfill rammed in layers; INCLUDING ALL CONCRETE works, steel work, formwork and all builders work associated with it.	LM	8		
b	1500 x 200mm Thick Solid Concrete block work Winged Endwall for Storm Drainage Line, including all materials and labor for installation, including excavation, backfilling and compaction as per as per engineer's detailed drawing	NO	2		
D	STORM INTERCEPTER CHANEL				
a	TWIN RCC chanel 600mm deep 250mm wide ;200mm thick walls with 12mm steel bars at 150mm spacing with 8mm binders at 150mm ;overlying a concrete base 150mm thick with smooth finishes; groove 50mm with angle edge nosing with grating heavy duty made of 25mm twisted bar on a 50x50 angle framing perfectly fitting the groove	LM	16		
b	150mm Thick P.V.C HD Stormwater drainage pipe : including excavation not exceeding 500mm deep (average 450mm) and backfilling to approval. Starting and terminating at manhole chambers as type 1,2, or 3. to all switchyard manhole drain pits	LM	96		
	MASONARY BLOCK RETAINING WALL				
a	Construct 225mm thick wall with pillars at every 2.5 metres to project 600mm opposite the earth fill 400mm wide with whoop iron at every two courses, overlying mass concrete base 600mm wide ,200mm thick with final surface plaster finishes and 2 coats of black bituminous with 4" weep holes at each panel	LM	60		
	TOTAL THIS PAGE				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
E	SOAKPIT-DIAMETER 1800mm				



a	Excavation of drainage soakpit to a maximum of 30m deep to ground water table including earthwork support excavation in all classes of rocks cut away and safe disposal of all excavated materials, protection from collapse and all associated works(Lumpsum)	Item	1		
i	Allow for construction of masonry blocks minimum 1.2m top depth and covering with RCC slab 150mm thick with 12 mm steel at 150mm spacing including all provisions for concrete ,steel and builders work	ITEM	1		
j	Connection and termination of all incoming storm water with gages and drain pipes.	ITEM	1		
REHABILITATION WORKS					
a	Rehabilitate existing trenches by hacking all edges ,making 1150x300mm grooves at 500m spacing,and casting lean concrete in 1/2" INC H concrete class 20 and raise level by average 300mm;including all formwork and steel anchoring	LM	250		
b	Rehabilitate existing Transformer foundation and oil containment and this to include 600mm deep 150mm RCC wall at the perimeter not exceeding 50m with 10mm steel at 200c/c including concrete floor 150mm with NIRU finish all excavations,formwork and building works;	ITEM	1		
c	Rehabilitate existing guard house and Toilet including replacing all worn out and damaged fittings,panes,lighting system and painting with two coats of kplc cooperate colours	ITEM	1		
TOTAL THIS PAGE					



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	CABLE TRENCH				
	<i>Trench 600mm wide x600mm deep-length 40Metresres various locations</i>				
A	BULK excavation for trench 1.8m wide from reduced level not exceeding 1.2 m deep.	CM	100		
B	Load, cart away from site excavated materials and dispose at areas designated by local authority.	CM	60		
C	Fill in and ram selected backfill materials around trench.	CM	40		
	<i>Trench bed</i>				
D	50mm plain concrete(1:4:8) blinding on cable trench bed 1.5m wide	SM	72		
	<u>Vibrated reinforced concrete class</u>				
	<u>20/20 1:2:4/20 as described in:-</u>				
E	In 150mm thick trench base with smooth steel finish	CM	8		
F	In 150mm thick vertical walls	CM	10		
	<i>fairface form work to</i>				
G	Sides of trench wall	SM	150		
	<u>Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461</u>				
I	Y 8mm in cable trench	KG	2,000		
J	50x50x4mm angle line embedded in concrete cable trench edges	LM	105		
	<i>Precast concrete trench covers (external cable trenches)</i>				
K	Provide and put in place (1000x300x75mm) thick precast concrete trench covers reinforced Y8 bars spaced at 100mm both ways with handles for lifting;with all edges protected with galvanized angle section 25x25mmx3mm	NO	160		
l	Ditto for existing trenches	LM	250		
	<i>Cable trays</i>				
m	Fabricate and fix cable trays,in 50x50x6mm thick RHS frame WITH 50x50x4mm RHS ties at 300mm c/c welded in themain frame and raised 200mm above the cable trench floor with same size supports,ALL steel work galvanized to clients approval	LM	50		
	TOTAL THIS PAGE				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT



	ELEMENT NO.3				
	OIL sump chamber 6m x 5m x 3m deep; perimeter 200mm thick block walling; internal plaster complete with niru finish; with ring beam at every 2m interval 250x200mm with 4 nos.12mm bars and 8mm shear links at 200mm spacing; cover slab with manhole opening 150mm reinforced with 8mm steel bothways at 150mm spacing; heavy duty steel cover; including pvc pipe 4"connecting with the main transformer pit not exceeding 6m away.-in two compartments	ITEM	1		
	ROAD REHABILITATION				
	ACCESS ROAD				
2	<i>Paving blocks (Access road)</i>				
A	Excavate for 4m wide access road depth not exceeding 750mm and cart away the spoil	SM	900		
B	Average 300mm thick selected well compacted hardcore fill, compacted in layers of 150mm thick using 10 tonne vibrating roller to receive paving blocks	CM	400		
C	300mm approved compacted murrum fill in 150mm layers	CM	400		
D	50mm thick approved and well compacted quarry dust blinding on hardcore	SM	1,130		
E	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid to slope on quarry dust and compacted	SM	1,130		
F	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	600		
G	Ditto but curved	M	70		
3	Painting				
A	Prepare and apply approved gloss paint to kerblines; 125mm girth; colour to engineer's approval	LM	670		
	TOTAL THIS PAGE				



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	CHAINKLNK				
a	(2.4m highx12.5 gauge chainlink) fence on precast cobncrete posts complete with 4 strands of 3mm galvanised steel wire passing through holes drilled on overall height of 2.4m high and crank with 2 strands of 12.5 gauge barbed wire including securing chainlink to wire strands.	LM	230		
b	Fabricate and fix a GRILL a primary substation gate as per the consisting of 75x50x8mm mainframes and 50x50x3m intermidiate members and bracings with small wicket openable door im wide with closing latches and mesh grill 50mm sq heavy duty;including gate columns ,fastening,assembly and all works 6mx2.0m	NO	2		
c	Extra over for galvanizing all steel work to 85 microns(with provision of 2No. Incomers)	ITEM	1		
d	Rehabilitate existing gate by checking all connections,bushes and priming with 3 coarts of paint	ITEM	1		
e	Demolish existing control room and hand over selected materials to client and cart away all debris including levelling,backfilling all trenches and make good to switchyard standards	ITEM	1		
f	Allow for triming,felling and/or pruning existing trees, branches and hew ,arrange in packed lots at disignated area in station yard	ITEM	1		
g	Allow to clear and remove debris where necessary and unblock all external drains around substation premises with liase with county government	ITEM	1		
TOTAL THIS PAGE					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.4				
	CONTROL BUILDING				
1	Substructure				
a	Excavate oversite vegetable soil average depth 150mm and cart away	SM	170		
b	Excavate for foundation trench 1m wide commencing at reduced level and not exceeding 1.5m deep.	CM	100		
c	Ditto exceeding 1.5m but n.e 3m.	CM	100		
d	Excavations for column base size	CM	40		
e	Ditto exceeding 1.5m but n.e 3m.	CM	40		
f	Extra over excavation for excavating in hard rock.	CM	5		
h	Allow for keeping all excavations water free by pumping, bailing or otherwise.	ITEM	1		
i	Fill in and ram selected imported materials around foudations and column bases.	CM	335		
j	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	80		
k	300mm thick bed of selected hard-core well-compacted in layers n.e. 150mm thick blinded with fine material 50mm thick to receive damp proof membrane (m.s)	CM	50		
l	150mm thick approved murrum blinding well compacted, watered and rolled to satisfaction	SM	160		
m	Gradiator 4TC or equal and approved insecticide treatment to hardcore blinded surface and around entire building	SM	160		
n	1000 gauge polythene or other equal and approved mebrane as damp proof laid on blinded hardcore.(m.s) with welted laps of 200mm wide.	SM	160		
o	50mm thick plain concrete(1:4:8) blinding under strip and columns foundations.	SM	148		
	TOTAL THIS PAGE				



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Vibrated reinforced concrete class</u>				
	<u>20/25 1:2:4/25 as described in:</u>				
p	Strip foundation (600x250)mm	CM	15		
q	Column bases size (1250x1250x250)mm	CM	10		
r	Columns size (250X250)mm	CM	9		
s	150mm thick concrete slab on damp proof membrane (m.s)	CM	25		
	<u>Steel reinforcement bars including tying bending</u>				
	<u>spacer blocks tying wires and fixing high tenaile</u>				
	<u>bars to BS 4461 to strips, columns and bases</u>				
u	Y8-16mm	KG	2400		
y	Steel wire fabric mesh reinforcement to B.S.4483 Ref BRC No.A142 in concrete bed (M.S) including 200mm laps, all necessary tying wire and supporting as required.	SM	160		
	<u>Sawn formworks to</u>				
aa	Sides of column size 250 x 250 mm	SM	50		
bb	Sides of floor slab 150-200mm girth.	LM	55		
	<u>Foundation walling</u>		0		
cc	225mm thick approved natural stone walling bedded and jointed in mortar (1:3)	SM	245		
	<u>ELEMENT NO.6</u>				
	<u>SUPERSTRUCTURE</u>				
i	<u>Walling</u>				
a	Pluvex No.1 or other equal and approved bituminous damp proof course to B.S.743. 225mm wide under walling (m.s) including for 200mm long laps (measured net no allowance included for the laps)	LM	110		
b	225mm thick approved smooth hand dressed natural stone walling in cement mortar (1:4) including for hoop iron in every alternate course.	SM	480		
	PRIMING all elevated substructure masonry surfaces with black bituminous paint 3 coats	SM	50		
	TOTAL THIS PAGE				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT



Vibrated reinforced concrete class					
20/25 1:2:4/25 as described in:					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
c	In columns size 250x250mm	CM	6	12,000	
d	In ring beam and upstand size 450-600x200mm	CM	22	12,000	
e	In 150mm thick suspended slab	cm	25	12,000	
f	In 100mm thick canopies over all openings and hood	cm	2	12,000	
g	In lintols 300x200mm	CM	2	12,000	
Steel reinforcement bars including tying bending					
spacer blocks tying wires and fixing high tensile					
bars to BS 4461 in upstands, ringbeam and slab, canopies					
i	Y 8mm-16MM	KG	5170	130	
Sawn form work to					
p	Sides and soffits of ring beam	SM	280	150	
r	Sides of columns	SM	90	150	
s	Soffits of suspended slab	SM	160	150	
t	canopies and the like	SM	12	150	
TOTAL THIS PAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
ELEMENT NO. 7					

ROOF CONSTRUCTION AND COVERING					
The following in 7 no trusses spanning 11.00m and					
1	hoisted 4m high above finished floor level				
a	100x50x6mm rolled steel RHS in rafters	LM	160		
b	Ditto 50x50mm in struts	LM	180		
c	Supply and fix in concrete ring beam 28no. 16mm bolts	ITEM	1		
d	(200x200x6mm thick M.S plate cleats with 2no. holes welded to truss.	NO	14		
e	Supply and erect MS purlin cleats welded to truss at 1800 cc	NO	14		
f	Supply and erect 150x51x2mm Z purlins bolted to rafters primed with one coat of red oxide	LM	170		
g	Gauge 26 pre-painted IT 5 roof covering sheet including for 2no. side corrugations and 300mm long end laps	SM	196		
h	Ditto for side cladding AND UNDERSIDE AND GABLES	SM	150		
i	26gauge matching ridge cap.	LM	35		
j	50x50x6mm RHS fascia support	LM	78		
k	50x50x6mm angle iron fascia support	LM	150		
l	Supply and fix cleats welded to fascia support	NO	33		
m	26 gauge 100x100mm corner edging	LM	112		
n	14 gauge galvanised M.s in gutters	lm	54		
o	Extra over for stopped ends	NO	4		
p	Ditto for 100mm outlet	NO	6		
q	50x50mm thick timber bearers	LM	65		
r	100x50mm thick timber cornice	LM	65		
TOTAL THIS PAGE					

ELEMENT NO.9					
FINISHES					
1	Floor finishes				
a	25mm thick cement sand screed prepared to receive granolithic paving.	SM	120		
b	Ditto for ceramic tiles	SM	58		
c	terazo paving to wood floated floor screed including all the necessary strips	SM	150		
d	100mm skirting ditto	LM	90		
e	12mm thick internal quality lime plaster finished smooth with steel trowel to all walls and suspended slab	SM	920		
f	External plaster with 12mm render including profile pointing on stone jopint	SM	250		
g	Prepare surface and apply undercoat and 3 coats of 1st quality silk vinyl emulsion paint to plastered walls internally and externally.	SM	1300		
h	12mm plaster to window and door head, cill and jambs 200-300mm girth	LM	88		
j	Prepare surface, apply undercoat and 2 coats of 1st quality silk vinyl emulsion paint to plastered surfaces 200-300mm girth	LM	1300		
k	200X250mm wall tiles bedded in cement grout pointed in colour cement to match colour of tiles	SM	65		
l	Ditto 300x300mm floor tiles	SM	69		
2	Kitchen				
a	100mm thick 1:2:4 concrete in kitchen work top	SM	6		
b	Y 10 reinforcement bars at 200 C/C	KG	230		
c	150mm block wall	SM	23		
d	12mm 1:3 cement sand plaster	SM	69		
e	Single drain single bowl stainless sink	NO	1		
f	Bricon or approved kitchen mixer	NO	1		
TOTAL THIS PAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT



g	400mm wide 25mm thick block veneered offwhite cream board shelves fixed with brackets to wall	LM	35		
h	Ditto in locable cupboards including hinges, fasteners and locks.-colour scheme subject to eng approval to blend with off white grey terazzo	LM	35		
	600x600mm PCC paving slabs along control room perimeter and spalash aprons and all other areas stipulated by eng ,including bedding and jointing with 1:3 mortar	SM	100		
	ELEMENT NO.10				
	DRAINAGE AND PLUMBING WORKS.				
l	Plumbing works				
a	Twyfords Hindustan vitreous china wash hand basin size 500x400mm fixed on semi-concealed brackets	NO	2		
b	Ref. No. 1200 complete with 2No. Approved 12mm. chrome plated taps	NO	2		
c	150x150mm semi- recessed "Twyfords" white toilet roll holder	NO	2		
d	White Twyfords classic WC suite comprising pan, heavy duty plastic seat and cover, ceramic cistern, flush pipe and trap.	NO	2		
e	Supplly and fix compact auto dryer satin chrome 2.2KW	NO	2		
f	12mm gate valve as per peglar	NO	12		
g	Ditto 15mm		9		
h	15mm class B pipes including all necessary fittings including all the necessaary excavations and chasing in wall	LM	200		
i	12mm class B pipes including all necessary fittings including all the necessaary excavations and chasing in wall	LM	210		
j	allow for repair to good condition the entry chanel at gate	ITEM	1		
k	1200x800mm resin stone shower tray 40mm CP unslotted waste and trap.	NO	1		
	TOTAL THIS PAGE				



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
l	100mm CP metal shower head , 15mm CP angled shower arm ,15mm riser pipe,exposed shower mixer valve.	NO	2		
m	Semi-countertop wash basins with tap hole and chain stay 32mm chrome plated bottle trap waste etc.	NO	2		
n	1800 x 500mm single drain double bowl sink c/w 1No. 15mm dia. CP mixer pillar tap with swivel spout, 2No. 40mm waste	NO	1		
o	Vitreous china semi-recessed toilet roll holder	NO	3		
p	1000x600x6mm thick plate glass mirror with bevelled edges.	PC	3		
q	Soap dish.	NO	2		
r	Towel rail.	NO	4		
	SOAKPIT				
a	Excavate soakpit 1800mm dia to seepage depth min 15m, equip and construct protective wall and cover including all builders work, concrete and steel work-TYP	ITEM	1		
	SEPTIC TANK				
a	Septic tank 3.6m x 2.1m x 3m deep; perimeter 200mm thick block walling; internal plaster complete with niru finish; with ring beam at every 2m interval 250x200mm with 4 nos.12mm bars and 8mm shear links at 200mm spacing; cover slab with manhole opening 150mm reinforced with 8mm steel bothways at 150mm spacing; heavy duty steel cover; including pvc pipe 4"connecting with the sewerage and foul drainage-in two compartments	ITEM	1		
	WATER SUPPLY SYSTEM				
a	Connect piped water using 1"G.I.class B pipe to the substation by liaising with the relevant water body; including excavation of water pipe water trench, backfilling, all connections and accessories.	ITEM	1		
b	Supply and install 6000 litres an approved plastic water tank, approved 3/4" watertap and concrete platform including all necessary required fittings and connections-GROUND MOUNTED -extra over to include roof water harvesting system with gutters ,PVC downpipes and BENDS	ITEM	1		
c	supply and install 2000lt rectangular plastic (BOX) tank on top of control building including all float valves, connectoions and maintainance access provision on facia cladding; connect to piped mains and sanitary units	ITEM	1		
	TOTAL THIS PAGE				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>ELECTRICAL INSTALLATIONS WORKS</u>				
A	Electrical builders work to power supply points and distribution board lighting points; sockets; including chasing and making good all works as described	ITEM	1		
B	Electrical distribution board, Electrical lighting work and accessories, fluorescent bulbs, socket outlets, switches AS Follows 12nos 4 feet fluorescent lamps; 4 nos ball fittings, 16nos 13 amp sockets, cooker unit sockets 1 no.; provision for data and TV cable in all operator room, CCTV with 6 no cameras and VDU in controller room	ITEM	1		
C	Supply and install 110volts DC distribution board with technical specifications as attached in the technical spec document	ITEM	1		
	<u>SUBSTATION LIGHTING</u>				
D	Supply 240 watt AC (LIGHT DEPENDENT TYPE) bucky head floodlight with energy saver 100 watts sodium metal halide lamps to be hoisted on mast supplied by kplc including all connections	ITEM	4		
	supply and fix emergency chargeable lights in the control room to client approval.	NO	1		
	<u>ELEMENT NO. 7- SMOKE DETECTORS</u>				
E	Allow for Hardwired Smoke detectors installations; including a battery back up; to be carried out by a nominated sub-contractor-merchant OR approved type	Item	1		
	Allow for general attendance on specialist contractor	Item	1		
F	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		
	<u>ELEMENT NO. 8 - AIR CONDITIONING</u>				
	Air conditioning				
	Supply and fix air conditioners complete with all fixing accessories to control room temperatures from approved suppliers				
a	24000 BTU	NO	3		
	<u>ELEMENT NO. 9 - FIRE EXTINGUISHERS</u>				
a	Supply and fix controlled discharge 9 litre 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:	No	6		
	Charge and fixing bracket, Pictorial instructions, Colour code, Servicable on site, discharge horn and hose, Brass hot stamping, Operating valve, Local Fire Brigade approval				
b	Ditto but DRY powder fire extinguishers	No	6		
c	Ditto fire blanket 6' x 4' container	no	2		
	TOTAL THIS PAGE				



ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELEMENT NO.5				
	CABLE TRENCH				
1	Trench (600x600mm deep) length approx. 60metres-internal				
a	Excavate for trench 1.2m wide from reduced level not exceeding 1.5m	CM	90		
b	Load, cart away from site excavated materials and dispose at areas designated by local authority.	CM	90		
c	Fill in and ram selected imported materials around trench.	CM	46		
2	trench walls				
a	50mm plain concrete(1:4:8) blinding on cable trench foundation 1.2m wide	SM	72		
	<u>Vibrated reinforced concrete class</u> <u>20/20 1:2:4 as described in:</u>				
b	In 150mm thick trench base	CM	9		
c	In 150mm thick retaining walls	CM	14		
	Steel form work to				
d	Sides of trench wall	SM	190		
e	150mm blockwallas permanent formwork on outer trench wall	SM	80		
	Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461				
f	Y 8mm in cable trench	KG	1550		
g	50x50x4mm m/s angles embedded on concrete trench edges	lm	130		
	600x600mmx5mm thick chequered plate trench covers reinforced with 40x40mmx3mm thick SHS all round primed and apply 3 coats of first quality gloss paint.				
h		NO	100		
	Cable trays				
i	Alluminium perforated cable trays 600mm x40mm complete with all bends,angle turn cleats and screws	lm	60		
j	Allow for making groove slots 300mm square with 45 degrees slope to trench complete with checker plate covers	No.	16		
	TOTAL THIS PAGE				



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SUB TOTAL

ADD N.C.A FEES

ALLOW 16% VAT

TOTAL CARRIED TO FORM OF TENDER

Amount in words:.....

.....

Company Stamp

Signed:

Name:Address:

Contract Period:Weeks

