

**ELECTRICAL INSTALLATION WORKS TO PROPOSED WOMEN HOSTEL AT KIBABII UNIVERSITY**

**1.0 GROUND FLOOR**

No	DESCRIPTION	QTY	UNIT	RATE (Ksh)	AMOUNT (Ksh)
	<b>Supply install, test and commission the following:-</b>				
1	Lighting points wired in 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm Ø concealed H/G PVC conduit and all accessories excluding switches for:-				
(a)	One way switching	112	No		
(b)	Two way switching	64	No		
2	10A Ivory type plate switch as M.K. range or approved equivalent:-				
(a)	1 Gang 1 Way	80	No		
(b)	1 Gang 2 Way	38	No		
(c)	2 Gang 1 Way	6	No		
3	Lighting fittings complete with tubes, bulbs and all accessories as follows:-				
(a)	1200mmx36W single bare batten fluorescent fitting LED type as THORN or approved equivalent <b>(Type 2)</b> .	14	No		
(b)	600mmx18W single bare batten fluorescent fitting LED type as THORN or approved equivalent <b>(Type 6)</b> .	45	No		
(c)	1200mmx36W single batten fluorescent fitting c/w tube and waterproof prismatic diffuser LED type as THORN or approved equivalent. <b>(Type WP)</b>	9	No		
(d)	Pendant comprising white ceiling rose c/w C.G. Lampholder, upto 1metre of 1.5mm <sup>2</sup> , 3 core flexible cord, matching lampshade and Energy saver lamp as Phillips 20W. <b>(Type P)</b>	25	No		
(e)	Screwneck spherical fitting complete with energy saving bulb as Phillips 15W. <b>(Type S)</b> .	32	No		
(f)	Semi recessed hallway wall/ceiling fitting c/w 18W compact fluorescent lamp as THORN in passages. <b>(Type H)</b>	20	No		
(g)	Polycarbonate luminaire, self contained 8W fluorescent, IP65 indoor for non-maintained emergency lighting, minimum 3hrs duration including integral control gear as THORN EWB bulkhead. <b>(Type E)</b>	8	No		
(h)	Circular superclub CD fitting with polycarbonate body, white trim opal diffuser & integral control gear for 28W 2D lamps as Thorn. <b>(Type C)</b>	9	No		
(i)	Wall mounted Weather-resistant bulkhead security light fitting c/w 50W energy saving lamp, polycarbonate diffuser and vandal proof enclosure as THORN CONCEPT CFPC 1050 or approved equivalent. <b>(Type B)</b>	18	No		
4	13A Ring mains circuit power points comprising switched socket outlet wired in 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in concealed 25mm Ø H/G PVC conduit and all accessories.	32	No		
5	13A switched Twin socket outlet as CRABTREE and all accessories.	32	No		
6	1.5KW 1φ water pump motor power point comprising 20A Spur circuit wired in 3x2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 25mm Ø Concealed H/G PVC conduit c/w 20A DP fused and switched outlet plate with neon indicator as CRABTREE cat No. 4015 and all accessories	2	Lot		
	<b>Sub-Total Carried Forward to Pg-5; .....Ksh.</b>				

No	DESCRIPTION	QTY	UNIT	RATE (Ksh)	AMOUNT (Ksh)
	<b>SUB-TOTAL Brought forward from Pg-1; ..... Ksh.</b>				
7 (a)	12 way SPN Consumer Unit "A1" complete with 100A integral isolator as CRABTREE or approved equivalent.	1	No		
(b)	MCB's to be installed in the above Consumer Unit as follows:-				
(i)	10 A SP MCB	5	No		
(ii)	30A SP MCB.	3	No		
(iii)	20A SP MCB.	3	No		
(iv)	Single blanking plates.	1	No		
(c)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> single core PVCII copper submains cables drawn in concealed H/G PVC conduit.	30	m		
8 (a)	12 way SPN Consumer Unit "A2" complete with 100A integral isolator as CRABTREE or approved equivalent.	1	No		
(b)	MCB's to be installed in the above Consumer Unit as follows:-				
(i)	10 A SP MCB	6	No		
(ii)	30A SP MCB.	3	No		
(iii)	Single blanking plates.	3	No		
(c)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> single core PVCII copper submains cables drawn in concealed H/G PVC conduit.	40	m		
9	PME comprising 25mm Ø x 1500mm long steel cored copper clad earth electrode, 6.0mm <sup>2</sup> single core earth lead, earth clamp and all accessories including an inspection pit with removable concrete cover all to the requirements of KPLC.	1	Lot		
10	Two loop intelligent addressable 4 Zone Fire Alarm Control Panel, Surface Mounted, complete with alarm buzzer and 72 Hour Battery Back-up and battery charger as Menvier Catalogue DF series or approved equivalent.	1	Lot		
11	Outlet for 4- Zone Fire alarm control panel wired in 3x2.5mm <sup>2</sup> single core fire resistant cables drawn in concealed 20mm Ø H/G PVC conduit and all accessories including 5A fused unswitched connection unit with neon light.	1	Lot		
12	Outlet for fire alarm manual/Automatic call point wired in 3x2.5mm <sup>2</sup> "firetuff" cables drawn in concealed 20mm Ø H/G PVC conduit and all accessories.	20	Lot		
13	Fire alarm and detection accessories as follows:				
(a)	Fire alarm breakglass as MENVIER Cat No. MBG 914.	6	No		
(b)	Fire alarm bell as MENVIER Cat No. MBM 248.	6	No		
(c)	Point ionization Smoke detector as MENVIER Cat No. MID 710 + MDB 248.	8	No		
	<b>SUB TOTAL FOR SCHEDULE 1 (-Gnd Flr) CARRIED TO PRICES SUMMARY Ksh</b>				

**2.0 FIRST FLOOR - (TYPICAL TO 1st, 2nd & 3rd FLOOR)**

No	DESCRIPTION	QTY	UNIT	RATE (Ksh)	AMOUNT (Ksh)
	<b>Supply install, test and commission the following:-</b>				
1	Lighting points wired in 1.5mm <sup>2</sup> single core PVC insulated copper cables drawn in 20mm Ø concealed H/G PVC conduit and all accessories excluding switches for:-				
(a)	One way switching	108	No		
(b)	Two way switching	60	No		
2	10A Ivory type plate switch as M.K. range or approved equivalent:-				
(a)	1 Gang 1 Way	78	No		
(b)	1 Gang 2 Way	36	No		
(c)	2 Gang 1 Way	4	No		
3	Lighting fittings complete with tubes, bulbs and all accessories as follows:-				
(a)	1200mmx36W single bare batten fluorescent fitting LED type as THORN or approved equivalent <b>(Type 2)</b> .	12	No		
(b)	600mmx18W single bare batten fluorescent fitting LED type as THORN or approved equivalent <b>(Type 6)</b> .	44	No		
(c)	1200mmx36W single batten fluorescent fitting c/w tube and waterproof prismatic diffuser LED type as THORN or approved equivalent. <b>(Type WP)</b>	8	No		
(d)	Pendant comprising white ceiling rose c/w C.G. Lampholder, upto 1metre of 1.5mm <sup>2</sup> , 3 core flexible cord, matching lampshade and Energy saver lamp as Phillips 20W. <b>(Type P)</b>	24	No		
(e)	Screwneck spherical fitting complete with energy saving bulb as Phillips 15W. <b>(Type S)</b> .	30	No		
(f)	Semi recessed hallway wall/ceiling fitting c/w 18W compact fluorescent lamp as THORN in passages. <b>(Type H)</b>	16	No		
(g)	Polycarbonate luminaire, self contained 8W fluorescent, IP65 indoor for non-maintained emergency lighting, minimum 3hrs duration including integral control gear as THORN EWB bulkhead. <b>(Type E)</b>	6	No		
4	13A Ring mains circuit power points comprising switched socket outlet wired in 2.5mm <sup>2</sup> single core PVC insulated copper cables drawn in concealed 25mm Ø H/G PVC conduit and all accessories.	32	No		
5	13A switched Twin socket outlet as CRABTREE and all accessories.	32	No		
	<b>Sub-Total Carried Forward to Pg-7; .....Ksh.</b>				

No	DESCRIPTION	QTY	UNIT	RATE (Ksh)	AMOUNT (Ksh)
	<b>SUB-TOTAL Brought forward from Pg-6; ..... Ksh.</b>				
6 (a)	12 way SPN Consumer Unit "B1" complete with 100A integral isolator as CRABTREE or approved equivalent.	1	No		
(b)	MCB's to be installed in the above Consumer Unit as follows:-				
(i)	10 A SP MCB	5	No		
(ii)	30A SP MCB.	2	No		
(iii)	20A SP MCB.	2	No		
(iv)	Single blanking plates.	3	No		
7 (a)	12 way SPN Consumer Unit "B2" complete with 100A integral isolator as CRABTREE or approved equivalent.	1	No		
(b)	MCB's to be installed in the above Consumer Unit as follows:-				
(i)	10 A SP MCB	6	No		
(ii)	30A SP MCB.	2	No		
(iii)	Single blanking plates.	4	No		
8	Outlet for fire alarm manual/Automatic call point wired in 3x2.5mm <sup>2</sup> "firetuff" cables drawn in concealed 20mm Ø H/G PVC conduit and all accessories.	20	Lot		
9	Fire alarm and detection accessories as follows:				
(a)	Fire alarm breakglass as MENVIER Cat No. MBG 914.	6	No		
(b)	Fire alarm bell as MENVIER Cat No. MBM 248.	6	No		
(c)	Point ionization Smoke detector as MENVIER Cat No. MID 710 + MDB 248.	8	No		
	<b>Sub-Total for Schedule 2 (-Typical 1st Floor) Ksh</b>				
	<b>Total above x 3 =Sub-Total for 3 No. Typical Floors Carried to next Page; Ksh</b>				

No	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Ksh)
<b>Sub-Total for 3 No. Typical Floors brought forward from Pg-7; ..... Ksh.</b>					
Submains cables comprising single core PVC insulated copper cables drawn in 38mmØ HG concealed PVC conduit and all accessories from the LV switchboard to the respective consumer units as follows:-					
1	<b><u>SUBMAINS CABLES - 1st FLOOR</u></b>				
(a)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> Ecc to CU B1	35	m		
(b)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> Ecc to CU B2	40	m		
2	<b><u>SUBMAINS CABLES - 2nd FLOOR</u></b>				
(a)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> Ecc to CU C1	40	m		
(b)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> Ecc to CU C2	45	m		
3	<b><u>SUBMAINS CABLES - 3rd FLOOR</u></b>				
(a)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> Ecc to CU D1	45	m		
(b)	2x16.0mm <sup>2</sup> + 1x10.0mm <sup>2</sup> Ecc to CU D2	48	m		
<b>Total for 3 No. Typical Floors carried forward to Prices Summary Page; Ksh.</b>					

**3.0 LIGHTNING PROTECTION SYSTEM**

No	DESCRIPTION	QTY	UNIT	RATE (Ksh)	AMOUNT (Ksh)
	<b>Supply, install, test and commission the following:-</b>				
	<b><u>Air Termination</u></b>				
1	600mm long x 15mmØ multiple point pure copper air terminal with spikes as Furse Cat. No. RA 600 mounted on bracket.	6	No		
2	Copper air terminal base as Furse Cat. No. SD 105.	6	No		
3	Copper junction clamps for tape.	6	No		
4	25mm x 3mm turned copper tape as Furse Cat. No. TC 230.	200	m		
5	Copper ridge saddle as Furse Cat. No. CD 115.	20	No		
6	Direct Coupling tape clip as Furse Cat. No.CP 210.	10	No		
7	Copper rod-to-tape coupling.	12	No		
8	Bondex waterproof paste	2	Kg		
	<b><u>Down Conductors</u></b>				
9	25mm x 3mm turned copper tape as Furse Cat. No. TC 230.	140	m		
10	Direct Coupling tape clip as Furse Cat. No. CP 210.	20	No		
11	Oblong test/junction clamp as Furse Cat. No. CN 105.	6	No		
12	38mmØ HG PVC conduits for the down conductors above.	40	m		
	<b><u>Earth Termination</u></b>				
13	16mmØ x 1500mm long solid copper earth rod as Furse Cat. No. RC 020, complete with driving stud and spike.	6	No		
14	Earth rod-to-tape clamp type A.	6	No		
15	Concrete inspection earth pit/chamber, 300mmx300mm masonry type c/w removable cover Cat. No. PT 005 with 5 hole earth bar as Furse Cat. No. PT 006.	6	No		
	<b><u>Bonding</u></b>				
16	Bonding and clamping to all metal work including water pipes, gas pipes, hand-rails, air-conditioning units, window frames, cladding, metal roof etc. and the main earth for the building.	1	Item		
17	Surge diverter as FURSE ESP 415 or approved equivalent, c/w purpose made enclosure with viewing window	1	Item		
	<b>SUB TOTAL FOR SCHEDULE 3 (Lightning Protection) CARRIED TO PRICES SUMMARY Ksh</b>				

**4.0 LV SWITCHBOARD, SWITCHGEAR; DISTRIBUTION CABLE & HOSEREELS SUPPLY**

No	DESCRIPTION	QTY	UNIT	RATE (Ksh)	AMOUNT (Ksh)
1	160A TPN MCCB c/w shunt trip as CRABTREE. (supply LV switch)	1	No		
2 (a)	70.0mm <sup>2</sup> , 4 Core XLPE/SWA/PVC armoured copper feeder cable complete with cable glands and cable lugs from the existing Feeder Pillar to the LV switchboard	100	m		
(b)	Allow for termination of the 70.0mm <sup>2</sup> , PVC/SWA/PVC armoured copper feeder cable complete with cable glands and cable lugs at both ends.	1	Lot		
(c)	Cable markers along the cable route	15	No		
3	Trenching, laying, tiling with concrete 'HATARI' cable tiles and backfilling in soft ground.	90	m		
4	900mm wide x 900mm long x 600mm deep manhole for incoming power cable	2	No		
5	150mm Ø H/G pitch fibre duct across civil works for power service cable	20	m		
6	LV Distribution board as SWITCHCRAFT manufacture complete with 150A TPN MCCB adjustable incomer with shunt trip, 200A busbars; all switchgear and accessories as MERLIN GERIN, LOADLINE or approved equivalent; and with adequate space to accommodate 9 No. single phase outgoing as detailed in the contract drawings.	1	No		
7	Outgoing SP MCB's as MERLIN GERIN or approved equivalent in the above switchboard.				
(a)	80A SP MCB	2	No		
(b)	63A SP MCB	7	No		
(c)	Spare ways blanked	4	No		
8	PME comprising 15mm Ø x 1500mm long steel cored copper clad earth electrode, 6.0mm <sup>2</sup> single core earth lead, earth clamp and all accessories including an inspection pit with removable concrete cover all to the requirements of KPLC.	1	Lot		
	<b><u>2 No. Hosereels Loads</u></b>				
1	20A TPN MCCB as MERLIN GERIN or approved equivalent.	1	No		
2	4 way TPN DB'H' complete with 20A TPN isolator, busbars and all accessories; as CRABTREE for fire safety.	1	No		
3 (a)	10A TP MCCB as MERLIN GERIN or approved equivalent. (In DB "H")	2	No		
(b)	Single Spare ways blanked	6	No		
4	6.0mm <sup>2</sup> , 4 core PVC/SWA/PVC armoured copper feeder cable from the intake of the Main Incomer MCCB to DB "H", c/w cable glands and cable lugs.	30	m		
5	4.0mm <sup>2</sup> , 4 core PVC/SWA/PVC armoured copper feeder cable from DB "H" to the Hosereel Isolators, c/w cable glands and cable lugs.	60	m		
6	10A TPN Isolator for Water hosereel pumps.	2	No		
	<b>SUB TOTAL FOR SCHEDULE 4 (Switchgear) CARRIED TO PRICES SUMMARY Ksh.</b>				

**PRICES SUMMARY PAGE**

<b>No.</b>	<b>DESCRIPTION</b>	<b>AMOUNT Ksh.</b>
1	<i>Total carried forward from schedule on Bill No.1- (Preliminary items)</i>	
2	<i>Total carried forward from schedule 1 (Ground floor)</i>	
3	<i>Total carried forward from schedule 2 (3 No. Typical floors)</i>	
4	<i>Total carried forward from schedule 3 (Lightning protection system)</i>	
5	<i>Total carried forward from schedule 4 - Switchgear, Distribution cable &amp; Fire Hosereel Supply</i>	
6	<i>Allow for liason with and attendance to Kenya Power Ltd.</i>	<b>60,000.00</b>
7	<i>Allow for preparation of 3 No. Sets of "AS INSTALLED DRAWINGS".</i>	<b>30,000.00</b>
8	<i>Contingency sum to be expended at the discretion of the Project Manager.</i>	<b>400,000.00</b>
	<b>Total Carried forward to the "FORM OF TENDER"; Ksh.</b>	

Total Amount in words:- Kenya Shillings; .....

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 .....

Tenderer's Name and Stamp; .....

.....

Signature; .....

Date: .....

PIN No. ....

VAT Certificate No. ....

Witness; .....

Address; .....

Signature of Witness; .....

Date: .....