

BILL No 27: STREET LIGHTING RELOCATION, RECOVERY AND INSTALLATION

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSHS)	AMOUNT (KSHS)
A)	12 metre Streetlighting installation				
27.01	(a)12m steel galvanised streetlighting column made from Class "B" steel galvanised pipe complete with a single arm side entry bracket of 1.5m outreach as per Drg. No. SL 4 (1) all with all accessories	No.	11		
27.02	As item 1 but columns with double arm brackets	No.	460		
27.03	25Amp single phase cut-out complete with a 5A HRC fuse.	No.	471		
27.04	a)A high quality158W ultra High power LED luminaire with output of 16,982lm with narrow road light distribution and Electronic, control gear, with Mini Photocell incorporated. Body and spigot: die-cast aluminium, Class I electrical, IP66. Supplied, ready to install, in a single box. Complete with 4000K LED Mounting: Ø60mm side entry with 0° tilt as THORN dyna LED 72L70 NR 740 BP CL1 MLE PM [STD]	No.	931		
27.05	b)114w LED tunnel luminaire. Electronic, fixed output control gear. Body: extruded aluminium, powder coated white. To be surface mounted to ceiling or wall as Thorn GTLED 18L70 741 S or approved equivalent which should be engraved to KeNHA standard codes to be provided.	No.	10		
27.06	1.5mm ² twin with earth PVC insulated copper cable as manufactured by East african cables or approved equivalent	m	22,444		
27.07	2 core 10.0mm ² PVC/SWA/PVC copper cable complete with all accessories	m	22,608		
27.08	(a)ground mounted Metal control pillar as per Drg. SL 4 (2), with lockable facility for single phase service line. The metal control pillar to have a corrosion and rust proof finishing to Engineer's approval	No.	19		
27.09	(a) 4 way surface mounted distribution board with a 100 Amps TP intergral isolator as ABB or similar and approved by the engineer	No.	19		
27.10	(a) 4 way surface mounted distribution board with a 63 Amps SP intergral isolator as ABB or similar and approved by the engineer	No.	1		
27.11	20 Amp single phase MCB's for item No. 9 and 10 above	No.	51		
27.12	Blanking plates for item No. 9 and 10 above	No.	169		
27.13	40Amp current operated earth leakages circuit breaker with rated leakage current of 0.5A.	No.	19		
27.14	40Amp Double pole contactor.	No.	19		
27.15	100Amp automatic over and undervoltge protector.	No.	19		
27.16	415VAC 50/60Hz three phase microcomputer astronomical timer switch with 16 times on/off per day time set range 1min-168H As GIC ASTRO T3DDT0 or approved equivalent	No.	19		
27.17	240VAC 50/60Hz three phase microcomputer astronomical timer switch with 16 times on/off per day time set range 1min-168H As GIC ASTRO T3DDT0 or approved equivalent	No.	1		
27.18	1.5mm ² 3core pvc insulated pvc sheathed copper flexible cable for timer & contactor wiring complete with all accessories	m	100		
27.19	Earthing comprising of a 6mm ² earth lead and 1800mm long by 15mm diameter copper earth electrode with a driving tip and clamp in a 300mm by 300mm by 300mm concrete manhole with removable cover	No.	138		
27.20	Trenching, shifting, cable laying and laying of 150mm diameter heavy gauge PVC ducts with concrete surround under roads and plot entrances and reinstating to earlier bituminous/paved condition, rates to include 150mm diametr HG PVC pipe	m	1,491		
27.21	Trenching, shifting, cable laying tiling with danger hatari tiles and backfilling and reinstating to earlier bituminous/paved condition. Rates to include danger hatari tiles	m	25,000		
27.22	20mm (L) brass cable glands complete with shroud for terminating cables	No.	1,018		
27.23	Concrete anti vandalism cover for the control pillars as per drawing sl 4 (5)	No.	19		
27.24	Civil works for reinforced concrete 600mm x 600mm x1000mm streetlight pole foundations of C30 concrete	No.	471		
27.25	Testing and commissioning of all metering points, control pillars and circuits, earthing tests and continuity tests on all poles.	Lot	1		
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B)	Supply, deliver, install and set to work the following:-				
	<u>20 metre streetlighting mast installation</u>				
27.26	20m polygonal steel galvanised highmast column made from Class "B" steel galvanised polygon cross section column, root mounted, continous taper to meet 20m mounting height requirement with luminaire assembly for 9No. 186W high power LED floodlights, pulleys, anchoring bolts and lowering steel ropes. The column to have a corrosion and rust proof finishing to Engineers Approval.	No.	8		
27.27	Electrical winch, heavy duty type, complete with an automatic torque limiter for raising and lowering the luminaire assembly and to be with remote operation capability	No.	8		
27.28	Painting of the mast with reflective red/white/red arrangement to Kenya Civil Aviation Authority (KCAA) requirements	No.	8		
27.29	Three phase 25Amp cut-out complete with a 10A HRC fuse.	No.	8		
27.30	186W ultra High power LED flood lights which should be engraved to KeNHA standard codes to be provided. State make and cat No.	No.	72		
27.31	Type-A High quality heavy duty red LED blinking flash illumination beacon aircraft warning light with polycarbonate lenses and bases per highmast. The luminaire to be complete with all accessories.	No.	8		
27.32	1.5mm ² twin with earth PVC insulated copper cable from the cutout unit to the lighting fittings.	m	1,512		
27.33	Metal control pillar as per sl 4 (2), with lockable facility for three phase incomer service line and mounting plate for the electrical switch gear. The metal control pillar to have a corrosion and rust proof finishing to Engineer's approval	No.	6		
27.34	4 way surface mounted distribution boards with a 100 Amps DP intrgral isolator.	No.	6		
27.35	(a) 20Amp 3 phase MCB's for item No. 9 above	No.	20		
27.36	Blanking plates for item No. 9 above	No.	20		
27.37	40Amps TPN current operated earth leakages circuit breaker withrated leakage current of 0.5A.	No.	6		
27.38	40Amp TPN contactor.	No.	6		
27.39	Photo cell kit, Photo cell socket and bracket.	No	6		
27.40	4.6m steel column for mounting item No. 14 above complete with concrete foundation	No	6		
27.41	10.0mm ² 4 core PVC/SWA/PVC Cu cable complete with all accessories	m	80		
27.42	Earthing comprising of a 6mm ² earth lead and 1800mm long by 15mm diameter copper earth electrode with a driving tip and clamp in a 300mm by 300mm by 300mm concrete manhole with removable cover	No.	6		
27.43	1.5mm ² 3 core PVC/SWA/PVC copper cable for terminating Photo cell complete with all accessories	m	80		
27.44	63Amp TPN MCB with enclosure type Crabtree or equivalent .	No	6		
27.45	Concrete anti vandalism cover for the control pillars as per drawing sl 4 (5)	No.	6		
27.46	Testing and commissioning of all metering points, control pillars and circuits, earthing tests and continuity tests on all poles.	Lump-sum	1		
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C) Others				
27.47	Sum for preparation and issuing 2 sets of operation and maintenance manuals for the entire street lighting scheme to the approval of the Engineer.	Item		
27.48	Sum for preparation and issuing of "As Built" for the entire streetlighting scheme to the approval of the Engineer.	Item		
27.49	Sum for removing existing streetlighting columns including fittings and cables and all excavation, breaking out cable protection backfilling and reinstatement of existing surfaces. Transfer recovered columns together with fittings and cables to the Mombasa county government streetlighting yard.	Item		
27.50	Allow for payment to Kenya Civil Aviation Authority (KCAA) for approval of mast installation and facilitation of inspection of site by KCAA officers	PC Sum	1	400,000.00
27.51	E. O. item 27.50 for Contractor's Overheads and profit	%		
27.52	K.P. & L. Co. Ltd. service line charges	PC Sum		7,000,000.00
27.53	E. O. item 27.52 for Contractor's Overheads and profit	%		
Total for Bill 27 forwarded to Summary Page				