

**PROPOSED TOMATOE PROCESSING PLANT AT
KO'OCHIENG' (KOBURA) NYANDO SUB- COUNTY**

TENDER NO... CGK/E&I/KSM/NYD/2019-2020/028

**TENDER SPECIFICATIONS AND BILLS OF QUANTITIES
FOR
ELECTRICAL INSTALLATION WORKS**

MAY 2020

Prepared by:

**PROPOSED TOMATOE PROCESSING PLANT AT KO'OCHIENG (KOBURA)
NYANDO SUB-COUNTY**

ELECTRICAL BQ

No.	Description	Qty	Unit	Rate	Amount
	Supply, install, test and commission the following:-				
A	<u>Lighting Points</u>				
1.00	Lighting systems (points) wired using 3 x 1.5mm ² PVC insulated single copper core cables, drawn in 20mm diameter with links to power distribution board inclusive of all PVC conduits materials concealed and surface installations within the ceiling voids (metal) clipped at horizontal dimensions recommended by IEE Regs. But excluding accessories for:-				
	i) One way switching	14	No.		
	ii) Two way switching	4	No.		
1.01	Electrical accessories as crabtree or equivalent and meets Engineer's approval				
	i) 1 gang 2way metal clad switch	5	No.		
	ii) 2 gang 2way metal clad switch	4	No.		
	iii) 3 gang 2way metal clad switch	1	No.		
1.02	Electrical accessories as lighting fittings				
	i) Spot light c/w energy saving bulbs screw type 15watts Phillip's original.	6	No.		
	ii) Metal clad LED IP 65 / THORN 30 watts	8	No.		
	iii) Metal clad LED IP 66 c/w twin screw type bulbs 15watts as Phillip's original – mounted in the middle of the building as marked in the drawing	4	No.		
1.03	Security – lights – wired using PVC 3 x 1.5mm ² insulated and sheathed 2 x 60watts LED Flood light IP 65 mounted on adjustable aluminum cast pole 8m long rising in columns manufacturer shall be Robus "Phillips" or a variant of similar quality and design and must receive Engineer's approval	4	No.		
	i) U/g 2 x 1.5mm ²	90	M		
	ii) IP65 – 60 watts	8	No.		
	iii) Photo cell (England)	1	No.		
	iv) 20Amps contactor as Telecommunique	1	No.		
	Total Carried to Summary.....				

PROPOSED TOMATOE PROCESSING PLANT AT KO'CHIENG' (KOBURA) NYANDO SUB- COUNTY

1.04	Escape signage wired using long 3 x 1.5mm ² PVC insulated copper cables drawn in 20mm diameter PVC H/g conduits including all materials except accessories – permanently controlled from protective devices.	2	No.		
1.05	Escape signage – indicating directions of access of escape.	2	No.		
B	<u>Power Socket Outlet</u>				
1.06	Wired using 3 x 2.5mm ² PVC insulated copper cables drawn in 200 x 150 x 2 metallic trunking machine made and well coated c/w all necessary materials excluding single and twin plates and accessories.	10	No.		
1.07	a) Galvanized metallic trunking	100	M		
	b) Plates				
	i) Single	4	No.		
	ii) Twin	6	No.		
1.08	Socket outlets 13A				
	i) Single switched metal clad	4	No.		
	ii) Twin 13A switched metal clad	6	No.		
1.09	Industrial power sockets drawn in galvanized trunking using 5 x 4.0mm ² PVC copper cables excluding accessories.	6	No.		
1.10	Industrial power socket outlets c/w male and female components English made	6	No.		
C	<u>Plant Processing Control</u>				
1.11	Provide PVC H/g 50mm diameter conduits concealed in floor (distance to be determined on site) and include 4 x 10.00mm ² plus 1 x 6.0mm ² Ecc (distance to be determined on site) controlled from Rotary Isolator TPN (3Ph) switch (2No) 80Amps as 'Katko' with links to DB Allow Kshs.....				95,000
	Total Carried to Summary.....				

PROPOSED TOMATOE PROCESSING PLANT AT KO'CHIENG' (KOBURA) NYANDO SUB- COUNTY

D	<u>Distribution Board – Switch Gear</u>				
1.12	Wired using 4 x 16.00mm ² and 1 x 10.00mm ² Ecc PVC insulated copper cables drawn in 50mm H/g diameter comprising all necessary materials except DB.	1	No.		
1.13	Distribution Board 6 ways as ‘MEM’ or a variant of similar quality and design and must meet Eng’s approval (distance from main isolator to be determined on site).	1	No.		
1.14	MCB’s as ‘MEM’ or a variant of similar quality:- i) SP 10Amps ii) SP 20Amps iii) SP 32 Amps iv) TP 32 Amps v) TP 63Amps vi) TP 80Amps vii) TP 125Amps	3 1 2 1 1 2 1 1	No. No. No. No. No. No. No. No.		
E	<u>Main MCCB 320A</u>				
1.15	Wired using 4 x 25.00mm ² U/G copper cables comprising all materials, MCCB 320A c/w housing as shall be directed by Eng. Allow Ksh.....				120,000
F	<u>Cable Trenching</u>				
1.16	Digging and backfilling of supply cable (laid from the pole drawn in 4” waste pipe H/g to power house, building power house (lockable metallic door) as marked position in the drawing) to Eng’s approval using stones. Allow Ksh.....				180,000
G	<u>Termination at Power House</u>				
1.17	All terminations to be carried out using copper PVC insulated cables of different csa as directed by Eng’s Earthing to IEE Regs. Allow Ksh.....				15,000
	Total Carried to Summary.....				

PROPOSED TOMATOE PROCESSING PLANT AT KO'CHIENG' (KOBURA) NYANDO SUB- COUNTY

H	<u>Lighting Protection</u>				
1.18	Provide and lay 3 x 25.00mm diameter pure copper plate / annealed, properly mounted 1000mm interval clipping to furse 30 THORN Cat both for:-				
	i) Horizontal lengths	40	M		
	ii) Vertical lengths	60	M		
1.19	Provide				
	i) Junction to SD 115 / THORN Cat.	3	No.		
	ii) Air termination / spikes – medium size	4	No.		
	iii) Testing points	4	No.		
	iv) Earth electrode c/w manhole	4	No.		
	v) Earth lead 1 x 10.00mm ² bare conductor	20	M		
I	<u>Commissioning</u>				
1.20	Allow a sum for testing, certification and commissioning of the entire electrical works, reading attained / recorded on various tests carried.				
	Allow Ksh.....				75,000
J.	<u>Power Supply</u>				
	For Power transformation, supply, and connection to Kenya Power				
	Allow.....350,000				350,000
K	Allow Provisional Sum Kshs. 500,000 for mechanical building services.				500,000
	Total Carried to Summary.....				

Summary

Total carried to summary from

Page 01.....	Ksh.
Page 02.....	Ksh.....
Page 03.....	Ksh.....
Page 04.....	Ksh.....
Sub –Total.....	Ksh.....

Add:

- v) Project Management Ksh.....Ksh. 50,000
- vi) Contingency Ksh.....Ksh. 150,000
- vii) VAT 16% Ksh.....Ksh.....

Grand Total.....Ksh.....

In Words Kenya Shillings

.....
.....
.....