

Mechanical Works

Bills of Quantities

BOMET UNIVERSITY MECHANICAL WORKS					
GUEST BLOCK					
ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	AMOUNT (Kshs.)
	<u>Bill No. 1: SANITARY APPLIANCES</u>				
	Supply, deliver, install, test and commission the following sanitary appliances complete with all the accessories including all connections to the services, waste, jointing to water supply overflows, supports and all plugging and screwing to walls and floors.				
	(i) All sanitary fittings shall be in approved colour.				
	(ii) The Model and Ref No. indicated is only a guide to the type and quality of fittings.				
	(iii) Equivalent and Approved models may be acceptable.				
	Close coupled WC				
	Close coupled water closet suite complete with horizontal outlet, 6 litre flush cistern, seat and cover and S-trap outlet. dimensions 650 x 355mm Made of vitrous china material white in colour .				
A	WC to be screwed on floor, cistern screwed to wall and fixed on wall brackets, All to be as Duravit 21110900002 or approved equivalent.	No	5		
	Wash Hand Basin				
	Pedestal wash hand basin with one cente tap hole Sola 1/2 inch lever action taps chrome plated. Gridwaste 1 1/2 inch chrome plated unslotted for overflow as Duravit D -code #231055 and pedestal as Durastyle #085829 or approved equivalent.				
B		No	4		
	Shower Fitting				
	Instant Electric shower Head as Lorenzetti or equal and approved.				
C		No	4		
	Kitchen sinks				
	Single bowl, single drainer single bowl stainless steel kitchen sink of size 1000 x 500mm as manufactured by ASL 140 or equal and approved. The bowl size to be 420 x 355 x 150mm deep complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, 1No. 15mm diameter chrome plated sink bib tap, chrome plated bottle trap with 75mm deep seal and chain waste fitting.				
D		No	4		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried from previous page					
E	Mirror 6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back nest.	No	4		
Sub-total carried forward to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried from previous page					
	<p>Bill No. 2: INTERNAL PLUMBING</p> <p>Supply, deliver and install chlorinated polyvinyl chloride (CPVC) pipes, tubing and fittings as described and shown on the drawings. The pipes and fittings shall be produced as per SDR 11 and shall meet or exceed the requirements of ASTM D 2846, current European standards for CPVC installations and to the Engineers approval. All joints shall be assembled employing solvent cements that meet or exceed the requirements of ASTM F442 and ASTM F441 . Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, supporting brackets, isolating sheaths, elastic materials, expansion arms and bends, crossovers, couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.</p> <p>Pipe work-CPVC PIPES</p> <p>A 20mm diameter pipework</p> <p>B 25mm diameter pipework</p> <p>C 32mm diameter pipework</p> <p>D 40mm diameter pipework</p> <p>E 50mm diameter pipework</p> <p>Bends</p> <p>F 20mm diameter bend</p> <p>G 25mm diameter bend</p> <p>H 32mm diameter bend</p> <p>I 40mm diameter bend</p> <p>J 50mm diameter bend</p> <p>Tees</p> <p>K 25mm equal Tees</p> <p>L 32mm equal Tees</p> <p>M 40mm equal Tees</p> <p>N 50mm equal Tees</p>				
	Sub-total carried forward to next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried forward from previous page					
	Reducers				
O	25 x 20mm diameter reducer	30	No.		
P	32 x 20mm diameter	25	No.		
Q	32 x 25mm diameter	20	No.		
R	40 x 20mm diameter	20	No.		
S	40 x 25mm diameter	15	No.		
T	40 x 32mm diameter	15	No.		
U	50 x 25mm diameter	10	No.		
	Unions				
V	20mm diameter pipe unions	15	No.		
W	25mm diameter pipe unions	12	No.		
X	32mm diameter pipe unions	10	No.		
Y	40mm diameter pipe unions	4	No.		
Z	50mm diameter pipe unions	2	No.		
	Water Storage Tank -Roof Tank				
Z1	Supply, deliver and install cylindrical deluxe heavy duty plastic moulded tank of capacity 2,500litres and Dimensions 1420mm Diameter and 1620mm High. The tank to be assembled complete with cover and having screwed connections for inlet, outlet, overflow, 32mm medium pressure ball valve, drain pipes and any other necessary item for its proper functioning. The tank shall be mounted on a flat roof slab and shall be as Roto Tank or approved equivalent.	2	No		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried forward from previous page					
Bill No. 3: FOUL WATER INTERNAL DRAINAGE Supply ,deliver and install the following UPVC, MUPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system.					
MuPVC and uPVC Waste and Soil pipework					
A	100mm diameter heavy gauge grey mUPVC pipe	100	Lm		
B	50mm diameter waste pipe	100	Lm		
C	40mm diameter waste pipe	60	Lm		
Bends					
D	100mm diameter long radius bend	2	No.		
E	100mm diameter short radius bend	2	No.		
F	50mm diameter bend	2	No.		
G	40mm diameter 90° bend	2	No.		
Tees					
H	100mm diameter sweep tee	2	No.		
I	50mm diameter sweep tee	2	No.		
J	40mm diameter sweep tee	2	No.		
Access Caps					
K	100mm diameter access cap	5	No.		
L	50mm diameter access cap	5	No.		
M	40mm diameter access cap	5	No.		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried forward from previous page					
	Boss Connectors				
N	100 x 50mm diameter boss connector	2	No.		
O	100 x 40mm diameter boss connector	2	No.		
	Single Branches				
P	100mm diameter single branch	1	No.		
	WC Connectors				
Q	100mm diameter WC connector	4	No.		
	Traps				
R	100 x 50mm diameter floor trap and grating	1	No.		
S	Plastic gratings for floor traps as above	1	No.		
	Testing and Commissioning				
T	Allow for testing and commissioning of the plumbing and drainage installations to the satisfaction of the Engineer.	1	Item		
Sub-total carried forward to collection page					

Item	Description	Qty	Unit	Rate	AMOUNT
	Fire Protection				
	Portable Fire Extinguishers				
	Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.				
	Water/Carbon Dioxide Gas Fire Extinguisher				
A	9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No		
	Carbon Dioxide Gas Fire Extinguisher				
B	5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No		
	Dry Chemical Powder Fire Extinguisher				
C	9kg dry chemical powder portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No		
	Manual Alarm Bell				
D	9" (225mm) manual operated alarm bell (Gong)	3	No		
	Fire Notices				
E	Allow for fire signage for the hose reel system, fire exits and fire instructions as as described in the particular specifications and to the Project Engineer's approval.	9	No		
	Total Carried Forward to collection Page for Fire Fighting				
SUMMARY PAGE GUEST BLOCK					
ITEM	DESCRIPTION	AMOUNT (KSHS)			
A	Total for Sanitary appliances, Plumbing and Drainage				
B	Total for Fire Protection				
	Total for Guest Block C/F to Form of Tender				

LOUNGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	AMOUNT (Kshs.)
	<p>Bill No. 1: SANITARY APPLIANCES Supply, deliver, install, test and commission the following sanitary appliances complete with all the accessories including all connections to the services, waste, jointing to water supply overflows, supports and all plugging and screwing to walls and floors.</p> <p>(i) All sanitary fittings shall be in approved colour.</p> <p>(ii) The Model and Ref No. indicated is only a guide to the type and quality of fittings.</p> <p>(iii) Equivalent and Approved models may be acceptable.</p> <p>Close coupled WC Close coupled water closet suite complete with horizontal outlet, 6 litre flush cistern, seat and cover and S-trap outlet. dimensions 650 x 355mm Made of vitrous china material white in colour . WC to be screwed on floor, cistern screwed to wall and fixed on wall brackets, All to be as Duravit 21110900002 or approved equivalent.</p> <p>Disabled Persons Water Closet and Wash Hand Basin Facility Ambulant Disabled Water Closet Low level wash down water closet suite for the elderly and disabled in white complete with Low level Wash Hand Basin and horizontal outlet AND BOTTOM SUPPLY AND OVERFLOW WITH CLOSE COUPLING SIDE LEVER TREATMENT, 7.5 litre cistern, raised heavy duty toilet seat and cover and S-trap outlet and 600 x 35mm stainless steel grab rails (3No.) in stainless steel. All to be as "Twyfords Avalon BTW" or approved equivalent.</p> <p>Wash Hand Basin Pedestal wash hand basin with one cente tap hole Sola 1/2 inch lever action taps chrome plated. Gridwaste 1 1/2 inch chrome plated unslotted for overflow as Duravit D -code #231055 and pedestal as Durastyle #085829 or approved equivalent.</p> <p>Shower Fitting Instant Electric shower Head as Lorenzetti or equal and approved.</p>				
A		No	6		
B		No	2		
C		No	10		
D		No	4		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried forward from previous page					
E	2No. urinal bowls complete with 7.5 Litres Cistern with interconnected with spreader outlet with grating firmly fixed on the wall with Stainless Steel screws and urinal division. The fittings shall be as Duravit or equal and approved.	No	2		
F	Mirror 6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back nest.	No	10		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried from previous page					
	<p>Bill No. 2: INTERNAL PLUMBING</p> <p>Supply, deliver and install chlorinated polyvinyl chloride (CPVC) pipes, tubing and fittings as described and shown on the drawings. The pipes and fittings shall be produced as per SDR 11 and shall meet or exceed the requirements of ASTM D 2846, current European standards for CPVC installations and to the Engineers approval. All joints shall be assembled employing solvent cements that meet or exceed the requirements of ASTM F442 and ASTM F441 . Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, supporting brackets, isolating sheaths, elastic materials, expansion arms and bends, crossovers, couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.</p> <p>Pipe work-CPVC PIPES</p>				
A	20mm diameter pipework	60	Lm		
B	25mm diameter pipework	50	Lm		
C	32mm diameter pipework	40	Lm		
D	40mm diameter pipework	20	Lm		
E	50mm diameter pipework	10	Lm		
	Bends				
F	20mm diameter bend	3	No.		
G	25mm diameter bend	3	No.		
H	32mm diameter bend	3	No.		
I	40mm diameter bend	3	No.		
J	50mm diameter bend	3	No.		
	Tees				
K	25mm equal Tees	25	No.		
L	32mm equal Tees	20	No.		
M	40mm equal Tees	15	No.		
N	50mm equal Tees	10	No.		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried from previous page					
	Reducers				
O	25 x 20mm diameter reducer	30	No.		
P	32 x 20mm diameter	25	No.		
Q	32 x 25mm diameter	20	No.		
R	40 x 20mm diameter	20	No.		
S	40 x 25mm diameter	15	No.		
T	40 x 32mm diameter	15	No.		
U	50 x 25mm diameter	10	No.		
	Unions				
V	20mm diameter pipe unions	10	No.		
W	25mm diameter pipe unions	10	No.		
X	32mm diameter pipe unions	6	No.		
Y	40mm diameter pipe unions	4	No.		
Z	50mm diameter pipe unions	2	No.		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried forward from previous page					
	Bill No. 3: FOUL WATER INTERNAL DRAINAGE				
	Supply ,deliver and install the following UPVC, MuPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bars plugged and screwed for the proper and satisfactory functioning of the system.				
	MuPVC and uPVC Waste and Soil pipework				
A	100mm diameter heavy gauge grey mUPVC pipe	60	Lm		
B	50mm diameter waste pipe	60	Lm		
C	40mm diameter waste pipe	50	Lm		
	Bends				
D	100mm diameter long radius bend	6	No.		
E	100mm diameter short radius bend	6	No.		
F	50mm diameter bend	5	No.		
G	40mm diameter 90° bend	4	No.		
	Tees				
H	100mm diameter sweep tee	2	No.		
I	50mm diameter sweep tee	2	No.		
J	40mm diameter sweep tee	2	No.		
	Access Caps				
K	100mm diameter access cap	10	No.		
L	50mm diameter access cap	10	No.		
M	40mm diameter access cap	10	No.		
	Boss Connectors				
N	100 x 50mm diameter boss connector	2	No.		
O	100 x 40mm diameter boss connector	2	No.		
Sub-total carried forward to next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Sub-total carried forward from previous page					
P	100mm diameter single branch WC Connectors	1	No.		
Q	100mm diameter WC connector Traps	8	No.		
R	100 x 50mm diameter floor trap and grating	8	No.		
S	Plastic gratings for floor traps as above	8	No.		
T	Grease Trap	1	No.		
Testing and Commissioning					
U	Allow for testing and commissioning of the plumbing and drainage installations to the satisfaction of the Engineer.	1	Item		
Sub-total carried forward to collection page					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KSH)
	Fire Protection				
	<u>Portable Fire Extinguishers</u>				
	Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.				
	Water/Carbon Dioxide Gas Fire Extinguisher				
A	9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	1	No		
	Carbon Dioxide Gas Fire Extinguisher				
B	5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	1	No		
	Dry Chemical Powder Fire Extinguisher				
C	9kg dry chemical powder portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	1	No		
	Manual Alarm Bell				
D	9" (225mm) manual operated alarm bell (Gong)	1	No		
	Fire Blanket				
E	Fire blanket made of cloth woven with pre-asbestos yarn or any other fire proof material and to measure 1800 x 1210 mm. It shall be fitted with special tapes folded so as to offer instantaneous single action to release blanket from storing jacket to BS 1721.	1	No		
	Fire Notices				
F	Allow for fire signage for the hose reel system, fire exits and fire instructions as as described in the particular specifications and to the Project Engineer's approval.	3	No		
	Total Carried Forward to connection Page for Fire Protection				

SUMMARY PAGE LOUNGE		
ITEM	DESCRIPTION	AMOUNT (KSHS)
A	Total for Sanitary appliances, Plumbing and Drainage B/F	
C	Total for Fire Protection Installation B/F	
	Total for Lounge C/F to Grand Summary Page	

GRAND SUMMARY PAGE		
ITEM	DESCRIPTION	AMOUNT (KSHS)
A	Total for Guest Block B/F	
B	Total for Lounge B/F	
C	Contingency	
	Total C/F to Form of Tender	

Amount in words:

Contract Period:

Tenderer's Name and Stamp

Signature: Date

n
 (Provide Copy) (Provide Copy)
 Witness: Address

Signature: Date

Witness Address:

.....
 Date: Signature:.....

BILL NO 1: KITCHEN EQUIPMENT					
ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
	KITCHEN EQUIPMENT				
	Cooking Island				
A	4 Burner gas cooking range with oven - the unit shall have a total rating of 125,275 BTU/H of external dimensions 800 x 900 x 850mm high as Chieftain CGR 4 model or equal and approved	1	No.		
B	4 Burner electrically heated solid top cooking range with oven- it shall have a total rating of 14KW,415V,50HZ with external dimensions 800 x 900 x 850mm high as Chieftain CER - 4R model or equal and approved	1	No.		
C	3 Burner L.P gas heated stockpot stand- the unit shall have a rating of 47,00BTU/H and dimensions 1200 x 600 x 850mm high	1	No.		
D	L.P gas heated stockpot stove of dimensions 600 x 600 x 600mm	1	No.		
E	Electric Chicken Grille(15-20 birds)	1	No.		
F	Electric heated Tilting Bratt Pan - pan capacity 80 litres.as Chieftain 'CETBP' model or equal and approved	1	No.		
G	135 Litres Gas heated Boiling pan	1	No.		
H	Electric Double well Deep fat Fryer - oil capacity 21litres for each well.Dimensions 700 x 750 x 850mm.free stading with adjustable legs to be as Chieftain CGF 21 or equal and approved.	1	No.		
I	135 Litres Electric heated Boiling pan of capacity 135litres.of diameter 900 x 850mm high as MBM (Italy) as 'E100' or equal and approved.	1	No.		
J	135 Litres Gas heated Tilting Boiling pan 135 litres capacity.As MBM Italy or equal and approved	1	No.		
	Vegetable Preparation				
F	Potato peeler 15kg	1	No.		
G	Potato chipper	1	No.		
H	Knife Sharpener	1	No.		
J	1500mm long	1	No.		
K	Stainless steel worktop 500mm long	1	Item		
	Meat Preparation				
L	Meat slicing machine	1	No.		
M	Wooden Meat Chopping Block	1	No.		
N	Bench Electronic weighing scale (0 - 25Kg.)	1	No.		
O	Single bowl single Drainer SS Sink on Stand (SBDD) 1500mm long	1	No.		
	Total C/F to the next page				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
	Total B/F from previous page				
	Wash-up				
A	Double bowl Double Drainer SS Sink on Stand (DBDD) 2000mm long	2	No.		
B	Stainless steel worktop 2400mm long	1	Item		
C	Plate stacking rack 1140x610x1670mm	1	Item		
D	Pot stacking rack 1350 x 600mm x 1800	1	No.		
	Servery				
E	16 litres coffee/ Tea Urn	1	No.		
F	Microwave Oven 24 litres	1	No.		
	Store				
G	150 kg Sliding weight scale	1	No.		
H	3-tier Vegetable rack 1300x430x1020mm high	2	No.		
	Cold Area				
I	Upright refrigerator 540 litres	1	No.		
J	Chest type freezer cabinet 600 litres	1	No.		
	General Items				
K	Insectocutor	1	Item		
L	Mobile Refuse Bins 350x350x860mm	1	No.		
M	General purpose trolley 900x600x900	1	No.		
	PROJECT MANAGER STATIONERY				
	The tenderer shall price for the following requirements. These shall then be delivered, upon their first demand to the office of the Chief Engineer Mechanical (BS) immediatly after the award to the successful bidder				
N	Photocopy paper, size A4, 80g/cm ³ , White, 500 sheets	10	Ream		
O	Allow a provisional sum of Kenya shillings Two hundred thousand as training for CPD points for Engineers to be paid to State Department of Public Works	1	Item		
	Total for Kitchen Equipment c/f to Summary Page				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KSH)
	<u>KITCHEN L.P.G. SUPPLY</u>				
A	L. P. Gas tank (500 kg)	1	No.		
B	L. P. Gas Supply	500	Kg.		
C	50kg cylinder L.P gas cylinders complete with initial L.P gas,15mm isolating regurator and connecting hose	3	No.		
D	15mm dia gms Class 'B' pipe in 50mm heavy Gauge P.V.C. Pipe	24	Lm.		
E	32mm dia gms Class 'B' pipe in 50mm heavy Gauge P.V.C. Pipe	24	LM		
F	15mm dia. bend	4	No.		
G	First stage pressure regulator	1	No.		
H	Second stage pressure regulator/Valve	1	No.		
I	50mm Gms Class 'C' manifold with 8 /15mm dia. tapping & 3m long	1	No.		
J	6/8mm copper gas pipe	20	Lm.		
K	6mm dia gas cork	2	No.		
L	15mm dia gas cork	4	No.		
M	Brass adaptors	3	No.		
N	25mm dia ball lever operated isolating gas valves	2	No.		
O	Allow for excavation of black cotton soil from the gas tank to the kitchen for gas pipework.	15	LM		
P	Allow for caging of stand-by cylinders to the specification of the Engineer	1	Sum		
Q	Testing and commissioning	1	Item		
	Total for LPG c/f to Summary Page				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KSH)
	<p>Mechanical Ventilation</p> <p><u>Kitchen Cooking Island Extract System</u></p> <p>Supply, deliver, install and fix the following equipment/ items as described. Where trade names are mentioned the tenderer must provide the same materials as other brands shall not be accepted without a written authority to supply alternative brands by the Mechanical Engineer.</p>				
A	<p>Cooking Island Extract Hood</p> <p>4500 x2000 x 600mm deep kitchen extract hood manufactured from 16 SWG anodized Aluminium sheet complete with its framework, supports and stiffened by a frame of 38 x 38mm galvanized mild steel R.H.S. The hood shall have a 75mm wide by 25mm deep grease drainage channel all round with 2No. 20mm diameter drain holes and a plenum box.</p>	1	No		
B	<p>Grease Filter Bank</p> <p>The grease filter unit consisting of a double-sided V-bank housing with top exit for use in island canopy applications for housing 8No. 508 x 254mm top exit washable type stainless steel filter panels. The unit shall have removable grease trays and framework made out of stainless steel. As "Vokes" DS 20/6 double sided V-bank housing with top exit or equal and approved.</p>	1	No		
C	<p>Grease Filter</p> <p>The grease filters of size 508 x 254mm washable type stainless steel filter panels. The unit shall have removable grease trays and framework made out of stainless steel. The filter shall be composed of folded woven metal material interspersed with layers of expanded metal mesh of stainless steel and shall be capable of filtering a total of 1200m³/hr. The filter panels shall be easily removable for washing as and when necessary. As "Vokes" or equal and approved.</p>	8	No		
D	<p>Ductwork</p> <p>500x500mm extract duct from hood to fan, constructed from 18 S.W.G. rolled galvanized steel sheet and connected to the fan by flexible connections and flanged joints. All joints and seams shall be sealed with mastic to make them airtight.</p>	20	SM		
E	<p>allow for all ductwork fittings associated with the complete installation of the ductwork for satisfactory functioning of the ductwork system.</p>	1	Item		
Total carried forward to next Page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Total carried forward from previous Page					
A	Extract Fan woods Model 31 MJ extract fan capable of extracting 0.6m ³ /s of air against 200Pa static pressure. The fan will run at a maximum speed of 2840 revolutions per minute and be driven by an electric motor. The fan shall be installed complete with roof cowl, plenum box and adaptor, base support with acoustic upstand, duct flange, sealing frame, inlet and bird guards and isolators in accordance with the manufacturer's printed instructions.	1	No		
B	Fan Installation Allow for fixing of fan, sealing and water proofing of the exit area of duct through the roof.	1	Item		
C	Anti-vibrations Mounting Anti-vibrations mounting to isolate vibrations between the fan and the roof structure shall be able to withstand a load range of upto 67Kg per mounting and shall be as "WOODS" part No. 76518 or equal and approved.	1	No		
D	Fan Control Panel Splash proof control panel manufactured from 1.2mm thick sheet with stove enamel finish and clear perplex front cover. The panel shall incorporate isolator contactor phase failure relay, motor starter, overload relay and overheat safety control and fuses.	1	No		
D	Vapor Proof Light Fitting Vapor proof light fittings, capacity 65 watts in a heat resistant and watertight enclosure all complete with in approved heat resistant conduits and wiring in the kitchen hood.	1	No		
E	Fire Damper Shutter fire damper complete with fusible link and micro switch for de-activating the fan when damper closes suitable for a duct size 500 x 500mm	1	No		
F	Associated Electrical Work Electrical works including but not limited to wiring and conduits to both kitchen extract fans and control panels from local isolators provided by others. It shall include a push and turn safety switch near the fan for isolation during servicing and maintenance.	1	Item		
G	Testing and Commissioning Testing and commissioning, setting to work to the requirements of the specification	1	Item		
Total carried forward to collection Page					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KSH)
	Total B/F from previous page				
	<u>BUILDER'S WORK</u>				
A	Allow for construction of a concrete plinth to mount 1 tonne gas tank to SE's details.	1	Item		
B	Allow for construction of a chain link fence 1.2m high all round the gas tank. The shed should be complete with metal gate with a lockable padlock.	1	Item		
C	Allow for construction of kitchen island plinth of size 3900x2800x150 mm concrete plinth. The plinth should allow for conduit work for water, gas and electricity.	1	Item		
<u>Total for Mechanical Ventilation C/F to Summary Page</u>					

SUMMARY PAGE

ITEM	DESCRIPTION	AMOUNT (KSHS)
1	Total for Kitchen Equipment	
2	Total for LPG installation	
3	Total for Mechanical Ventilation	
4	Contingency	
	Total C/F to Form of Tender	

Amount in words:

Contract Period:

Tenderer's Name and Stamp

Signature: Date

n
(Provide Copy) (Provide Copy)
Witness: Address

Signature: Date

Witness Address:

.....
Date: Signature:

Electrical Works

Bills of Quantities

EXTENSION OF ABLUTION BLOCK AND KITCHENETTE ,COLLABORATION ,INTERNATIONAL AND TRAINING CENTRE UNITS BOMET UNIVERSITY CONTRACT NO.BUC/OT/ACAD/11/2019-2020

SCHEDULE NO.1 - CONFERENCE HALL

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	LIGHTING POINTS				
1.01	Lighting points wired in 1.5 mm ² SC CU cables drawn in concealed 20mm diameter HG P.V.C conduits for:-				
	a) one way switching	No.	104		
	b) unswitched.	No.	2		
	SWITCHES				
1.02	10Amps, switch plate as Gilberts or approved equivalent as				
	a) one gang one way	No.	22		
	b) one gang two way	No.	8		
	LIGHTING FITTINGS				
1.03	Lighting fittings complete with bulbs or tubes as follows:-				
	a) 600 x 600mm,37w,4300 lm,Standard Recessed 4000K 50,0000 lifetime hrs LED Panel Light ,as PHILLIPS or approved equivalent.	No.	4		
	b)1200 x 300mm,30w,3129 lm,Standard Recessed 4000K 50,0000 lifetime hrs LED Panel Light ,as Thorn or approved equivalent.	No.	20		
	c) Surface mounted circular LED downlight fitting with 21W, 4000K , 2100lm, White body, IP44 as PHILLIPS Coreline or approved equivalent.	No.	50		
	d) 1200mm, 3120 lm, 28W, 4000K LED Batten Luminaire as Thorn Poppark LED Batten or approved Equivalent	No.	8		
	e) Security LED External light fitting, 50 W,IP65, with integral high frequency movement and daylight sensor as PHILLIPS or approved equivalent .	No.	14		
	f) 5-Light pendant chandelier light fitting with bronze finish as Micromark Langhan range or approved equivalent	No.	2		
	g) 1x8Watts, Double sided LED EXIT emergency lighting luminaire as THORN or approved equivalent.	No.	2		
SUB TOTAL C/F TO NEXT PAGE					

SCHEDULE NO. 1 CONT'D - CONFERENCE HALL.

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	SOCKET OUTLETS AND OTHER POWER POINTS				
1.04	13 Amps socket outlet points wired ring comprising of 3x2.5 mm sq. single core PVC copper cables drawn in concealed 25mm HG PVC conduits and PVC Trunking.	No.	35		
1.05	13 Amps. Moulded plate switched socket outlet white in colour as BG, CLIPSAL or approved equivalent				
	a) twin.	No.	30		
1.06	Waterproof floor socket boxes as Legrand or approved equivalent	No.	5		
1.07	Ground level booster pump point comprising wiring in 3x6mm ² PVC-SC-CU cables in concealed PVC conduits	No.	1		
1.08	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for item above	No.	1		
1.09	Hosereel pump point comprising wiring in 3x4.0mm ² PVC-SC-CU cables in concealed PVC conduits	No.	1		
1.1	30 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above.	No.	1		
1.11	Hand drier point comprising wiring in 3x2.5mm ² PVC-SC-CU cables in concealed PVC conduits	No.	4		
1.12	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	4		
1.13	Instant shower point comprising wiring in 3x4mm ² PVC-SC-CU cables in concealed PVC conduits	No.	4		
1.14	12W LED mirror lights as Phillips or approved equivalent .	No.	4		
1.15	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	4		
1.16	Cooker point comprising of 3x6mm ² PVC Copper cables drawn in concealed 25mm dia. HG PVC conduits .	No	1		
1.17	Cooker control unit complete with 13 Amps. Switched socket outlet as THORN or approved equivalent.	No	1		
1.18	Cooker connection unit for item above.	No.	1		
1.19	Supply and install air extract fans circuits wired using 2x4mm ² PVC insulated copper cables drawn in 20 mm diameter PVC heavy gauge conduits but excluding the 20 Amps DP switch.	No.	2		
1.2	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	2		
SUB TOTAL C/F TO NEXT PAGE					

SCHEDULE NO. 1 CONT'D - CONFERENCE HALL.

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following ;-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	TELEPHONE/DATA AND TV WORKS				
1.21	16 SWG, (300 x 300 x 100) mm ³ galvanised steel draw box for telephone, data works and TV works.	No.	1		
1.22	Data/Telephone point comprising of concealed 20 mm dia. HG PVC conduits plus draw wire.	No.	4		
1.23	RJ45,dual Data/Telephone Moulded plate as BG, CLIPSAL or approved equivalent.				
	a) twin.	No.	4		
1.24	TV points comprising Draw wire in concealed PVC conduits	No.	3		
1.25	TV outlet plate complete with wiring in CO-AXIAL cable drawn in concealed HG PVC conduit	No.	3		
	CONSUMER UNITS/DISTRIBUTION BOARDS				
1.26	4 ways TP&N, flush mounted Distribution Board complete with 100A TPN integral isolator as HAGER or approved equivalent complete with all accessories but excluding MCBs. (to supply the below consumer units)	No.	1		
1.27	MCB's for item above				
	(a) 100A, SP	No.	3		
	(b) 10A, SP	No.	1		
	(c) 30A, SP	No.	1		
	(d) 32A TPN	No.	1		
	(e) Blanking plates	No.	6		
1.28	6ways SP&N, flush mounted Consumer Unit complete with 100A SP integral isolator as Schneider or approved equivalent complete with all accessories but excluding MCBs.	No.	3		
1.29	MCB's for item above				
	(a) 10A, SP	No.	4		
	(b) 20A, SP	No.	6		
	(c) 30A, SP	No.	4		
	(d) 45A ,SP	No.	1		
	(c) Blanking plates	No.	3		
	SUB-MAIN POWER DISTRIBUTION				
1.3	16mm ² 4Core PVC/SWA/PVC Copper cables in cable trench and concealed HG PVC conduits from LV board to Distribution Board (complete with cable glands)	LM	20		
1.31	10mm ² 4Core PVC/SWA/PVC Copper cables in cable trench and concealed HG PVC conduits from distribution board to the consumer units (complete with cable glands)	LM	20		
1.32	100mm diameter HG PVC duct concealed in slab.	LM	20		
1.33	600x600x600mm Manholes.	No.	2		
	SUB TOTAL C/F TO NEXT PAGE				

SCHEDULE NO. 1 CONT'D - CONFERENCE HALL

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following ;-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	<u>FIRE ALARM SYSTEM.</u>				
1.34	Fire alarm points wired in 3x2.5mm ² Heat resistant SC PVC copper cables drawn in concealed HG PVC conduits	No.	14		
1.35	Addressable Conventional low profile LED sounder beacon as MENVIER or approved equivalent.	No.	1		
1.36	Addressable Smoke detectors as MENVIER or approved equivalent.	No.	10		
1.37	Addressable 2Zone, Fire alarm control panel complete with Battery and charger as MENVIER or approved equivalent	No.	1		
1.38	Fire break glass Manual call point unit as MENVIER or approved equivalent complete with a packet of 5 spare glasses, a packet of 5 spare test keys, a spare back box and a hinged cover.	No.	3		
1.39	Power point wired radial comprising of 3x2.5 mm sq. Heat resistant single core PVC copper cables drawn in concealed 20mm HG PVC conduits for fire alarm panel.	No.	1		
1.4	Fireman's switch circuit comprising of 3x2.5 mm ² Heat resistant single core PVC copper cables drawn in concealed 20mm HG PVC conduits complete with all fixing materials necessary to the Incomer.	LM	1		
1.41	Firemans switch as MENVIER or approved equivalent.	No.	1		
	<u>EARTHING</u>				
1.42	Earthing, for the building comprising of the following and any other necessary accessories:-				
	a) 12.5 mm x 1200 mm earth rod as FURSE cat. No. RB 105.	No.	2		
	b) 12.5 mm dia. Driving stud as FURSE cat.No. ST100.	No.	2		
	c) Rod to cable clamp as FURSE cat. No. CR510.	No.	2		
	d) Concrete inspection pit as FURSE cat. No. PT005 (or a well made 320mm x 320mm x 210 mm depth pit)	No.	1		
	e) 6mm sq. SC PVC Copper cables.	LM	10		
	SUB TOTAL OF CONFERENCE HALLC/F TO SUMMARY PAGE				

ELECTRICAL INSTALLATION WORKS FOR PROPOSED BOMET EXTENSION

SCHEDULE NO.2 - LOUNGE

GROUND FLOOR

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	LIGHTING POINTS				
1.01	Lighting points wired in 1.5 mm ² SC CU cables drawn in concealed 20mm diameter HG P.V.C conduits for:-				
	a) one way switching	No.	30		
	b) unswitched.	No.	2		
	SWITCHES				
1.02	10Amps, switch plate as Gilberts or approved equivalent as				
	a) one gang one way	No.	12		
	b) one gang two way	No.	10		
	LIGHTING FITTINGS				
1.03	Lighting fittings complete with bulbs or tubes as follows:-				
	a) Decorative wall bracket luminaires as MicroMark or equal and approved equivalent	No.	4		
	b) Surface mounted circular LED downlight fitting with 21 W, 4000K , 2100lm, White body, IP44 as PHILLIPS Coreline or approved equivalent.	No.	8		
	c) 1200mm, 3120 lm, 28W, 4000K LED Batten Luminaire as Thorn Poppark LED Batten or approved Equivalent	No.	8		
	d) Security LED External light fitting, 50 W,IP65, with integral high frequency movement and daylight sensor as PHILLIPS or approved equivalent .	No.	8		
	e) 5-Light pendant chandelier light fitting with bronze finish as Micromark Langhan range or approved equivalent	No.	2		
	f) 1x8Watts, Double sided LED EXIT emergency lighting luminaire as THORN or approved equivalent.	No.	2		
SUB TOTAL C/F TO NEXT PAGE					

SCHEDULE NO. 2 CONT'D - LOUNGE

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	SOCKET OUTLETS AND OTHER POWER POINTS				
1.04	13 Amps socket outlet points wired ring comprising of 3x2.5 mm sq. single core PVC copper cables drawn in concealed 25mm HG PVC conduits and PVC Trunking.	No.	12		
1.05	13 Amps. Moulded plate switched socket outlet white in colour as BG, CLIPSAL or approved equivalent				
	a) twin.	No.	12		
1.06	Ground level booster pump point comprising wiring in 3x6mm ² PVC-SC-CU cables in concealed PVC conduits	No.	1		
1.07	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for item above	No.	1		
1.08	Hosereel pump point comprising wiring in 3x4.0mm ² PVC-SC-CU cables in concealed PVC conduits	No.	1		
1.09	30 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above.	No.	1		
1.1	Hand drier point comprising wiring in 3x2.5mm ² PVC-SC-CU cables in concealed PVC conduits	No.	2		
1.11	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	2		
1.12	Instant shower point comprising wiring in 3x4mm ² PVC-SC-CU cables in concealed PVC conduits	No.	2		
1.13	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	2		
1.14	12W LED mirror lights as Phillips or approved equivalent .	No.	2		
1.15	Cooker point comprising of 3x6mm ² PVC Copper cables drawn in concealed 25mm dia. HG PVC conduits .	No	2		
1.16	Cooker control unit complete with 13 Amps. Switched socket outlet as THORN or approved equivalent.	No	2		
1.17	Cooker connection unit for item above.	No.	2		
1.18	Supply and install air extract fans circuits wired using 2x4mm ² PVC insulated copper cables drawn in 20 mm diameter PVC heavy gauge conduits but excluding the 20 Amps DP switch.	No.	2		
1.19	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	2		
SUB TOTAL C/F TO NEXT PAGE					

SCHEDULE NO. 2 CONT'D - LOUNGE.

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	POWER DISTRIBUTION				
1.2	4 Core 95 sq. mm Cu PVC SWA PVC cable laid in 200mm HG PVC from the Kenya Power terminal to the LV Switchboard.	LM	25		
	i) Cable glands for the above cable	No.	2		
1.21	Trenching to a depth of 750mm and width of 450mm, laying, tiling and backfilling.	LM	20		
1.22	2 x 200mm HG ducts buried in the ground with a 100mm thick concrete surround, for laying KPLC underground service line cables	LM	20		
1.23	Power manhole size 600mm x 600mm x 750mm (deep) BS 497	No.	2		
	Main Low voltage switchboard 'A'				
1.24	8-Way modular type, free standing power distribution panel board for floor mounting with both rear and front access panels, cable manager compartments, metal clad 14SWG, 415 mains L.V. Switchboard manufactured to BS EN60 439-1, and fully wired for 1 incoming MCCB and 8 No. TP outgoing feeders as described below:	Item	1		
	Main Supply Section				
	i) 200A Bus-bars and bus-bar connections consisting of high conductivity copper to BS 158 and BS 159, in bus-bars chamber (for KPLC Supply)	Set	1		
	ii) 160A TP MCCB incomer (for KPLC Supply)	No.	1		
	Outgoers section				
	i) 100A TP Distribution board in conference hall	No.	1		
	ii) 100A TP Distribution board in lounge	No.	1		
	iii) TP MCCB Spareways	No.	6		
1.25	Earthing arrangements for the LV switchboard comprising 25x3mm copper tape lead, 1800mm x 15mm diameter copper earth electrode as furse or approved equivalent c/w driving stud and tape to rod clamp, 300mm x 300mmx300mm deep concrete inspection earth pit with removable waterproof cover and all the other accessories.	Item	1		
1.26	Any other necessary items to complete the installation	Item	1		
	i) Cable glands for the above cable	No.	2		
1.27	300x300x75mm recessed galvanized sheet steel draw boxes complete with powder coated cover and all other necessary accessories	No.	5		
SUB TOTAL C/F TO NEXT PAGE					

SCHEDULE NO. 2 CONT'D - LOUNGE .

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following ;-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	TELEPHONE/DATA AND TV WORKS				
1.28	16 SWG, (300 x 300 x 100) mm ³ galvanised steel draw box for telephone, data works and TV works.	No.	1		
1.29	Data/Telephone point comprising of concealed 20 mm dia. HG PVC conduits plus draw wire.	No.	3		
1.3	RJ45,dual Data/Telephone Moulded plate as BG, CLIPSAL or approved equivalent.				
	a) twin.	No.	3		
1.31	TV points comprising Draw wire in concealed PVC conduits	No.	2		
1.32	TV outlet plate complete with wiring in CO-AXIAL cable drawn in concealed HG PVC conduit	No.	2		
	CONSUMER UNITS/DISTRIBUTION BOARDS				
1.33	4 ways TP&N, flush mounted Distribution Board complete with 100A TPN integral isolator as HAGER or approved equivalent complete with all accessories but excluding MCBs. (to supply the below consumer units)	No.	1		
1.34	MCB's for item above				
	(a) 100A, SP	No.	6		
	(b) 10A, SP	No.	1		
	(c) 30A, SP	No.	1		
	(d) 32A TPN	No.	1		
	(e) Blanking plates	No.	2		
1.35	6ways SP&N, flush mounted Consumer Unit complete with 100A SP integral isolator as Schneider or approved equivalent complete with all accessories but excluding MCBs.	No.	2		
1.36	MCB's for item above				
	(a) 10A, SP	No.	2		
	(b) 20A, SP	No.	2		
	(c) 30A, SP	No.	2		
	(d) 45A ,SP	No.	2		
	(c) Blanking plates	No.	4		
	SUB-MAIN POWER DISTRIBUTION				
1.37	16 mm ² 4Core PVC/SWA/PVC Copper cables in cable trench and concealed HG PVC conduits from Lv board to Distribution board (complete with cable glands)	LM	15		
1.38	10 mm ² 4Core PVC/SWA/PVC Copper cables in cable trench and concealed HG PVC conduits from distribution board to consumer units(complete with cable glands)	LM	20		
1.39	100mm diameter HG PVC duct concealed in slab.	LM	20		
1.4	600x600x600mm Manholes.	No.	2		
	SUB TOTAL C/F TO NEXT PAGE				

SCHEDULE NO. 2 CONT'D - LOUNGE

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	<u>FIRE ALARM SYSTEM.</u>				
1.41	Fire alarm points wired in 3x2.5mm ² Heat resistant SC PVC copper cables drawn in concealed HG PVC conduits	No.	8		
1.42	Addressable Conventional low profile LED sounder beacon as MENVIER or approved equivalent.	No.	1		
1.43	Addressable Smoke detectors as MENVIER or approved equivalent.	No.	4		
1.44	Addressable 2Zone, Fire alarm control panel complete with Battery and charger as MENVIER or approved equivalent	No.	1		
1.45	Fire break glass Manual call point unit as MENVIER or approved equivalent complete with a packet of 5 spare glasses, a packet of 5 spare test keys, a spare back box and a hinged cover.	No.	3		
1.46	Power point wired radial comprising of 3x2.5 mm sq. Heat resistant single core PVC copper cables drawn in concealed 20mm HG PVC conduits for fire alarm panel.	No.	1		
1.47	Fireman's switch circuit comprising of 3x2.5 mm ² Heat resistant single core PVC copper cables drawn in concealed 20mm HG PVC conduits complete with all fixing materials necessary to the Incomer.	LM	1		
1.48	Firemans switch as MENVIER or approved equivalent.	No.	1		
1.5	20A, unswitched fused spur DP control switch with neon light and cord outlet for item above as Crabtree or approved equivalent	No.	1		
	SUB TOTAL C/F TO SUMMARY PAGE PAGE				

SCHEDULE NO.2 CONT'D - LOUNGE FIRST FLOOR

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	LIGHTING POINTS				
1.01	Lighting points wired in 1.5 mm ² SC CU cables drawn in concealed 20mm diameter HG P.V.C conduits for:-				
	a) one way switching	No.	22		
	b) unswitched.	No.	2		
	SWITCHES				
1.02	10Amps, switch plate as Gilberts or approved equivalent as				
	a) one gang one way	No.	12		
	b) one gang two way	No.	10		
	LIGHTING FITTINGS				
1.03	Lighting fittings complete with bulbs or tubes as follows:-				
	a) Decorative wall bracket luminaires as MicroMark or equal and approved equivalent	No.	4		
	b) Surface mounted circular LED downlight fitting with 21W, 4000K , 2100lm, White body, IP44 as PHILLIPS Coreline or approved equivalent.	No.	8		
	c) 1200mm, 3120 lm, 28W, 4000K LED Batten Luminaire as Thorn Poppark LED Batten or approved Equivalent	No.	8		
	e) 5-Light pendant chandelier light fitting with bronze finish as Micromark Langhan range or approved equivalent	No.	2		
	f) 1x8Watts, Double sided LED EXIT emergency lighting luminaire as THORN or approved equivalent.	No.	2		
SUB TOTAL C/F TO NEXT PAGE					

SCHEDULE NO.2 CONT'D - LOUNGE

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	<u>SOCKET OUTLETS AND OTHER POWER POINTS</u>				
1.04	13 Amps socket outlet points wired ring comprising of 3x2.5 mm sq. single core PVC copper cables drawn in concealed 25mm HG PVC conduits and PVC Trunking.	No.	12		
1.05	13 Amps. Moulded plate switched socket outlet white in colour as BG, CLIPSAL or approved equivalent				
	a) twin.	No.	12		
1.06	Hand drier point comprising wiring in 3x2.5mm ² PVC-SC-CU cables in concealed PVC conduits	No.	2		
1.07	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	2		
1.08	Instant shower point comprising wiring in 3x4mm ² PVC-SC-CU cables in concealed PVC conduits	No.	2		
1.09	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	2		
1.1	12W LED mirror lights as Phillips or approved equivalent .	No.	2		
1.11	Cooker point comprising of 3x6mm ² PVC Copper cables drawn in concealed 25mm dia. HG PVC conduits .	No	2		
1.12	Cooker control unit complete with 13 Amps. Switched socket outlet as THORN or approved equivalent.	No	2		
1.13	Cooker connection unit for item above.	No.	2		
1.14	Supply and install air extract fans circuits wired using 2x4mm ² PVC insulated copper cables drawn in 20 mm diameter PVC heavy gauge conduits but excluding the 20 Amps DP switch.	No.	2		
1.15	20 Amps double pole switches with neon indicator as CLIPSAL or approved equivalent for items above	No.	2		
	<u>TELEPHONE/DATA AND TV WORKS</u>				
1.16	16 SWG, (300 x 300 x 100) mm ³ galvanised steel draw box for telephone, data works and TV works.	No.	1		
1.17	Data/Telephone point comprising of concealed 20 mm dia. HG PVC conduits plus draw wire.	No.	3		
1.18	RJ45,dual Data/Telephone Moulded plate as BG, CLIPSAL or approved equivalent.				
	a) twin.	No.	3		
1.19	TV points comprising Draw wire in concealed PVC conduits	No.	2		
1.2	TV outlet plate complete with wiring in CO-AXIAL cable drawn in concealed HG PVC conduit	No.	2		
	SUB TOTAL C/F TO NEXT PAGE				

SCHEDULE NO.2 CONT'D - FIRST FLOOR LOUNGE.

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	SUBTOTAL B/F FROM PREVIOUS PAGE				
	CONSUMER UNITS/DISTRIBUTION BOARDS				
1.21	6ways SP&N, flush mounted Consumer Unit complete with 100A SP integral isolator as Schneider or approved equivalent complete with all accessories but excluding MCBs.	No.	2		
1.22	MCB's for item above				
	(a) 10A, SP	No.	2		
	(b) 20A, SP	No.	2		
	(c) 30A, SP	No.	2		
	(d) 45A ,SP	No.	2		
	(c) Blanking plates	No.	4		
	SUB-MAIN POWER DISTRIBUTION				
1.23	10 mm ² 4Core PVC/SWA/PVC Copper cables in cable trench and concealed HG PVC conduits from distribution board in ground floor to consumer units	LM	20		
	FIRE ALARM SYSTEM.				
1.24	Fire alarm points wired in 3x2.5mm ² Heat resistant SC PVC copper cables drawn in concealed HG PVC conduits	No.	8		
1.25	Addressable Conventional low profile LED sounder beacon as MENVIER or approved equivalent.	No.	1		
1.26	Adressable Smoke detectors as MENVIER or approved equivalent.	No.	4		
1.27	Fire break glass Manual call point unit as MENVIER or approved equivalent complete with a packet of 5 spare glasses, a packet of 5 spare test keys, a spare back box and a hinged cover.	No.	3		
	SUB TOTAL C/F TO SUMMARY PAGE PAGE				

SCHEDULE NO. 2 CONT'D - SECOND FLOOR LOUNGE

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)
	Supply, install, test and commission the following :-				
	LIGHTING POINTS				
1.01	Lighting points wired in 1.5 mm ² SC CU cables drawn in concealed 20mm diameter HG P.V.C conduits for:-				
	a) one way switching	No.	18		
	b) unswitched.	No.	2		
	SWITCHES				
1.02	10Amps, switch plate as Gilberts or approved equivalent as				
	a) one gang one way	No.	3		
	b) one gang two way	No.	2		
	LIGHTING FITTINGS				
1.03	Lighting fittings complete with bulbs or tubes as follows:-				
	a) 1200 x 300mm, 30w, 3129 lm, Standard Recessed 4000K 50,000 lifetime hrs LED Panel Light, as Thorn or approved equivalent.	No.	16		
	b) 1200mm, 3120 lm, 28W, 4000K LED Batten Luminaire as Thorn Poppark LED Batten or approved Equivalent	No.	2		
	c) 1x8Watts, Double sided LED EXIT emergency lighting luminaire as THORN or approved equivalent.	No.	2		
1.04	13 Amps socket outlet points wired ring comprising of 3x2.5 mm sq. single core PVC copper cables drawn in concealed 25mm HG PVC conduits and PVC Trunking.	No.	20		
1.05	13 Amps. Moulded plate switched socket outlet white in colour as BG, CLIPSAL or approved equivalent				
	a) twin.	No.	16		
1.06	Waterproof floor socket boxes as Legrand or approved equivalent	No.	4		
	TELEPHONE/DATA AND TV WORKS				
1.07	16 SWG, (300 x 300 x 100) mm ³ galvanised steel draw box for telephone, data works and TV works.	No.	1		
1.08	Data/Telephone point comprising of concealed 20 mm dia. HG PVC conduits plus draw wire.	No.	10		
1.09	RJ45, dual Data/Telephone Moulded plate as BG, CLIPSAL or approved equivalent.				
	a) twin.	No.	10		
1.1	TV points comprising Draw wire in concealed PVC conduits	No.	2		
1.11	TV outlet plate complete with wiring in CO-AXIAL cable drawn in concealed HG PVC conduit	No.	2		
SUB TOTAL C/F TO NEXT PAGE					

SCHEDULE NO.2 CONT'D - LOUNGE.

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Ksh)	
	Supply, install, test and commission the following ;-					
	SUBTOTAL B/F FROM PREVIOUS PAGE					
	CONSUMER UNITS/DISTRIBUTION BOARDS					
1.12	6ways SP&N, flush mounted Consumer Unit complete with 100A SP integral isolator as Schneider or approved equivalent complete with all accessories but excluding MCBs.	No.	2			
1.13	MCB's for item above					
	(a) 10A, SP	No.	2			
	(b) 20A, SP	No.	4			
	(c) Blanking plates	No.	6			
	SUB-MAIN POWER DISTRIBUTION					
1.14	10 mm ² 4Core PVC/SWA/PVC Copper cables in cable trench and concealed HG PVC conduits from distribution board to consumer units	LM	30			
	FIRE ALARM SYSTEM.					
1.15	Fire alarm points wired in 3x2.5mm ² Heat resistant SC PVC copper cables drawn in concealed HG PVC conduits	No.	5			
1.16	Addressable Conventional low profile LED sounder beacon as MENVIER or approved equivalent.	No.	1			
1.17	Addressable Smoke detectors as MENVIER or approved equivalent.	No.	2			
1.18	Fire break glass Manual call point unit as MENVIER or approved equivalent complete with a packet of 5 spare glasses, a packet of 5 spare test keys, a spare back box and a hinged cover.	No.	2			
	SUB TOTAL C/F TO LOUNGE SUMMARY PAGE					
	LOUNGE SUMMARY			TOTAL (KSH)		
	1 GROUND FLOOR					
	2 FIRST FLOOR					
	3 SECOND FLOOR					
	TOTAL FOR LOUNGE C/F TO SUMMARY PAGE					
	SCHEDULE NO.3 - LIGHTNING PROTECTION SYSTEM					
Item	Description	Qty	Unit	Rate (Ksh)	Amount (Ksh)	
	Supply, install, test and commission the following ;-					
	AIR TERMINATION					
1.01	25x3mm copper tape including copper saddles at 1500mm intervals and bonding to water tanks and other metal work in the roof, all as FURSE	40	LM			
1.02	Copper air terminations (lightning arrestors) inclusive of base clamp and all fixing materials as FURSE	2	No.			
	DOWNWARD CONDUCTOR					
1.03	Downward conductor comprising 25mm x 3 mm thick bare copper tape as FURSE	80	LM			
1.04	Copper square tape clamp for making crossing tape joints	15	No.			
1.05	Steel conduits 32mm diam. for securing the down conductors complete with sandles	20	LM			
1.06	Test clamp as FURSE	4	No.			
	TOTAL FOR LIGHTNING PROTECTION C/F TO MAIN SUMMARY PAGE					

SCHEDULE NO.4: STRUCTURED CABLING INSTALLATION WORKS ESTIMATES

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Supply, Install, Test and Commission the following :- HORIZONTAL CABLING				
1.01	Cat 6A, UTP 4-pair cable as Siemon or its equal and approved equivalent pulled between cabinet and outlet plates. (provisional length)	Lm.	600		
1.02	3M, RJ45-RJ45 Cat 6A, UTP factory terminated patch cords as Siemon or its equal and approved equivalent for use between workstation and data outlets.	No.	30		
1.03	1M, RJ45-RJ45 Cat 6A, UTP factory terminated patch cords as Siemon or its equal and approved equivalent to be used in cabinet.	No.	30		
1.04	RJ45 Cat 6A, UTP White moulded case dual Data outlet plates complete with labelling as Siemon or its equal and approved equivalent.	No.	15		
	BACKBONE CABLING AND GENERAL REQUIREMENTS				
1.05	8 core Multimode (50/125um) OM3 I0G Unitube UnArmoured indoor/outdoor Fibre Optic Cable as data backbone complete with connectors and all terminations to active components. (provisional length)	Lm.	40		
1.06	24 Port Fibre Optic Patch Panel as Siemon or its equal and approved equivalent.	No.	1		
1.07	10GBASE-SR SFP+ fibre modules as Cisco or approved equivalent.	No.	3		
1.08	Dual Fibre optic patch cords	No.	2		
	Sub-Total C/F to Next Page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
	CABINETS				
1.09	48 Port RJ45 Cat 6A, Data Patch Panel for UTP termination as Siemon or its equal and approved equivalent.	No.	2		
1.10	2U WM series rack mount cable managers as siemon or its equal and approved equivalent	No.	2		
1.11	240V, 50Hz,3000VA, (240V) (UPS), Rack Mountable, with USB and Serial Port as APC or an approved equivalent.	No.	1		
1.12	Grounding and bonding kit complete with 50mm diameter copper bounding bar and 6mm thick green and yellow wire. The Earthing of the system is to be to the approval of the Engineer.	Lot	2		
1.13	42U wall mounted metal cabinet / with glass door complete with cable managers ,fans,power outlet points ,groundingkit and casters	Item	2		
	ACTIVE COMPONENTS				
1.13	48 Port stackable managed Core Switch Complete with stacking cable, redundant Power Supply, 10G/40G uplink ports, POE as Cisco or its equal and approved equivalent as described in the technical specifications	No.	1		
1.14	Supply, install and configure wall/ceiling mounted dual band Wireless Indoor long range Access Point with Wi-Fi 802.11ac high power wireless technology and virtual management controller software package and is PoE to cover at least 50M radius complete with antennae, power adaptor and all accessories as Ubiquiti or an approved equivalent.	No.	9		
1.15	Any other item to complete installation	Item	1		
TOTAL FOR STRUCTURED CABLING WORKS C/F TO PRICE SUMMARY PAGE					

SCHEDULE 6.ELECTRICAL SUMMARY PAGE

ITEM	DESCRIPTION	AMOUNT(KSHS)
A	Sub total B/F from schedule 1 : -PRELIMINARIES	
B	Sub total B/F from schedule 2 : -CONFERENCE HALL	
C	Sub total B/F from schedule 3:-LOUNGE	
D	Sub total B/F from schedule 4:-LIGHTING PROTECTION	
E	Sub total B/F from schedule 5:-STRUCTURED CABLING	
F	Contingency	200,000.00
TOTAL FOR ELECTRICAL INSTALLATION WORKS CARRIED TO FORM OF TENDER		

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

.....

Subcontractor's Signature and Stamp.....

Address.....

Date.....

PIN NO.....V.A.T Certificate

Witness: Name and Signature.....

Address.....

Date

PART NO. 4
PRIME COST SUMS

	<p><u>PART NO. 4</u></p> <p><u>PRIME COST SUMS</u></p> <p><u>NOTES:</u></p> <p>1 The following Sums <u>include</u> 16% V.A.T.</p> <p>2 <u>Contractors are advised to Price for the Electrical & Mechanical Services Works</u></p> <p>The Prime Cost Sums Works SHALL be executed by the Main Contractor's <u>DOMESTIC</u></p> <p>3 <u>Specialist Sub-Contractors</u></p> <p>4 <u>The <u>DOMESTIC</u> Specialist Sub-Contractors or Suppliers SHALL be Approved by the Client;</u></p>	

PART NO. 5

MAIN SUMMARY

Based on stated Completion of -----Weeks.

PART NO. 5
SPECIFICATIONS
AND
BILLS OF QUANTITIES
FOR

THE PROPOSED EXTENSION OF ABLUTION BLOCK AND KITCHENETTE, COLLABORATION, INTERNATIONAL
AND TRAINING CENTRE/UNIT -Phase II

FOR
BOMET UNIVERSITY COLLEGE

MAIN SUMMARY

PART NO.	PART	PAGE NO.	KSHS.	CTS.
	<u>BILLS OF QUANTITIES FOR: -</u>			
3	Builder's Work (V.A.T. Inclusive) .. <div style="text-align: right; margin-right: 20px;">Guest House Lounge</div>	GH/20 LH/20		
	<u>Sub-Total</u>	Shs.		
1	Particular Preliminaries(V.A.T. Inclusive) ..	1/6	}	
2	General Preliminaries (V.A.T. Inclusive) ..	2/13		
4	Prime Cost (P.C.) Sums (V.A.T. Inclusive)	4/2		
	Allow for Contingency		1,000,000	00
<u>TOTAL AMOUNT OF TENDER (V.A.T Inclusive)</u> <u>(Carried to Main Summary of Tender)</u>		KSHS		

TOTAL AMOUNT OF TENDER IN WORDS KENYA SHILLINGS:

PART NO. 5
SPECIFICATIONS
AND
BILLS OF QUANTITIES
FOR

THE PROPOSED EXTENSION OF ABLUTION BLOCK AND KITCHENETTE, COLLABORATION,
INTERNATIONAL AND TRAINING CENTRE/UNIT -Phase II
FOR
BOMET UNIVERSITY COLLEGE

MAIN SUMMARY (Ctd).

(TENDER)

Signature of Tenderer

Name of Tenderer

Address

.....

Date

Signature of Witness

Name of Witness

Address

.....

Date

