

ITEM	DESCRIPTION	QTY	UNIT
Bill 1	Preliminaries & General Conditions		
	Levels & setting out	1.00	Ls
	Plants & machinery	1.00	Ls
	Site management	1.00	Ls
	Electricity & water	1.00	Ls
	Contractor's temporary buildings	1.00	Ls
	Sign board	1.00	Ls
	Rubbish clearance & Clearing Of Site	1.00	Ls
	Washing tyres of vehicles before leaving site	1.00	Ls
	CIDB Contribution	1.00	Ls
	Hoarding	1.00	Ls
	Scaffolding & Staging	1.00	Ls
	First Aid Kit	1.00	Ls
	Workmen's Compensation	1.00	Ls
	Insurance Against Injury To Person	1.00	Ls
	Security	1.00	Ls
	Safety Measures For Construction Works	1.00	Ls
	Progress Report	1.00	Ls
	Mosquito Prevention	1.00	Ls
	A INSURANCE COVERAGE		
	To provide insurance coverage for Workmen Compensation, Contractor's All Risk including Third Party Liability, which covers the necessary requirements including the building work, in accordance with the standard provision in the said policy and also insurance for Contractor's equipment.	1.00	LOT
	B SAFETY REGULATIONS		
	The Contractor shall initiate and enforce compliance of all safety measures for workmen and public. Providing adequate signage to enforce the above.	1.00	LOT

ITEM	DESCRIPTION	QTY	UNIT
C SITE SUPERVISION			
	To provide full time site personal throughout the Contract Period.	1.00	Lot
D SITE MEETING & WEEKLY REPORT			
1	To organise Weekly Site Meetings, attend all meetings called by the Client and arrange the attendance of Representative of Sub-Contractors, Nominated Sub-Contractors and suppliers engaged directly under the Client.	1.00	Lot
2	To provide Weekly Site Report and submitting coloured printed site progress photographs.	1.00	Lot
E SITE FACILITIES			
1	<u>SITE OFFICE</u> To provide temporary site office facilities with table and chairs, whiteboard, proper site rules and regulations signboard.	1.00	Lot
2	<u>GENERAL SCAFFOLDING</u> Provide as necessary general scaffolding for the general execution of the works. Retain in position to meet the requirements of contractors engage direct under Client and other bodies.	1.00	Lot
3	<u>HOARDING/FENCING AND PVC NETTING</u> Provide painted metal hoarding/ fencing throughout the duration of the Contract Period all along the perimeter of the site for phases of works, complete with temporary door with lock, planked footways etc in accordance with client's approval	1.00	Lot
4	<u>TEMPORARY SERVICES</u>		
i	<u>ELECTRICITY SUPPLY & TEMPORARY LIGHTING</u> Provide and maintain all necessary temporary electricity power and lighting supply for the Works and shall periodically checked to safe and fit to be used.	1.00	Lot
ii	<u>WATER</u> Provide and maintain all necessary temporary water supply for the Works. Allow for all costs involved, including any notices and applications, deposits, temporary plumbing and storage , shifting and adapting where so required by the Bank and pay all the charges.	1.00	Lot
iii	<u>TEMPORARY STORES</u> To provide and erect in approved position on or off the site, temporary stores and comply with Authority requirements and pay all fees due.	1.00	Lot
F CLEARING / CLEANING DURING & UPON COMPLETION			
1	Remove all debris, rubbish and superfluous material from the site both as it accumulates from time to time and at completion irrespective of their sources or origins.	1.00	Lot

ITEM	DESCRIPTION	QTY	UNIT
2	Clear the site of all temporary works, facilities, temporary structures, plant and equipment and leave the site clear and unencumbered before handing over.	1.00	Lot
G	SURVEY DRAWINGS		
	To prepare and submit a full site survey drawing prior to start of works. Surveyor drawing to be endorsed and to include: 1 Boundary and fencing locations 2 All existing building setting out, their FFL and their external height (RSD, DSU and existing filing room) 3 Contour plan at 0.5m intervals (spot levels on the ground) 4 All existing above and under ground services (which includes and is not limited to, piping lines, sewerage, water, electric, network, service holes, etc...) 5 All existing trees at a diameter of 150mm and above along with their overhang Note : Although detail survey plan is not done prior to contract award, contractor is responsible to capture all potential relocation, adjustments & making good based on site inspection prior to submitting tender pricing	1.00	Lot
H	SHOP DRAWINGS		
	Preparation of shop drawings and mock-up (if any) in progress for the client's approval.	1.00	Lot
I	AS BUILT DRAWINGS		
	To prepare and submit a complete set of As-Built Drawings and M&E single line drawing duly endorsed by competent personnel within one (1) month from the issuance date of the Certificate of Practical Completion.	1.00	Lot
J	TESTING & COMMISSIONING		
	To conduct Testing & Commissioning of all equipment installed at site. Such works shall be carried out by competent personnel and to submit all warranty/guarantee cards, reports on handing over date.	1.00	Lot
PRELIMINARIES TO COLLECTION : RM			
Bill 2 BUILDER'S WORK			
1	ELEMENT NO. 2 - DEMOLITION WORKS <u>Carefully demolish the following existing items and remove all debris from Site, including terminating and removing all obsolete services, making good to all affected areas to match existing and to receive new works (M&E works and new works measured elsewhere)</u>		
A.	Existing DSU cabins		Ls

ITEM	DESCRIPTION	QTY	UNIT
B.	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Frame a) _____ b) _____ c) _____		
2	ELEMENT NO. 3 - WORK BELOW LOWEST FLOOR FINISH		
	<u>GENERAL</u>		
A	Excavate oversite to reduce level not exceeding 1.00m deep commencing from earthwork platform level, get out, load and cart away from site Excavate commencing from reduced level, get out, part return, fill in, ram, deposit and spread in making up levels where directed within the site, remainder load and cart away from site	32	m ³
B	Footings; exceeding 1.00m but not exceeding 2.00m deep	184	m ³
C	Ground beam; not exceeding 1.00m deep	14	m ³
	<u>Fill, Spread, Level and Compact</u>		
D	Suitable material/earth as fill around structural foundation -----	188	m ³
E	Prepare and apply 2 stages approved anti-termite chemical treatment as described at work below lowest ground level. The Tenderer shall note that the application shall be done at different stages according to work sequence. (The Tenderer shall also allow for a warranty period of five (5) years commencing from the date of Certificate of Practical Completion and subsequent retreatment if necessary.)		item
F	One layer of 0.25mm thick approved polythene sheet damp proof membrane well lapped at joints (measured nett - no allowance made for laps) with minimum lap of 450mm laid under ground slab	137	m ²
	ELEMENT NO. 3 - WORK BELOW LOWEST FLOOR FINISH (Cont'd)		
	<u>50mm Thick concrete Grade 15 as described blinding screed, spread and levelled under</u>		
A	Footings	147	m ²
B	Ground beam	20	m ²
C	Ground slab	137	m ²
	<u>Reinforced concrete Grade 30 as described in</u>		
D	Footings	61	m ³
E	Column stump	1	m ³
F	Ground beam	7	m ³
G	RC wall	22	m ³

ITEM	DESCRIPTION	QTY	UNIT
H	Ground slab	24	m ³
	<u>Steel bar reinforcement as described in</u>		
J	Pile caps -T12 rebar	2,530	kg
K	Column stump -T20 rebar	340	kg
L	Column stump -T16 rebar	26	kg
M	Column stump -R10 rebar	45	kg
N	Ground beam -T20 rebar	538	kg
P	Ground beam -T16 rebar	281	kg
Q	Ground beam -T12 rebar	883	kg
R	Ground beam -R10 rebar	78	kg
S	Ground beam -R8 rebar	6	kg
T	Ground beam -R6 rebar	205	kg
U	Ground slab -T12 rebar	1,506	kg
V	RC wall	2,324	kg
ELEMENT NO. 3 - WORK BELOW LOWEST FLOOR FINISH (Cont'd)			
	<u>Layer of steel fabric reinforcement to B.S. 4483 as described well lapped at joints and embedded in concrete (measured nett - no allowance made for laps)</u>		
	<u>Ground slab</u>		
A	BRC Ref. No. A8 - weighing not less than 3.95kg/m2	65	m ²
B	BRC Ref. No. A10 - weighing not less than 6.16kg/m2	36	m ²
C	BRC Ref. No. B5 - weighing not less than 3.05kg/m2	65	m ²
D	BRC Ref. No. B8 - weighing not less than 5.93kg/m2	46	m ²
	<u>Sawn formwork as described to</u>		
E	Sides of pile caps	56	m ²
F	Sides of column stumps	9	m ²
G	Sides of ground beam	93	m ²
H	Sides of RC wall	85	m ²
	<u>Connection</u>		

ITEM	DESCRIPTION	QTY	UNIT
J	Allow for proper drainage for connection to all existing or completed storm water drainage / sumps including pipe joints, bend, fittings, concrete encasing, make good, excavation, part return, fill in, ram, compact and remove debris and surplus excavated material away from site		Item
K	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Frame		
a)	_____		
b)	_____		
c)	_____		
3	ELEMENT NO. 4 - FRAME		
	<u>Reinforced concrete Grade 30 as described in</u>		
A	Column / column on beam	6	m ³
B	Beam	7	m ³
C	Roof beam	6	m ³
	<u>Steel bar reinforcement as described in</u>		
D	Column / column on beam -T16 rebar	654	kg
E	Column / column on beam -T12 rebar	142	kg
F	Column / column on beam -R6 rebar	207	kg
G	Beam -T20 rebar	531	kg
H	Beam -T16 rebar	273	kg
J	Beam -T12 rebar	793	kg
K	Beam -R10 rebar	77	kg
L	Beam -R8 rebar	18	kg
M	Beam -R6 rebar	207	kg
N	Roof beam -T20 rebar	70	kg
P	Roof beam -T16 rebar	45	kg
Q	Roof beam -T12 rebar	267	kg
R	Roof beam -R6 rebar	121	kg
	<u>Sawn formwork as described to</u>		
S	Sides of column / column on beam	69	m ²
T	Sides and soffit of beam	113	m ²

ITEM	DESCRIPTION	QTY	UNIT
U	Sides and soffit of roof beam -----	89	m ²
V	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Frame		
a)	_____		
b)	_____		
c)	_____		
4	ELEMENT NO. 5 - UPPER FLOOR		
	<u>Reinforced concrete Grade 30 as described in</u>		
A	Suspended floor slab	24	m ³
	<u>Layer of steel fabric reinforcement to B.S. 4483 as described well lapped at joints and embedded in concrete (measured nett - no allowance made for laps)</u>		
	<u>Suspended floor slab</u>		
B	BRC Ref. No. A10 - weighing not less than 6.16kg/m ²	36	m ²
C	BRC Ref. No. B5 - weighing not less than 3.05kg/m ²	65	m ²
D	BRC Ref. No. B8 - weighing not less than 5.93kg/m ²	23	m ²
E	BRC Ref. No. B10 - weighing not less than 8.14kg/m ²	24	m ²
	<u>Steel bar reinforcement as described in</u>		
F	Suspended floor slab -T12 rebar	2,011	kg
	<u>Sawn formwork as described to</u>		
G	Soffit of suspended slab	137	m ²
H	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Upper Floor		
a)	_____		
b)	_____		
c)	_____		
5	ELEMENT NO. 6 - STAIRCASES AND STEPS		
	<u>Mild Steel Staircase</u>		
	<u>Mild steel staircases consists of steel stringer beam, landing column, landing beam,diamond plate steel stair treads, risers, connecting floor slab,steel tube column and steel beam between stair and upper floor, and all the associated steel works with and including all necessary connection plates, bolts, nuts and fixing accessories for the completion of works complete with approved gloss painting and steel wire mesh railing, all as per drawing no. NM / UNHCR / TD-04</u>		

ITEM	DESCRIPTION	QTY	UNIT
A	Steel staircase (1250mm wide x 3350mm floor height)	2	No
	<u>Reinforced Concrete Staircase</u>		
	<u>Construct staircase structure complete with Grade 30 concrete, formwork, reinforcement, cement render finishes, nosing tiles, plastering and painting, steel wire mesh railing to the staircase structure all as per drawing no. NM / UNHCR / TD-04</u>		
B	RC staircase (1100mm wide x 3350mm floor height)	1	No
C	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Upper Floor a) _____ b) _____ c) _____		
6	ELEMENT NO. 7 - ROOF		
	<u>ROOF COVERING</u>		
	<u>Approved PU metal lined deck roofing sheet pitch on steel roof trusses with metal flashing and capping</u>		
A	Main roof	205	m ²
	----- <u>Stainless Steel Gutter</u>		
B	Stainless steel gutter to manufacturer's detail and S.O. approval	34	m
	<u>Unplasticised polyvinyl chloride rainwater downpipe and fittings to B.S 4576 Class 'C' and fittings including jointing with solvent cement, all fixing accessories, holderbats or brackets and jointing to outlets all in accordance with the manufacturer's instructions</u>		
C	100mm Diameter embedded in hardcore or concrete including all necessary excavation and backfilling with approved materials	30	m
D	100mm Diameter fixed to concrete or brickwall with approved holderbats or encased in concrete column	75	m
E	<u>Extra over</u> for bend	30	No.
F	Approved domed grating set in on top of 100mm rainwater downpipe including filling joints with mastic	10	No.
G	UAC fascia 300mm x 12mm thick	62	m

H	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Roof a) _____ b) _____ c) _____		
7	ELEMENT NO. 8 - EXTERNAL WALLS		

ITEM	DESCRIPTION	QTY	UNIT
	<u>Reinforced concrete Grade 30 as described in</u>		
A	RC stiffener complete with formwork and reinforcement		Item
	<u>Brickworks in light weight bricks in composition mortar as described complete with all necessary bonding ties at every 4th course and including brick reinforcement as described</u>		
B	100mm Light weight brick wall with horizontal damp proof course	242	m ²
C	1100mm High steel wire mesh railing	81	m
D	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of External Walls		
	a) _____		
	b) _____		
	c) _____		
8	ELEMENT NO. 9 - INTERNAL WALLS AND PARTITION		
	<u>Reinforced concrete Grade 30 as described in</u>		
A	RC stiffener complete with formwork and reinforcement		Item
	<u>Brickworks in light weight bricks in composition mortar as described complete with all necessary bonding ties at every 4th course and including brick reinforcement as described</u>		
B	100mm Light weight brick wall with horizontal damp proof course	328	m ²
C	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Internal Walls		
	a) _____		
	b) _____		
	c) _____		
9	ELEMENT NO. 10 - WINDOWS		
	<u>Reinforced concrete Grade 30 as described in</u>		
A	Lintol beam reinforced with and including high tensile steel reinforcement bar and mild steel bar as stirrups including all necessary formwork		Item
	<u>Design, supply, deliver to site and install the following natural anodised finished aluminium windows units complete with all necessary frames, sub-frame, transome, mullion, glazing material, glazing beads, fixing countersunk screws, Santoprene weather strip gasket, ironmongery and other accessories for the fixing window including building in or cutting and pinning lugs bedding frame in cement mortar (1:3) and pointing both sides with approved acrylic sealant, all as described and in accordance with the manufacturer's detail</u>		
B	Powder coated double frame fixed glass panel (1 way thru glass) (1200mm x 1200mm) (Type W1)	24	No.

ITEM	DESCRIPTION	QTY	UNIT
C	Powder coated single frame fixed glass panel (1200mm x 1200mm) (Type W2)	12	No.
D	Alumn louvres window (1500mm x 600mm) (Type W3)	2	No.
E	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Windows		
	a) _____		
	b) _____		
	c) _____		
10	ELEMENT NO. 11 - DOORS		
	<u>Reinforced concrete Grade 30 as described in</u>		
A	Lintol beam reinforced with and including high tensile steel reinforcement bar and mild steel bar as stirrups including all necessary formwork		Item
	<u>Supply, deliver to site and install the following doors including all necessary frame, painting and ironmongery</u>		
B	Alumn frame sliding glass door (1500mm ht x 2100mm width) (Type D1)	3	No.
C	Mild steel frame solid timber door with vision panel (900mm ht x 2100mm width) (Type D2)	24	No.
D	Mild steel frame safety grille door (900mm ht x 2100mm width) (Type D3)	4	No.
E	Mild steel frame solid timber door (900mm ht x 2100mm width) (Type D4)	24	No.
F	Alumn frame sliding glass door (1150mm ht x 2100mm width) (Type D5)	1	No.
G	Steel frame steel door (900mm ht x 1400mm width) (Type D6)	1	No.
H	2hr fire rated door (900mm ht x 2100mm width) (Type FD1)	1	No.
J	Approved door stopper	48	No.
K	Approved door closer	48	No.
L	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Doors		
	a) _____		
	b) _____		
	c) _____		
11	ELEMENT NO. 12 - WALL FINISHES		
	<u>Cement and sand (1:6) mixed with an approved mortar plasticiser as described internally finished with a steel trowel:-</u>		

ITEM	DESCRIPTION	QTY	UNIT
A	19mm Plainface to wall and column <u>Cement and sand (1:3) mixed with an approved mortar plasticiser as described externally finished with a steel trowel</u>	1,066	m ²
B	19mm plainface to wall and column <u>Prepare and apply one coat alkali resisting primer and two coats approved emulsion paint as described on</u>	286	m ²
C	Plastered wall and column <u>Prepare and apply one coat wall sealer and two finishing coats of weather resistance paint externally as described</u>	1,066	m ²
D	Plastered wall and column	286	m ²
E	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Wall Finishes a) _____ b) _____ c) _____		
12	ELEMENT NO. 13 - FLOOR FINISHES		
	<u>Supply and install timber laminated flooring or other approved equivalent; laid on trowelled smooth and even screeded beds; design, pattern and colour selected by the Architect and pointed with colour sealant all in accordance to manufacturer's recommendation.</u>		
A	Paving to falls <u>Timber skirting</u>	231	m ²
B	100mm High timber skirting, plugged and screwed to concrete or brickwork complete with approved painting <u>Cement and sand (1:3) finished with a steel trowel</u>	283	m
C	25mm Paving to fall <u>Prepare and apply 2 coats approved waterproofing system onto clean and honeycomb-free concrete surfaces including working around sanitary wares, pipe outlets, floor trap, etc all in accordance with manufacturer's instructions to</u>	137	m ²
D	Floor (A/C ledge)	4	m ²
E	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Internal Floor Finishes a) _____ b) _____		

ITEM	DESCRIPTION	QTY	UNIT
	c) _____		
13	ELEMENT NO. 14 - CEILING FINISHES		
	<u>Approved plaster ceiling complete with and including concealed aluminium suspension system with flush pointed joints between plaster ceiling</u>		
A	Suspended plaster ceiling	205	m ²
B	<u>Extra Over</u> for forming access panel size 600mm x 600mm including all necessary extra framing	2	No.
	<u>'Sika Brefill' or other approved equivalent as skim coating trowelled smooth and levelled all in accordance with manufacturer's instructions including touching up concrete surfaces</u>		
C	3mm plaster to concrete soffit, sides and soffit of beam	233	m ²
	<u>Prepare and apply one coat alkali resisting primer and two coats approved emulsion paint as described on</u>		
D	Suspended plaster ceiling	652	m ²
E	Surface of skim coated concrete soffit, sides and soffit of beam	233	m ²
F	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Internal Ceiling Finishes		
	a) _____		
	b) _____		
	c) _____		
14	ELEMENT NO. 15 - FURNITURE		
A	To supply and transport loose furniture 1 no table (600mm x1200mm) + moveable drawer + 2 nos folding chair + 1 no mesh Chair for each rooms		LS
B	Allow for all other works not listed above but shown on drawings or necessary to ensure completion of Furniture		
	a) _____		
	b) _____		
	c) _____		
BUILDERS' WORK TO COLLECTION : RM			
Bill 3 ELECTRICAL WORKS			
1	PRELIMINARIES		

ITEM	DESCRIPTION	QTY	UNIT
	<p>The preliminary items set out hereunder are deemed to apply to the whole of the Sub-Contract Works all as shown on the Drawings and / or described in this Bill of Quantities, and Electrical Contractor shall allow for complying with the same and for any clause or item listed in this section which has not been included elsewhere in this section or in Bill of Quantities section and no claims will be entertained for those unpriced clausued.</p> <p>A BILL OF QUANTITIES AND PRICING</p> <p>The Quantities in this Bills, which form part of the Sub-Contract are provisional and shall be re-measured and valued in accordance with the Coditions of Sub-Contract. Should re- substantially reduced or totally omitted, or the overall scope of the Sub- Contract Works being reduced, the Electrical Contractor will not be reimbursed for any loss or profit.</p> <p>Provisional Sum provided in the Bills of Quantites shall be expensed as directed by the S.O.'s Representative , and deducted whole or in part if no required.</p> <p>Each item in the Bills of Quantities shall be individually priced. Priced for section, trade or group of items will not be accepted.</p> <p>The Bills of Quantities shall be priced in Malaysia Currency (in Malaysian Ringgit and Sen) Only. Pricing shall be in INK throughout.</p> <p>The rates set down againts each item in the Bills of Quantities shall be held to include for providing and delivering all materials including waste on materials, storage, carriage and cartage, labour, plants and equipment and everything else necessary for the due and proper completion of each item. Any item left unpriced shall be deemed to have been incorporated elsewhere in the Bills of Quantities and the Tender Sum , and no subsequent claims against such item will be considered.</p> <p>Any error or ommission in the rates and calculations in the Bills of Quantities shall, before the signing here of, be so rectified and adjusted that the total amount shall represent the same amount as that tedered in the Form of Tender.</p> <p>There shall be no alteration or amendment, specifying or submission of condition in contravention to those contained in Bill of Quantities, If such conditions are included, the tender submitted may not be considered and liable to be disqualified.</p> <p>Contractor shall bear the cost of STAMP DUTY and the amount shall be as per determined by Lembaga Hasil Dalam Negeri (LHDN).</p> <p>B MATERIAL AND WORKMANSHIP</p> <p>The description of materials and wokrmanship in these Bills of Quantities and / or drawing are to be read in conjunction with the relevant Specifications contained in the Sub - Contract. Materials and equipment supplied and installed shall comply with the condition set down in the Electrical Sub-Contract Works Additional General Condiitons (LC - 203N)</p> <p>Allow for submission of samples of materials and workmanship as the S.O.'s Representative may require for this approval before the materials are supplied and installed or workmanship are embodied in the finished works. All samples which are approved shall be retained on the Site and shall represent or indicate the standard to be</p>	Lump Sum	Lump Sum

ITEM	DESCRIPTION	QTY	UNIT
	<p>maintained in the execution of the Sub - Contract works. All samples shall be cleared away when no longer so required for those purpose.</p> <p>C SAFETY , HEALTH AND WELFARE OF WORK PEOPLE</p> <p>Provide for all costs incurred by complying with all Safety , Health and Welfare Regulations, pertaining to all work people employed on the Site by the ELV Contractor.</p> <p>It Shall include the following but not limited to :- (a) necessary safety precautions such as Safety Awareness & Briefing , Safety Plan for EIV Works & Incidents, Safety & Health Policy etc...</p> <p>D INSURANCE</p> <p>The Contractor shall forth with and as a condition precedent to the commencement of any work under this Sub-Contract take out at his own expenses all the relevant policy or policies as required by this Sub - Contract and procedure all Cover Notes and receipts for premiums paid for inspection of the S.O. and / or S.O's Representative before commencement of any work included in this Sub-Contract. All excesses, if any, imposed by the Insurance Company shall be borne by the Contractor.</p> <p>E SPECIALIST CALIBRATION PERSON</p> <p>The LV and ELV Contractor shall give or appoint a specialist calibration Person or Competent Person in compliance with the sound system certificate to provide necessary superintendence over the whole site operation for the full duration of the Sub - Contract Works and as long there after as the S.O 's Representative may consider necessary for the proper fulfilment the LV and ELV Contractor 's obligation under this Sub - Contractor.</p> <p>The qualification of the Competent Persons shall be in compliance with the Sound system certificate and approved by the S.O's Representative , and he shall be constantly on the Site and shall devote his whole time to the suprintendence of the Sub - Contract Works. He shall take responsibility for the construction, installation testing, commissioning and operation of the whole Sub - Contract Works in compliance with the Electricit Regulations 1994 and any other laws having jurisdiction over the Sub - Contract Works.</p> <p>The S.O's Representative will be at liberty to object to and requires the LV and ELV Contractor to remove forth with from the Site such Competent Person, who in the opinion of the S.O's Representative, misconducts himself or is incompetent or negligent in the proper considered by the S.O's Representative to be undersirable. The LV and ELV Contractor shall, upon the removal of such person, there after replaced as soon as possible a new Competent Person in compliance with the requirement of this section.</p> <p>F SHOP DRAWING / WORKING DRAWING</p> <p>Provide for the preparation , submission and there after the approval for construction from the S.O's Representative all shop drawings for the Sub - Contract Works as required in the relevant Specifications in the Sub - Contract.</p> <p>G CONTRACT DOCUMENT</p> <p>Allow here the cost of binding 3 copies of hard cover Sub - Contract Document.</p> <p>H CLEARING OF SITE</p> <p>The LV and ELV Contractor wii, on completion of the work, removes as quickly as possible and convey away from site at is sole cost, all plants and surplus materials except those ordered to be left on the site, together with all rubbish and debris. The site is to be restored in a neat and workmanlike manner to the satisfaction of the S.O. debris. The site is to ber restored in a neat and workmanlike manner to the satisfaction of the S.O.</p> <p>I SERVICE & MAINTENANCE</p> <p>The LV and ELV Contractor shall make good of any defects shrinkage and any other faults which may appear within</p>	<p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p>	<p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p> <p>Lump Sum</p>

ITEM	DESCRIPTION	QTY	UNIT
	<p>the Defects Liability Period and comprehensive service and maintenance during the Defects Liability Period as provided in the Sub - Contract , commencing from Practical Completion of the Contract Works as certified by the S.O's.</p> <p>J UPON COMPLETION On completion of the work and before handing over, the Electrical Contractor shall submit the following documents, each document properly titled and binded in hard covers :- a) Four (4) sets of all Installation Manuals, Operation Manuals, Service and Maintenance Manuals, original Certificate of Warranties and Guarantees issued by the original equipment manufacturers and Part Inventory for all equipment supplied and installed in Sub - Contract. b) Four (4) sets of all Product Data and Catalogue of equipment supplied and installed in the Sub - Contract. c) Four (4) sets of all Supervision and Completion Certificate, and Test Certificate in compliance with the Electricity Regulation 1994. d) Four (4) sets of all other Test Certificates. e) Four (4) sets printed copies of all as - built drawing as required in the relevant specifications. f) Four (4) sets of soft - copy of all as - build drawings in autocad format as required in the relevant specifications. g) One (1) set maintenance tools as prescribed in the relevant specifications. h) Inventory List for all equipment and accessories installed in the installation as in the Contract . The inventory list shall include and not limit to all data particulars of the equipment and accessories to their types, models, descriptions and quantities. Room coding, designation and description shall be by the S.O.'s Representative. One (1) copy in CD-RW (soft-copy) and four (4) copies of printed forms bounded in the hard cover (hard copy) shall be submitted. i) Three (3) Set of Training Manual Documentation. j) Three (3) Set of Circuit Diagram. k) Service and Maintenance.</p>	Lump Sum	Lump Sum
	<p>K All item to include estimated standard coverage of products and system warranty including integration of new system to existing system covering both side</p>	Lump Sum	Lump Sum
	<p>L Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation. Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.</p>		
	1)	Lump Sum	Lump Sum
	2)	Lump Sum	Lump Sum
	3)	Lump Sum	Lump Sum
	4)	Lump Sum	Lump Sum
PRELIMINARIES TO COLLECTION : RM			
2	<p>Dismantle, Rewiring & Reinstall/ Relocation Works</p> <p>i) All items supplied must be local make if they are locally available and have been approved by the appropriate authority. All fittings of all services shall be dismantled and preserved to their best condition at proper and approved storage area under contractor's responsibility to be reinstalled :</p> <p><u>DSU CABIN</u></p> <p>A To dismantle and dispose all of the cables and to reimburse the profit to the client</p>		

ITEM	DESCRIPTION	QTY	UNIT
a.	Submain of existing cable from MSB to existing MDB - DSU	1	L/S
b.	Final circuit of electrical lighting and SSO point	1	L/S
c.	Final circuit of mechanical services point(i.e air cond)	1	L/S
d.	Final circuit for all security and ELV power supply	1	L/S
e.	Structured cabling for ELV, security and ICT	1	L/S
	B To rewiring of existing adjacent building electrical services to the new temporary/nearest of existing available electrical/ control board		
1	Lighting point		
2	<u>Power point for SSSO</u>	1	L/S
3	Air condition point		
4	ELV services points (CCTV, Door access, PA System & Others)		
5	Testing and commissioning of reroute/ rewiring services	1	L/S
	C SERVICES FITTING		
1	Main Distribution Boards (MDB-SDU)	1	L/S
2	2 x 14W (T5) LED fitting (600mm x 600mm) with full specular aluminium parabolic louvre reflector	1	L/S
3	3w ceiling speaker for PA system	1	L/S
4	Panic Button System	1	L/S
5	All camera in the existing building such as Dome Camera, Bullet Type , Others.		
	1) Dome Camera	1	L/S
	2) Bullet Type	1	L/S
6	All Mechanical & Electrical, Security, ICT and ELV services faceplate	1	L/S
7	All trunking for all services	1	L/S
8	Reroute / rewiring of the existing services for fitting located at adjacent building before commencing remodelling of DSU cabin block.	1	L/S
9	To provide necessary and secured storage area / room for reusable item and equipment.	1	L/S
	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.		
D			
1)	.....	1	L/S
2)	.....	1	L/S
3)	.....	1	L/S
4)	.....	1	L/S

ITEM	DESCRIPTION	QTY	UNIT
	<p><i>relevant rules, regulation and specification.</i> <i>All quantities are subjected to remeasurements</i> <i>(ii) Minimum cross section area of protective conductor in relation to the cross section area of associated phase conductor shall be install as per IEE Wiring Regulation Sixteenth Edition, table 54G.</i></p> <p>A <u>DSU CABIN</u></p>		
1	Lighting points using 2 x 1.5 sq. mm. PVC copper cable with C.P.C cable in concealed UPVC High Impact conduit c/w 10A 1 and 2 way SP flush switch.	93	Nos
2	Emergency Light points using 2 x 1.5 sq. mm. PVC copper cable with C.P.C cable in concealed UPVC High Impact conduit	4	Nos
3	"KELUAR" Sign Light points using 2 x 1.5 sq. mm. PVC copper cable with C.P.C cable in concealed UPVC High Impact conduit	8	Nos
4	13A switch socket outlet points using 2 x 4 sq. mm. PVC copper cable c/w C.P.C cable in concealed UPVC High Impact conduit c/w flush mounted 3-pin socket.(above table)	120	Nos
5	13A switch socket outlet points using 2 x 4 sq. mm. PVC copper cable c/w C.P.C cable in concealed UPVC High Impact conduit c/w flush mounted 3-pin socket.(High Level)- Card Access .	28	Nos
6	13A switch socket outlet points using 2 x 4 sq. mm. PVC copper cable c/w C.P.C cable in concealed UPVC High Impact conduit c/w flush mounted 3-pin socket.(High Level)- Controller Relay Board For Panic System	2	Nos
7	13A switch socket outlet points using 2 x 4 sq. mm. PVC copper cable c/w C.P.C cable in concealed UPVC High Impact conduit c/w flush mounted 3-pin socket.(High Level)- Strobe Light	24	Nos
8	13A switch socket outlet points using 2 x 4 sq. mm. PVC copper cable c/w C.P.C cable in concealed UPVC High Impact conduit c/w flush mounted 3-pin socket.(High Level)- CCTV Network Switch	2	Nos
9	13A switch socket outlet points using 2 x 4 sq. mm. PVC copper cable c/w C.P.C cable in concealed UPVC High Impact conduit c/w flush mounted 3-pin socket.(High Level)- Panic Button	24	Nos
10	20A Aircond points using 2 x 4 sq. mm. PVC copper cable c/w C.P.C cable in concealed UPVC High Impact conduit c/w flush mounted 3-pin socket outlet, 20A air-cond switch c/w indicator lamp and stater panel fan coil unit	24	Nos
	<p>Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.</p> <p>B</p>		
	1)	1	L/S
	2)	1	L/S
	3)	1	L/S
	4)	1	L/S
WIRING WORKS TO COLLECTION : RM			

ITEM	DESCRIPTION	QTY	UNIT
4	<p>SUPLY AND INSTALL</p> <p>A Supply and install Note: i) All items supplied must be local make if they are locally available and have been approved by the appropriate authority. All fluorescent luminaires including iii) The tender is required to submit the catalogue for the purpose of tender evaluation & for approval. iv) All fitting please refer Ls-1 Section 11.0 Luminaire. v) Final Quantities shall be measured upon completion and prices will be adjusted accordingly.</p> <p>(A) DSU CABIN</p> <p>1) 18W LED Recessed Downlight With Opal Diffuser c/w COB Chips, remote driver and support system</p> <p>2) 1 x 14W (T5) surface mounted batten flou. Fitting c/w electronic ballast, gear metal reflector & Wire Guard - colour 830 lamp</p> <p>3) Slim line design 'KELUAR' SIGN suitable for 8.5W LED Fitting and rechargeable battery operation of 3 hours. (Thickness of illuminated surface shall not more 5mm Approved by Chief Insp. Of BOMBA)</p> <p>4) Complete set of recessed/surface mounted 1 x 8.5W LED Emergency Light fitting c/w sealed nickel cadmium battery (3-hour). (All emergency lights installed at place with ceiling shall be recessed).</p> <p>5) Switch Panel/Switch Center</p> <p>6) Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation. Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.</p> <p>1)</p> <p>2)</p>		
SUPLY AND INSTALL TO COLLECTION : RM			
5	<p>MAIN AND SUBMAIN CABLING</p> <p>A MAIN AND SUBMAIN CABLING Supply and install the following Main/Submain cables c/w buried underground and/or trunking/tray/and its brackets, cable ties & tag, terminations and all accessories as per drawing and specification. All quantities are subject to measurement at site. <i>Notes: All trays and trunking of 300mm or wider shall have gauge of at least 14 swg, sizes from 300mm to 150mm width shall be at least 16 swg, and sizes less than 150mm shall be at least 18 swg. Adequate space factor shall be allowed in the running of cables in trunkings or on cable trays as specified in the specification. Sub-main cables shall not be run in the same trunking as final sub-circuit wiring. The contractor is forewarned that non compliance with the above shall render works and materials at site liable for rejection by the Engineer.</i></p> <p>Note: 1. Minimum cross section area of protective conductor in relation to the cross section area of associated phase conductor shall be install as per</p>		

ITEM	DESCRIPTION	QTY	UNIT
	IEE Wiring Regulation Sixteenth Edition, table 54G.		
A. MAIN CABLING	Supply and lay Submain cabling from MSB to Sub-MainSwitch board and Distribution Board.		
1	1 No x 4C x 25 mm.sq XLPE/PVC CU. cable laid in cable tray as per drawing for the following:		
a	From Existing MSB or Sub Switch Board UNHCR to New Distribution Board (DB -Lighting & Power)	50	m
b	From Existing MSB or Sub Switch Board UNHCR to New Distribution Board (DB - Aircond)	50	m
2	1 No x 4C x 16 mm.sq XLPE/PVC CU. cable laid in cable tray as per drawing for the following:		
a	From Existing MSB or Sub Switch Board UNHCR to New Distribution Board (DB -Temporary)	30	m
B. CABLE TRAY / TRUNKING & OTHERS ACCESSORIES			
1	To supply, install and connect up complete internal cable including horizontal and vertical route m.s perforated cable trays/trunking mounting supports and brackets from MSB to SSB and DBs.		
a)	300mm cable tray	1	Lot
b)	100mm x 50mm m.s trunking	1	Lot
c)	150mm x 50mm m.s trunking	1	Lot
C. Testing and Commissioning			
1	All sub-mains cable tests inclusive polarity, insulation, continuity and pressure tests by lisenced tester.	1	Lot
D. OTHERS			
1	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.		
1)	.....	1	L/S
2)	.....	1	L/S
3)	.....	1	L/S
MAIN AND SUBMAIN CABLING TO COLLECTION : RM			
6	MSB,SSB & DB		
A	MAIN SWITCH BOARDS, SUB SWITCH BOARD AND DISTRIBUTION BOARD		
	<i>Notes: All switchboards and Distribution Boards shall comply to BS 5486. All floor standing switchboards shall be "type tested" to BS 5486. Type test certificates complete with full test reports and accompanying drawings shall be produced on demand by the Consultant Engineer before approval and manufacture.</i>		

ITEM	DESCRIPTION	QTY	UNIT
A	<p><u>DISTRIBUTION BOARD</u></p> <p>1 A complete wall mounted metalclad distribution board (DB- LIGHTING & POWER) consist of 60A TPN MCCB incoming and 72 ways TPN c/w 1 nos 63A DP RCD (sens. 100mA) , 2 nos 63A DP RCD (sens. 30mA) , 24 nos of 10A MCB, 48 nos of 32A MCB, 1 nos 63A SPD including wiring cable, and etc as per drawing.</p> <p>2 A complete wall mounted metalclad distribution board (DB- AIR COND) consist of 63A TPN MCCB incoming and 30 ways TPN c/w 3 nos 63A DP RCD (sens. 100mA) , 30 nos of 32A MCB , 1 Nos 63A SPD ,including wiring cable, and etc as per drawing.</p> <p>3 A complete wall mounted metalclad distribution board (DB- TEMPORARY) consist of 40A TPN MCCB incoming and 18 ways TPN c/w 1 nos 40A DP RCD (sens. 100mA) , 2 nos 40A DP RCD (sens. 30mA) , 6 nos of 10A MCB, 12 nos of 20A MCB including wiring cable, and etc as per drawing.</p> <p>4 Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.</p> <p>1)</p> <p>2)</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>Lot</p> <p>Lot</p> <p>Lot</p> <p>L/S</p> <p>L/S</p>
MSB,SSB & DB TO COLLECTION : RM			
7	<p>EARTHING & LIGHTNING PROTECTION SYSTEM</p> <p>A <u>EARTHING AND LIGHTNING PROTECTION SYSTEM</u></p> <p><i>Notes: All components for earthing system (clamps, screws, clips. Saddles etc.) shall be of weather and rust resistant quality and approved for use under BS 665 - 1985. The responsible shall be held on such component cause staining to external fascia, plasterworks and / or painting.Copper tape runs and down drops shall comply with the following basic requirements:-</i></p> <p><i>a) shall be run at locations which are at least visible (prior approval from the S.O. and Consultant Engineer before installation.</i></p> <p><i>b) have minimum bends to avoid potential flash-over points.</i></p> <p><i>All test result shall be made available whenever requested by the S.O or S.O representatives</i></p> <p>To supply, delivery, installation, testing and commissioning the complete Earthing System installation c/w accessories etc. as per drawing and specifications:</p> <p>(i) <u>EARTHING SYSTEM - specs. LS1 (April)</u></p> <p>1 To supply, install and test a complete earthing system for both the electrical and telephone distribution system as per described in the specification L-S1 ((April 1999) Part 13.0). The earth inspection chamber shall be of precast heavy duty type similar to SAG or of approved equivalent.</p> <p>a) Low Voltage installation (All M&E related rooms)</p>	<p>1</p>	<p>L/S</p>

ITEM	DESCRIPTION	QTY	UNIT
	b) Extra Low Voltage & Security Installation	1	L/S
	c) Telephone/ICT installation	1	L/S
(ii)	<u>LIGHTNING PROTECTION SYSTEM</u> To supply, delivery, installation, testing and commissioning the complete Lightning Protection System installation c/w accessories etc. as per drawing and specifications:		
	a Air terminal 15mm dia. x 500mm high copper rod c/w brass base plate and brass mounting screw.	4	Nos
	b Copper tape 25mm x 3mm to run above the roof buried in the concrete wall and underground c/w brass saddle and clamp as per drawing.	Approx. 100	M
	c Copper clade earth electrode 15mm brass joint slave,exhortermic joint and heavy duty concrete chamber as per drawing for lightning protection system.	4	Nos.
	d Test clamp c/w flush type with glass cover as per specification and drawing.	4	Nos
	e 50mm x 25mm UPVC ducting from test clamp for copper strip protection and others accessories.	30	M
	f B-Bonded between metal roofing to copper tape	4	Nos
	g Heavy Duty Precast concrete Earth Chamber (JKR Approved)	6	Nos
	h Testing and commissioning.	1	Lot
iii)	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.		
	1)	1	L/S
	2)	1	L/S
EARTHING & LIGHTNING PROTECTION SYSTEM TO COLLECTION : RM			
8	PUBLIC ADDRESS SYSTEM		
A	<u>PUBLIC ADDRESS SYSTEM</u> Supply,delivery, installation, testing,commissionig and handing over in approved working order a complete Public Address System consisting of the following, all in accordance with the drawings and specifications:		
1	120W 100V Mixer Amplifier c/w Media Player	1	Nos
2	6 Zone Desktop Paging Mic	1	Nos
3	30W 12" Round Aluminium Horn Speaker	2	Nos
4	6W 5" Dual Cone Ceilling Speaker	30	Nos
5	19" Floor Standing Equipment Rack c/w interacking works	1	Lot
6	System cabling works in uPVC High Impact Conduit c/w all other necessary accessories.	1	Lot
7	Installation and termination works c/w all other necessary accessories.	1	Lot

ITEM	DESCRIPTION	QTY	UNIT
8	Testing & Commissioning	1	Lot
9	To provide , install & to do intergration cabling & integration configuration system to existing system c/w necessary accessories.	1	Lot
10	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere. a)..... b).....	1 1	L/S L/S
PUBLIC ADDRESS SYSTEM TO COLLECTION : RM			
9	CARD ACCESS SYSTEM		
A	CARD ACCESS SYSTEM		
	Note: Supply,delivery, installation, testing,commissionig and handing over in approved working order a complete Card Access System consisting of the following, all in accordance with the drawings and specifications:		
1	Network Switcher c/w necessary accessories.	1	Lot
2	System Software c/w necessary accessories.	1	Lot
3	IP Based Controller c/w Power Supply and Backup Battery c/w necessary accessories.	28	Nos
4	Proximity Card Reader c/w necessary accessories.	28	Nos
5	600lbs EM Lock c/w necessary accessories.	28	Nos
6	Magnetic Door Sensor c/w necessary accessories.	28	Nos
7	Exit Push Button c/w necessary accessories.	28	Nos
8	Emergency Breakglass c/w necessary accessories.	28	Nos
9	Proximity Card c/w Printing c/w necessary accessories.	30	Nos
10	To do intergration cabling & integration configuration system to existing system c/w necessary accessories.	1	Lot
11	To Provide the system Installation & Termination c/w necessary accessories	1	Lot
12	To provide System Cablings in Conduits/Trunking c/w necessary accessories.	1	Lot
13	To Provide the System Programming, Testing & Commissioning c/w necessary accessories	1	Lot
14	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere. a)..... b).....	1 1	L/S L/S

ITEM	DESCRIPTION	QTY	UNIT
CARD ACCESS SYSTEM TO COLLECTION : RM			
10	CCTV SYSTEM		
A	CCTV SYSTEM Supply,delivery, installation, testing,commissioning and handing over in approved working order a complete CCTV System consisting of the following, all in accordance with the drawings and specifications:		
1	2 Megapixel H.265 Full HD Network IR Dome Camera c/w 2.8 ~ 12mm (4.3x) motorised varifocal lens, True Day & Night, WDR (120dB), Hallway view support, IRLEDs: 20m, and PoE/12VDC c/w bracket mounting accessories.	24	Nos
2	2 Megapixel H.265 Full HD Network Weatherproof IR Fixed Bullet Camera c/w 2.8 ~ 12mm (4.3x) motorised varifocal lens, True Day & Night, WDR (120dB), Hallway view support, IRLEDs: 30m, IP66,IK10 and PoE/12VDC c/w bracket mounting accessories.	4	Nos
3	24 Port Gigabit Ethernet PoE Managed Switch @ 382W with 2 SFP slots, 2 Gigabit Ethernet combo	2	Nos
4	8 Port Gigabit Ethernet PoE Managed Switch @ 124W POE with 2 Gigabit Ethernet combo	2	Nos
5	Rack mounted UTP Cat6 patch panel c/w Cable management Panel.	2	Nos
6	Rack mounted 6 Port Single mode Fiber Optic patch Panel	2	Nos
7	3 Meter Fiber Optic Patch Cord	1	Lot
8	3 Meter UTP Cat6 Patch Cord	1	Lot
9	System Cabling works for Cat6 UTP cable in uPVC High Impact Conduit c/w all other necessary accessories.	1	Lot
10	Installation and Termination works c/w all other necessary accessories.	1	Lot
11	To provide , install & integrate cabling sytem & configuration system to existing system c/w necessary accessories.	1	Lot
12	Testing & Commissioning.	1	Lot
	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere.		
	a).....	1	L/S
	b).....	1	L/S
	c).....	1	L/S
CCTV SYSTEM TO COLLECTION : RM			
11	ICT WORKS		
	C Network Cabling Infrastructure (Internal & External Installation)		
1	Interbuilding Backbone		
a)	To supply, install and commission 8 core 9/125 µm OS2 Armoured central tube, PEHD Rating jacket, singlemode Outdoor fiber optic cable in trunking from Server Room to SDU Buildings including all accessories	60	M

ITEM	DESCRIPTION	QTY	UNIT
2	Horizontal Cabling		
a)	To supply, install, test and commission UTP CAT 6, 4pair, 23AWG, (EIA/TIA) in Hot Dipped Galvanised(HDG) trunking and GI conduit from patch panel to switch outlet c/w back box, faceplate, angled type modular RJ45 jack at faceplate (1 gang/2 gang).	26	Nos
b)	Supply and install 3.0 meter length UTP CAT 6 (EIA/TIA) factory terminated patch cords c/w RJ45 connectors and boots from faceplate to workstation.	25	Nos
c)	Supply and install 1.0 meter length UTP CAT 6 (EIA/TIA) factory terminated patch cords c/w RJ45 connectors and boots from patch panel to switch.	25	Nos
3	Active Network Equipment For Networking System		
a)	To supply, deliver, install, configure, testing and commissioning 24 Port + 4 SFP+ POE+ Access Switches complete with 10G LC trasceiver, uplink/stacking cable, power cord, USB console cable and other related accessories required for proper functioning of the switch	2	Nos
b)	To supply, deliver, install, configure, testing and commissioning POE dual radio dual band Access Point comply with IEEE 802.11ac Wave 2 specification	2	Nos
4	OTHERS		
a)	Supply and Install Equipment Rack – 19" 32U(H) x 700mm(W) x 1000mm(D) floor standing, come with Vertical Left & Right Vertical finger cable manager, Glass Front, Steel Rear door and removable side panels (all doors vented with lock), exhaust fans (min 3), 240V power extension, blanking panels	1	Nos
b)	Supply and Install Category 6 24-port Modular Patch Panel come with CAT 6 Modular Jacks complete with rear cable support bar c/w cable management panel.	2	Nos
c)	Providing certificate of structured cabling system performance warranty for minimum of 20 year from cabling manufacturer in paper and hard case plate type for submission to the clients	1	Lot
d)	2kVA UPS for backup supply	1	nos
5	<u>Testing and Commissioning</u>		
	To provide standard cable tests reports inclusive polarity, insulation, continuity by lisenced tester.	1	Lot
6	To provide , install & to do intergration cabling & integration configuration system to existing system c/w necessary accessories.	1	Lot
7	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation. Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere		
a)	.....	1	L/S
b)	.....	1	L/S
c)	.....	1	L/S
	ICT WORKS TO COLLECTION : RM		
12	PANIC BUTTON SYSTEM		
A	PANIC BUTTON / EMERGENCY SYSTEM		

ITEM	DESCRIPTION	QTY	UNIT
	Supply,delivery, installation, testing,commissioning and handing over in approved working order a complete Panic Button Alarm System ang linked to UNHCR existing system at main control room consisting of the following, all in accordance with the drawings and specifications:		
1)	8 Port Ethernet Network Switch c/w SFP Link Module	1	Nos
2)	Panic button main control unit mi support up to 48 zone, metal enclosure, power supply and backup battery.	1	Lot
3)	2 Unit of 12 Input Expander 12 Unit of Output Expander.	2	Nos
4)	Panic Button at each interview room UNHCR.	24	Nos
5)	Siren Box c/w Strobe light, local power supply and backup battery & Panic Button with reset key switch.	26	Nos
6)	1 unit of LCD keypad for reset : Arm & Disarm.	1	Nos
7)	System Cabling works for Cat6 UTP cable in uPVC High Impact Conduit c/w all other necessary accessories.	1	Lot
8)	Supply and install and commission 4 core 9/125 µm OS2 Armoured central tube, PEHD Rating jacket, singlemode Outdoor fiber optic cable from Network Switch to Fiber patch panel Main Control room Buildings including all accessories.	60	M
10)	Installation and Termination works c/w all other necessary accessories.	1	Lot
11)	To Supply & install PC Workstation c/w panic alarm software system.	1	Lot
12)	To provide , install & to do intergration cabling & integration configuration system to existing system c/w necessary accessories.	1	Lot
13)	License to be integrated into video management software & UNHCR Central Command Center	1	Lot
14)	Testing & Commissioning.	1	Lot
15)	Allow cost for other items not included / specify above but shown in the drawing, specification or deemed necessary for the complete installation.Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere		
	a).....	1	L/S
	b).....	1	L/S
	c).....	1	L/S
PANIC BUTTON SYSTEM TO COLLECTION : RM			
Bill 4 MECHANICAL WORKS			
1	PRELIMINARIES		
A	Submission of working/shop drawings printed in A1 size for consultant/Client approval. Contractor must make three (3) copy of approved working/shop drawing and distribute to M&E Consultant and Client	1	Set
B	Submission of material catalogue, samples, sample board for consultant/s.o representative approval. Contractor shall made one (1) copy of approved material catalogue/form to be placed at site office.	1	Set

ITEM	DESCRIPTION	QTY	UNIT
C	Submission of Operation and Maintenance Manual (O&M) consists of approved As-Built Drawing, maintenance schedule, warranty certificate/cards, product contact information, person incharge and instruction manual in hard cover binding. Contractor must make a copy of the approved O&M into a pendrive (1 no).	2	Sets
D	Provide one time training to employer personnels for the operations and maintenance of the all related mechanical system installed.	1	Item
E	Testing & commissioning of the all mechanical system installed (ACMV & Fire Protection Services)	1	Item
F	Twelve (12) months of service and maintenance of Air Conditioning & Mechanical Ventilation (ACMV) during Defect Liability Period (DLP) (Mandatory to price) as per Service & Maintenance Specification	-	LS
G	Allow cost for general cleaning of pipes, painting, labelling and tagging of all equipments, pipeworks, trunking, conduits etc. and cart away construction debris off site.	-	LS
H	Allow cost for patching, making good of wall cement plastering, and paint for mechanical installation to the satisfaction of the S.O, also include clearing and cleaning debris from the installation works etc.	-	LS
I	Allow cost for other items not included/specify above but shown in the drawing or deemed necessary for the complete installation, (Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere. a)		
PRELIMINARIES TO COLLECTION : RM			
2	AIR-CONDITIONING & MECHANICAL VENTILATION (ACMV) SYSTEM AIR COOLED SPLIT UNIT (ACSU) Supply and install Non-Inverter Type, R32 refrigerant, Air Cooled Split Unit (ACSU) system c/w indoor units and matched outdoor unit, insulated refrigerant pipeworks, concealed and insulated condensate drain pipeworks, wireless remote control, cabling/wiring in metal trunking from AC indoor unit to AC outdoor unit and all necessary accessories as specified in technical specification and/or shown in tender drawings for the followings: GROUND FLOOR A Room 1 (FCU-GF-01) W.Mounted - 9,500 BTU/h B Room 2 (FCU-GF-02) W.Mounted - 9,500 BTU/h C Room 3 (FCU-GF-03) W.Mounted - 9,500 BTU/h D Room 4 (FCU-GF-04) W.Mounted - 9,500 BTU/h E Room 5 (FCU-GF-05) W.Mounted - 9,500 BTU/h F Room 6 (FCU-GF-06) W.Mounted - 9,500 BTU/h G Room 7 (FCU-GF-07)		

ITEM	DESCRIPTION	QTY	UNIT
	W.Mounted - 9,500 BTU/h		
H	Room 8 (FCU-GF-08) W.Mounted - 9,500 BTU/h	1	no
I	Room 9 (FCU-GF-09) W.Mounted - 9,500 BTU/h	1	no
J	Room 10 (FCU-GF-10) W.Mounted - 9,500 BTU/h	1	no
K	Room 11 (FCU-GF-11) W.Mounted - 9,500 BTU/h	1	no
L	Room 12 (FCU-GF-12) W.Mounted - 9,500 BTU/h	1	no
M	300mm x 150mm Metal trunking complying to MS IEC 61084 with Epoxy Powder Coated finish to ASTM D 1654, BS 6920 for AC refrigerant pipe. (Follow JKR Specs L-S1 for LV Internal Electrical Installation for Cable Trunking)	40	m
N	Concealed PVC Class 'C' drain pipe for all ACSU. The pipe shall be insulated with 25mm thick amarflex close rubber insulation and discharge to nearest rain water down pipe.	12	Lot
O	Two (2) pieces HDG steel AC condensing unit bracket with white epoxy powder coated finish c/w rubber pad, bolt and nuts for fixing the condensing unit to the bracket.	12	Lot
	<u>FIRST FLOOR</u>		
A	Room 1 (FCU-1F-01) W.Mounted - 9,500 BTU/h	1	no
B	Room 2 (FCU-1F-02) W.Mounted - 9,500 BTU/h	1	no
C	Room 3 (FCU-1F-03) W.Mounted - 9,500 BTU/h	1	no
D	Room 4 (FCU-1F-04) W.Mounted - 9,500 BTU/h	1	no
E	Room 5 (FCU-1F-05) W.Mounted - 9,500 BTU/h	1	no
F	Room 6 (FCU-1F-06) W.Mounted - 9,500 BTU/h	1	no
G	Room 7 (FCU-1F-07) W.Mounted - 9,500 BTU/h	1	no
H	Room 8 (FCU-1F-08) W.Mounted - 9,500 BTU/h	1	no
I	Room 9 (FCU-1F-09) W.Mounted - 9,500 BTU/h	1	no
J	Room 10 (FCU-1F-10) W.Mounted - 9,500 BTU/h	1	no

ITEM	DESCRIPTION	QTY	UNIT
K	Room 11 (FCU-1F-11) W.Mounted - 9,500 BTU/h	1	no
L	Room 12 (FCU-1F-12) W.Mounted - 9,500 BTU/h	1	no
M	300mm x 100mm Metal trunking complying to MS IEC 61084 with Epoxy Powder Coated finish to ASTM D 1654, BS 6920 for AC refrigerant pipe c/w support bracket assembly. (Follow JKR Specs L-S1 for LV Internal Electrical Installation for Cable Trunking)	40	m
N	Concealed PVC Class 'C' drain pipe for all ACSU. The pipe shall be insulated with 25mm thick amarflex close rubber insulation and discharge to nearest rain water down pipe.	12	Lot
O	Two (2) pieces HDG steel AC condensing unit bracket with white epoxy powder coated finish c/w rubber pad, bolt and nuts for fixing the condensing unit to the bracket.	12	Lot
P	Allow cost for other items not included/specify above but shown in the drawing or deemed necessary for the complete installation, (Please specify, if contractor failed to price on this item, it is deemed that the contractor has included such works elsewhere. a)		
	Notes: All exposed insulated refrigerant copper pipe connected to ac condensing unit shall be install in HDG trunking.		
(ACMV) SYSTEM TO COLLECTION : RM			
3	FIRE PROTECTION SERVICES		
A	FIRE PROTECTION SERVICES To supply, install, modification, reconfiguration, testing, commissioning, service and maintenance of Fire Protection System consists of Semi Addressable Fire Alarm & Detection System, Portable Fire Extinguisher and other related fire protection works		
FIRE PROTECTION SERVICE TO COLLECTION : RM			
4	DISMANTLING WORKS		
	Air Conditioning & Mechanical Ventilation (ACMV) System To supply labour, material, tools and equipment for the dismantling works of existing ACMV services		
A	Wall mounted 1.0 hp air cooled split unit (indoor unit)	14	nos
B	AC Condensing unit c/w bracket	14	nos
C	Refrigerant pipeworks, condensate drain pipeworks and wiring works from indoor unit to outdoor unit	14	Lot
D	All conduit or trunking related to air conditioning works	1	Lot
E	To dismantle floor mounted 1.0 Hp air cooled split unit condensing unit c/w refrigerant and condensate	2	Lot
	Fire Protection Services To supply labour, material, tools and equipment for the dismantling works of existing Fire Protection		
F	Smoke detector	7	nos

ITEM	DESCRIPTION	QTY	UNIT
G	Alarm bell/sounder	4	nos
H	Manual Call Point - Break Glass	4	nos
I	Wiring works (cable, conduit, trunking, bracket etc.) for all fire alarm detection devices	1	Lot
J	Allow cost for other items not included/specify above but shown in the drawing or deemed necessary a)		
DISMANTLING WORKS TO COLLECTION : RM			