



**JOURET EL TERMOS SCHOOL
KESERWAN - MOUNT LEBANON
LEBANON**



**Volume II – BILL OF QUANTITIES
(دفتر الكميات)**

2025



**ABDULWAHED CHEHAB
CONSULTING ENGINEERING OFFICE**

Jouret El Termos School

SUMMARY

PART	DESCRIPTION	TOTAL \$
1	GENERAL REQUIREMENTS	
2	CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	
3	MECHANICAL ENGINEERING SERVICES	
4	ELECTRICAL ENGINEERING SERVICES	
TOTAL \$		

GENERAL PREAMBLE**SPECIFICATIONS**

The Works as shown on the Drawings and described in the Bill of Quantities shall be executed and completed fully in accordance with the provisions and the requirements contained in Specifications.

DRAWINGS

The Drawings pertaining to the Works are identified and listed hereunder and they are to be read and construed in conjunction with the Solicitation and Contract Documents, Specifications, and Bill of Quantities.

The Contractor's attention is drawn to the necessity for all dimensions and elevations shown on the Drawings to be physically checked and co-ordinated on the Site prior to the setting out of works, during the progress of works and prior to ordering, purchasing or manufacturing of installed components and equipment. The Contractor shall be deemed to have made due allowance in his Bid for identifying and resolving any such dimensional discrepancies which may arise.

The Drawings are as numbered and listed on Drawing, entitled 'List of Drawings'.

BILL OF QUANTITIES**Symbols and Abbreviations**

The following symbols and abbreviations, where used in this Bill of Quantities, have the following meanings:

m or lm	=	linear metre
m ²	=	square metre
m ³	=	cubic metre
cm	=	centimetre
mm	=	millimetre
Nr or No	=	number
kg	=	kilogramme
T	=	tonne
"	=	inches
LS	=	lump sum amount
Item	=	Package works
%	=	percentage
Qty	=	quantity
Drg or Dwg	=	Drawing
OPTIONAL	=	Could be cancelled from tender Need approval before purchase & construction

Generally

The Bill of Quantities are to be read in conjunction with the Solicitation and Contract Documents, Specifications, the Drawings, and these Preambles, all of which shall be taken as being mutually explanatory to each other, and construed accordingly.

The Works have been measured in accordance with the descriptions and notes described in the Bill of Quantities, which shall apply equally to both proposed and executed Works.

The Bidder shall not rely upon the descriptions, the dimensions therein, nor the quantities given in the Bill of Quantities for the purpose of ordering, purchasing or manufacturing of any materials, components or equipment.

The Contractor is required to provide with his Bid, in accordance with the requirements prescribed in the Bidding Documents, a detailed analysis of all unit rates and prices inserted in the Bills of Quantities. This shall include a break down of each unit rate and price, showing the allocation of cost for labour, materials, plant, equipment and other charges. The Employer or the Engineer shall have the right, and the Contractor shall provide if so requested, a further analysis of any or all unit rates and prices, including a detailed breakdown of "other charges".

Descriptions

The descriptions of the work items as set out in the Bill of Quantities are approximations only and are not necessarily, nor are they to be taken as the precise and complete descriptions of work to be performed by the Contractor in the execution and completion of the Works, and in fulfillment of his obligations under the Contract. Headings and sub-headings to groups of items in the Bill of Quantities are to be read as part of the descriptions of the items to which the headings and sub-headings apply.

The general and detailed requirements of the Specification are not repeated in the descriptions of the items in the Bill of Quantities, other than cross-referencing for the purposes of identification.

Quantities

The quantities set out in the Bill of Quantities are estimated quantities only and they are not to be taken as the actual and correct quantities of work to be performed by the Contractor in the execution and completion of the Works, nor are they intended to limit the amount of work to be performed under the Contract. Upon completion, all work will be re-measured in accordance with the Contract, following the descriptions and notes contained in the Bill of Quantities and these Preambles.

Works are measured net as fixed in position except where otherwise stated in a measurement note applicable to the work. Excavation and earthwork in particular, are measured as stated in the Bill of Quantities

Pricing

The Contractor shall be deemed to have fully checked the descriptions and quantities contained in the Bill of Quantities against the Drawings and Specifications to ensure that the unit rates and prices inserted by him in his Bid, include for the full cost of executing and completing the work described, including for all ancillaries and associated works which are indicated or reasonably inferred from the Drawings and Specifications and necessarily required for the proper and timely execution and completion of the Works in accordance with the Contract.

Unit rates and prices inserted in the Bill of Quantities shall be fixed and, except as provided for in the Contract not subject to adjustment, in respect of any rise or fall in the cost to the Contractor of undertaking, executing and completing the Works.

The Bill of Quantities shall be priced in United States Dollars. All payment made to the successful Bidder in accordance with all certificates, accounts and similar documents relating to this Contract shall be in US\$.

The Bidder shall be deemed to take all adequate measures to ensure utmost safety conditions with no exceptions such as providing personal protective equipment PPE, protections around excavations, ladders, scaffolding, working at heights, etc... and any other HSSE measures as well as Prevention of Sexual Exploitation and Abuse- PSEA Posters, awareness sessions and other plans and activities including utilization of dedicated entrance for the Contractor's staff, etc..

The Bidder shall price all items excluding VAT.

The Bidder shall allow in his rates for protecting all Works against damage by whatever method deemed necessary and approved. Any work damaged before the Works are handed over shall be replaced or made good at the Tenderer's expense and to Engineer's satisfaction.

The Bidder shall include in his rate the cost and time effect of coordinating and fully assisting any Nominated Sub-Contractors, if any, appointed by the Employer, during schedule overlapping in the utilization of all equipment and facilities, and maintaining all equipment (cranes, generators, safety barriers, site security, etc.) operational until the end of all trades of the entire project. No claim for additional payment or extension of time will be considered in these respects.

The Bidder shall include in his rate the cost and time effect of planning, application and obtaining construction permits for the Solar PV Systems in the site, including any required construction for the realization of the project (including but not limited to the Lebanese Center for Energy Conservation - LCEC, Ministry of Interior and Municipalities, any other pertinent entities, etc..).

The Bidder shall supply, install, connect, and operate a temporary CCTV system with continuous local/remote monitoring during construction to record the progress of works, in all of the sections of each site of the Project and to produce videos and photos for monthly progress reports as per the requirements of the Employer.

The Bidder shall provide as needed cameras to record all the activities.

The Bidder shall provide one set of all the workshop and six sets of the As-built drawings for all the disciplines for the Employer's review & approval in addition to soft copies in executable format (Autocad).

The cost of any items of work in the Bill of Quantities, for which no unit rate or price has been inserted by the Contractor, shall be deemed to be covered by and included in the other rates and prices inserted in the Bill of Quantities.

Unless otherwise stated, all costs necessarily incurred in complying with the provisions and requirements of the Conditions of Contract and General Requirements are deemed to be included with the works, as applicable.

Unit rates and prices inserted by the Contractor against the work items in the Bill of Quantities, shall be deemed to cover for all such costs; including but not necessarily limited to the following, as applicable:

- on-site and off-site supervision and management,
- site administration and security,
- insurances, bonds and guarantees,
- water for the works,
- lighting and power for the works,
- temporary roads, hardstandings, crossings and the like,
- temporary fencing, hoardings, screens, barriers, foot-ways, guardrails and the like, concrete strength test & steel bars test as stated in the BOQ
- giving notices and making applications, including the payment of fees and charges in connection therewith,
- safety, health and welfare of workpeople, and of employees, users and occupants of existing buildings and facilities on the Site,
- compliance with traffic regulations,
- maintenance of public and private roads, services and adjoining property,
- control of noise and pollution, prevention of fire and compliance with all other statutory and general obligations,
- samples of materials and testing of materials, including providing equipment for testing,
- preparation and submittal of drawings, reports, records, certificates, notices, proposals, designs, details, calculations and other information and data required by the Specification,
- compliance with all other requirements, provisions, responsibilities and obligations contained in the Contract Documents.

- Temporary facilities for the Consultant / Engineer

Unless otherwise stated, all costs necessarily incurred in complying with

the provisions and requirements of the Specifications and Drawings are deemed to be included with the work, as applicable. Unit rates and prices inserted by the Contractor against the work items in the Bill of Quantities, shall be deemed to cover for all such costs; including but not necessarily limited to the following, as applicable:

- mobilisation: including bringing to and providing on Site, all Contractor's Equipment and temporary works; carrying out enabling tasks and providing all temporary services necessary to commence and undertake the Works,
- labour and all costs in connection therewith,
- materials, products, equipment, goods, supplies and consumables, and all costs in connection therewith,
- Contractor's Equipment, including but not limited to: plant, machinery, scaffolding, tools, vehicles and the like, and all costs in connection therewith,
- temporary works and all costs in connection therewith, including but not limited to: designing; preparing and submitting shop drawings; installing, maintaining, adapting, clearing away and making good as necessary,
- work at any location or depth,
- work in small or isolated quantities,
- curved, sloping, raking or battered work,
- cleaning and protection of all work,
- protection of all existing buildings and facilities, structures, utilities, site improvements, trees and vegetation, features, pavements and other facilities on and adjacent to the site, which are to remain upon completion of the work,
- all other enabling tasks, associated and subsidiary components and items of ancillary work, which are indicated or reasonably inferred from the Specifications and/or Drawings, and which are necessary to perform and complete the work described,
- demobilising the Site upon completion of the Works, including but not limited to: removing from Site all Contractor's Equipment and temporary works materials, clearing and removing from the Site all Contractor's rubbish, debris and surplus materials, and reinstating and restoring the Site to its' original condition,
- establishment costs, overhead charges, profit and risk.

* Coordination with other associated trades, designers, third party supplier and specialists, at the time preparing shop drawings and during the works progress.

MECHANICAL PREAMBLE**SPECIFICATIONS:**

Mechanical equipment has been measured in complete items unless otherwise stated in the specification and bill item. The rates for all items shall include for supplying all materials, fixing, terminating and connecting all accessories and components for a complete and functional item.

The Contractor shall consult the relevant sections of the specification when query or doubt arise.

All items of mechanical plant shall be connected to the control and power systems. All wiring shall be carried out by competent and qualified electricians under the mechanical scope of works.

Rates and prices entered against the items shall include for all costs in connection with the followings :

- * Connection items of plant and equipment as necessary to the control and power systems.
- * Provision of starter's, protective devices, automatic change over/load shedding facilities, remote and local isolation/emergency shut off as appropriate, control functions and alarms to achieve the intent outlined in the Control Section of the Specification. All motors to be of the 'Low Energy' type as outlined in the Specification.
- * Off loading, storing, connecting up, protecting as necessary, testing, flushing, cleaning, charging, balancing, commissioning and testing individual items of plant as well as complete systems installations all as specified and directed by the Engineer.
- * Supports, brackets and fixings of every description required to complete the works.
- * Cutting or forming all holes, mortises, chases and the like in the structure to facilitate the various works and making good in all trades as necessary;
- * Coordination with other associated trades, designers, third party supplier and specialists, at the time preparing shop drawings and during the works progress.

ELECTRICAL PREAMBLE**SPECIFICATIONS:**

Rates for all items of equipment and materials shall be inclusive of all labor, electric power during installation and testing oxygen, acetylene, water, transport, rigging, temporary works, stores, offices, instruments insurance, customs, duties, overhead, profit certificates, samples, tests, supply of all information and data, supply of catalogues, charts, curves, submittals, certified drawings and all other information and services called for in the specification, all fully connected up and good working order.

Rates shall also include for:

- a. All builders work in connection with fixing of supports brackets, clips as required
 - b. Cutting or forming allopennings, mortises, chases, etc., in floors, walls and ceiling required for the installation and making good after.
 - c. Construction of manholes , handholes and the like
 - d. Fitting of access doors in walls and ceilings.
 - e. Supplying and fixing supports, brackets and clips as required.
 - f. Cutting away and making good after all trades for frames, sleeves, cables, cable trays, chases for conduits and fixing of electrical boxes, conduits, accessories.
 - g. Excavating and back filling trenches for cables, pipes and providing and laying precast concrete protective tiles.
 - h. Repair, repaint and generally make good and leave in perfect condition all the work executed by him under the contract.
 - I. All other work in connection with the installation that is not measured separately.

 - j. Electrical equipment is enumerated unless otherwise stated and the rates shall include for supplying all materials labour, plant, fixing, terminating and connecting accessories, etc.
 - k. All the feeder cables (PVC/PVC) are measured in line armeters from the boards to the boards to the equipment or from the distribution board to Submain or from board etc.The rates shall include for the supply of materials, laying, terminating, trenching, cable trays, ducting, etc.
 - l. Lighting points are enumerated and the rates shall include all necessary wires, conduits, boxes and accessories, etc., required to provide power from the LP boards switch panels and switches are measured separately.
 - m. Lighting fittings are enumerated and the rates shall include the supply, installation and connections.
 - n. Disconnecting / Isolating switches are enumerated and the rates shall include all necessary wires, conduits, boxes etc. If the switches are fed by cables, then the cables are measured separately.
 - o. Lighting switches, sockets, fan / coil unit spurboxes, fused spurs for fans, kitchen, laundry equipment outlets, toilet fans point sarenumerated and the rates for each shall include all wiring, conduits, accessories etc.
- Earth pits are enumerated. The cost shall include all materials, wiring, fixing, supports etc., and bolting copper conductors to Rebars to have a complete working system.
- p. Earthing systems are to include for all materials labour, fixing and terminating, earthpits, rods, conductors, excavations.

 - q. Main distribution board, submains, lighting and power panels (LP's&PP's) boards, panels (LP'S&pp'S) boards, etc., are enumerated item sand rates shall include all the board installed completely as specified and as shown on drawings
PVC/PVCorPVC/SWA/PVC cables are measured separately.
 - r. End of session bell system is one item. Bells and bell pushbutton, are enumerated and include all conducting, wiring, controls, and all necessary accessories.
 - s. Lightning protection system, roof conductors, tieconductors down conductors are measured in line armeter completely installed.

 - t. The rates for automatic transfer switches include the switches completely installed with all ancillary equipment, control, modules to have a complete working system.

* Coordination with other associated trades, designers, third party supplier and specialists, at the time preparing shop drawings and during the works progress.

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
PART 1	GENERAL REQUIREMENTS				
1	<p>Preliminaries The Contractor shall fully price the following selected General Preliminary Items as schedules hereunder. All other Preliminary items of Works shall be deemed included within his unit rates for work items. If the Contractor fails to provide the prices required under this section, the cost of these selected items shall be deemed included within his unit rates for work items</p>				
1.1	<p>Mobilization and Demobilization: Mobilization to site and demobilization on completion of the Works. Includes all necessary temporary services required by him to properly carry out all the Works. These temporary services shall be deemed to include water, electrical power, lighting, local phone charges, and all other services of a temporary nature as required by the Contract Prepare and furnish to the approval of the Engineer all required and/or necessary Shop Drawings and Composite Shop Drawings showing.</p>	Item	Included		
1.2	<p>Setting out Includes all necessary temporary survey works and tasks</p>	Item	Included		
1.3	<p>As-Built Drawings: Manuals Includes all necessary As-Built Drawings and Manuals in the Type, number and presentation as identified in the Contract</p>	Item	Included		
1.4	<p>Shop Drawings and As-Built Drawings: Prepare and furnish to the approval of the Engineer all required and/or necessary Shop Drawings and Composite Shop Drawings showing elements of all trades, during the execution of the Works, and the final As-Built Drawings on completion of the Works embodying all working drawings, detail drawings, as constructed drawings, and all approved latest amendments and variations to the Contract.</p>	Item	Included		
1.50	<p>Testing and Commissioning: Perform all necessary testing and commissioning for all executed mechanical works and electrical installations, to the satisfaction of the Engineer.</p>	Item	Included		
1.6	<p>Protection of Neighboring Properties: Take all measures necessary to protect neighboring constructions, buildings, roads, sidewalks and others from damage due to subsidence or other and from noise and other nuisances such as vibrations, dust and other disturbing elements, all as specified and to the satisfaction of the Engineer.</p>	Item	Included		
1.7	<p>Training of Personnel on the Operation and Maintenance: Perform all necessary training of personnel on the operation & maintenance, to the satisfaction of the Engineer.</p>	Item	Included		
1.1 to 1.7	<p>General Requirements: Price to include all above items</p>	Item	1.00		
	<p>GENERAL REQUIREMENTS WORKS CARRIED TO PRICE SUMMARY</p>				

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
PART 2	CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS				
CHAPTER 2 - EXTERNAL WORKS					
2	Playground works				
2.1	External Works Excavation, backfill and Concrete works The playground works to include: - Excavation and backfill - Reinforced concrete foundation with water proof insulation - RC Fences (fairfaced concrete) and gutters with cover - RC Tie beams - RC Slab on grade (with helicopter smooth finish) -RC stairs (fairfaced concrete) - Concrete curbstone where needs				
2.1.1	Excavation	m3	560		
2.1.2	Backfill	m3	450		
2.1.3	Industrial Steel	Kg	35300		
2.1.4	Sandwich panel cover	m2	2200		
2.1.5	Reinforced Concrete works	m2	450		
2.1.6	Sundries, painting, chairs, and all other related works				
2.1.6.1	Epoxi paint for playground floor, steps, wc, shower area and changing room	m2	990		
2.1.6.2	Paint for changing room, shower and wc Walls and Ceilings	m2	220		
2.1.6.3	Safety walls Coated steel mesh behind basket location with all related works	U.	2		
2.1.6.4	Steel safety handrail all around steps with paint	Lm	77		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
CHAPTER 4 - MASONRY					
4.1	Solid and Hollow Concrete Blocks: Supply and install hollow concrete blocks on solid as per drawings. Work to include: - Materials, accessories and scaffolding - Lintel, sills, and joints - Use epoxy to connect the old part of lintels with new part. - Labors - All needed work as per the Engineer instructions				
4.1.1	10cm Hollow concrete blocks	m2	130		
4.1.2	20cm Hollow Concrete blocks	m2	1500		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
CHAPTER 7 - THERMAL AND MOISTURE PROTECTION					
7.1	<p>Installation for Waterproof: Work to include all waterproofing system and as per drawings and specifications The work should be executed by expert the material shall be tested after installation according to manufacturer recommendation under the divert supervision of the Engineer and 5 years guarantee should be submitted Work to include: - All materials - Labors - Work to apply the water proofing materials and drain to falls - Dismantle and remove all existing elements on roof water tanks, solar panels, pipe works, ... etc. and then reinstall these elements in a proper work - The damp proof layers - All needed items as per the Engineer instructions</p>				
7.1.1	<p>Waterproofing Membrane for Wet Areas (Type 4): Supply and install 2 coats of high quality standard PU below the tiling of the bathrooms and kitchen and at the places shown on drawings and as per the specifications. Work to include: - Cant strip - Cleaning the places - Place the PU - Lay the geotextile on the ground and at 30cm on the walls - The work should be executed by an expert company - Work should be tested by water test for 24 hours. - All needed works as per the Engineer instructions</p>	m2	17		
7.1.2	<p>Supply and Install Dam proof Layers on Roof (Type 1): Contractor shall supply a Guarantee for Five Years Work should be tested by water test for 24 hours. Remove all existing D.P.C. layer from the existing roof and transfer it to the outside the site. Supply and install new D.P.C. layer 4mm thick SBS and rubber base type and reinforced with polyester or fiberglass or both of them with small gravel face (reflected type) to prevent walking on the D.P.C. layer. (overlap layer must be minimum 30cm) Work to include: - Fill all cracks with non-shrinkage grout. - Clean the location - Raise all installation till work is finished - Remove all obstacle - Concrete Cant strip along the Perimeter and where is needed. - Place one layer of the primer coat (cold) as per the Engineer instructions and this should be 0.35 kg/m2 - Bituminous membrane with exposed protective with fine aggregate -Aluminum flashing as per details where needed, as per engineer instruction. - Replace and relocate all pipe work All needed works as per engineer instruction.</p>	m2	1100		

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
7.1.3	<p>Supply and Install Dam proof Layers on Playground RC footing, Tie beams, Walls and Retaining wall (Type 2): Contractor shall supply a Guarantee for Five Years Work should be tested by water test for 24 hours. Remove all existing D.P.C. layer from the existing roof and transfer it to the outside the site. Supply and install new Bituminous torsh apply. Work to include: - Fill all cracks with non-shrinkage grout. - Clean the location - Raise all installation till work is finished - Remove all obstacle - Concrete Cant strip along the Perimeter and where is needed. - Place Two layer as specs and as per the Engineer instructions - Bituminous membrane with exposed protective with fine aggregate - Replace and relocate all pipe work All needed works as per engineer instruction.</p>	m2	250		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
CHAPTER 8 - DOOR AND WINDOWS					
8	Doors & Windows:				
8.1	New Timber Doors for Classrooms and Teaching Places: Supply and install flush timber door as Existing with Paint, the door should have 10cm width frame between the plywood and fill with timber beads by tongue and grow each 5cm, and the door edges should behead wood and fixed by tongue and grow frames should be as specified. - With glass opening All works should be done as per the Engineer instructions				
8.1.1	Wood door	No.	14		
8.1.2	Wood door for changing area under playground	No.	22		
8.2	Aluminum Works: Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Single glass 6 mm - Double glass 6-12-6 mm - Mosquito screen - Hinges and locks - Joint Filler - Mesh - 2cm thickness sill at the bottom of the windows (one piece, no Joinery for lengths less than 1.2m long). - Contractor shall insure vertical jams and lintels after repairing all plaster and concrete cracks and shall apply damp proof material at the periphery edges. All items needed as per the Engineer instructions				
8.2.1	Sidem 2000 as existing	m2	145		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
CHAPTER 9 - FINISHES					
9.1	Cement Plaster Supply and install sand cement layers (2 cm) on concrete and Hollow Concrete Block works surfaces The plaster layer should be own a base rough layer The plaster works should be on level points (عـدـة) and each point should be placed at 1.5 m from the second only Work to include: - Material - Labors - Curing - All tools - All needed items as per drawings and the Engineer instructions				
9.1.1	2 cm internal plaster	m2	2270		
9.2	Tiling Works Supply and install all tiling items for floors, with the skirting's Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Works to include: - Sand below tiles - Materials - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.1	Full Ceramic for Floors Supply and install anti-skid full mass ceramic tiles one color, as existing.	m2	15		
9.2.2	Full Ceramic for Floors for playground including internal steps Supply and install anti-skid full mass ceramic tiles one color, as existing.	m2	145		
9.2.3	Glazed Ceramic for Walls colored Supply and install glazed ceramic for walls, as existing.	m2	70		
9.2.4	Glazed Ceramic for Walls colored for playground Toilet Supply and install glazed ceramic for walls, as existing.	m2	90		
9.2.5	Glazed Ceramic for Walls colored for playground changing area Supply and install glazed ceramic for walls, as existing.	Lm	90		
9.2.6	Mosaic tiles for Floors Supply and install mosaic tiles 30x30 cm, as existing.	m2	660		
9.2.7	Mosaic Skirting Floors Supply and install mosaic skirting, as existing.	Lm	260		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
9.3	New Tiles for a New Stair Supply and install new tiles similar to existing school stair tiles for the new stair and stair landing (treads 4cm) - Risers 2cm) landing - tiling 2cm works to include: - Labor, materials and installations - 4cm thick tread, 2cm thick riser, 2cm thick marble tiles (as existing) - Under tile fill - Mortar - Lining - Anti slip for step nosing. -All needed items to complete the works as per the Engineer instructions.	m2	25		
9.4	Marble Threshold Supply and install 3cm thick marble threshold as per the Engineer instructions Cost to include: - Fixing materials - All materials - All labors - All needed items as per the Engineer instructions				
9.4.1	Marble Threshold 15 cm width	Lm	2.5		

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
9.5	Painting				
9.5.1	Wall Paint Works Wall paint include prepare the surfaces and treat these surfaces so the surfaces be able to receive the paints, the paint should be from the best quality as per specifications and as indicated in drawings. The surfaces should be smooth before layers, the final layer and the permit from the Engineer should be secured before starting the final layer. All works and items should be as per the Engineer instructions				
9.5.1.1	Internal Paint (walls & ceiling) (acrylic and oil) Unleaded paint acrylic (glossy) and oil paint, the oil paint is used for wall (1.5m) height. The acrylic is used above 1.5 from the height of the wall and ceiling. Works shall include the following: - Remove all paint on elements by using paint removal and burning specially for the oily paint. - Repair the cracks and treat it with Tinocrete to fill all cracked places in the walls (not any structural wall) (refer to plaster item) - Apply base layers - Apply three layers of wheel for Acrylic paints (super tuber paint), The applicant time between each layer should be 24 hours. - Apply two layers of oil paint (super tuber paint), The applicant time between each layer should be 24 hours - Color and kind of paint to be determined by the Engineer on site in addition to the mode of roller wheel. Work to include all necessary items tools stairs and any temporary steel structure to reach all locations	m2	1,550.00		
9.5.1.2	Internal Paint (ceiling) (acrylic) Unleaded paint acrylic (glossy) and oil paint, Works shall include the following: - Remove all paint on elements by using paint removal and burning specially for the oily paint. - Repair the cracks and treat it with Tinocrete to fill all cracked places in the walls (not any structural wall) (refer to plaster item) - Apply base layers - Apply three layers of wheel for Acrylic paints (super tuber paint), The applicant time between each layer should be 24 hours. - Apply two layers of oil paint (super tuber paint), The applicant time between each layer should be 24 hours - Color and kind of paint to be determined by the Engineer on site in addition to the mode of roller wheel. Work to include all necessary items tools stairs and any temporary steel structure to reach all locations	m2	750.00		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
9.6	<p>Ceiling Works Suspended Ceilings The suspended ceiling, work to include:</p> <ul style="list-style-type: none"> - All panels - All hangers and accessories - Rails (hidden type) - All needed accessories and items to complete the works - Works to be indicated on drawings and as per the specifications - Works should be coordinated between the starting and the end of the floor panels and also should be coordinated with the electromechanical units in the ceiling - Columns and all works should be as instructed by the Engineer 				
9.6.1	<p>Metal Strips Suspended Ceilings: Supply and install aluminum 60X60 cm suspended ceiling at the location indicated on drawings and as per specifications Works to include:</p> <ul style="list-style-type: none"> - Materials - Labors - Accessories - Angles - Complete shop drawings should be submitted for approval - All needed items as per the Engineer instructions 	m2	20		

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
CHAPTER 10 - SPECIALITIES					
10.1	Fixtures : EU or equal Supply and install sanitary fixtures, works to include: - Material and accessories - Each WC shall be equipped with hose bib, trigger spray, wall recessed flushing cistern and Stainless Steel water push button - Each lavatories shall be equipped with stainless steel water faucet mixer and trap - Each shower shall be equipped with the related shower mixer and head. - Contractor shall be responsible for the installation, fixation, cleaning with all necessary connection and accessories. - All needed items as per drawings, technical specifications and the Engineer instructions				
10.1.1	WC	No.	10.00		
10.1.2	Lavatory	No.	6.00		
10.2	Bathrooms Accessories: - Supply and install all needed accessories and make good their places and their surroundings - Place all frame, cover joints (stainless steel) on all - Install items and their contact with the surfaces - All needed items as per drawings, technical specifications and the Engineer instructions				
10.2.1	Paper Roller Holder Supply and install paper holder stainless steel 316 with all accessories for good quality All works should be done as the Engineer instructions.	No.	10.00		
10.2.2	Soap Dispenser Supply and install stainless steel 316 soap dispenser wall type fixation with all needed items All works should be done as the Engineer instructions.	No.	6.00		
10.2.3	Paper Holder Box Supply and install paper holder box from stainless steel 316 with all needed works The box should be from a good manufacturer All works should be done as the Engineer instructions	No.	10.00		
10.3	Mirror for Lavatories Supply and install 6mm glass mirror for lavatories as show on drawings and as stated in the specifications with all needed items and accessories. The mirror should be placed on 3mm thick plywood from the back - All needed items as per drawings, technical specifications and the Engineer instructions				
10.3.1	Mirror height 1000 mm	Lm	7.00		
CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS CARRIED TO PRICE SUMMARY					

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
PART 3	MECHANICAL ENGINEERING WORKS				
	<p>General Technical Requirements</p> <p>The Contractor should revise the Mechanical drawings and make sure that they can be executed properly in the building</p> <p>The Contractor should prepare complete shop drawings for all mechanical works and these shop drawings should be approved by the Engineer before executing.</p> <p>Contractor shall provide all necessary Mechanical works, protection, maintenance, cleaning, relocation or removing, testing & commissioning for the existing Mechanical system to ensure properly working system.</p> <p>In order to do so the contractor shall inspect all the existing mechanical prior to pricing Cost of the above shall be included in the cost of items</p>				
1	Sanitary, Waste & Rain Water Pipe Work Installation				
1.1	<p>Sanitary and Rain Water Pipe Work Installation (below ground)</p> <p>The contractor should check the existing sewage and storm water drainage and verify it with the design drawings and adapt the design drawing to accommodate the existing situation and submit these drawings to the Engineer for approval.</p> <p>All work should be done as per standard installation details and as per Specifications.</p> <p>Cost of work include excavation & back filling pipe work, connections, vents and all accessories as per the design and specifications and as per the Engineer instructions.</p> <p>The following items include all the above <input type="checkbox"/></p>				
1.1.2	Ø110mm UPVC SN8	Lm	25.00		
1.1.3	Ø160mm UPVC SN8	Lm	50.00		
1.1.4	Ø200mm UPVC SN8	Lm	55.00		
1.2	<p>Drainage System inside the Building</p> <p>Supply, install, and test the drainage (UPVC) pipes (SN8) inside the building to outside. Pipes to be measured in Linear Meter with all related accessories, cleanout, elbows, supports where needed, vent hangers, and all necessary accessories as per standard installation details and as per the Engineer instructions. The diameter of the pipes are as follows:</p>				
1.2.1	Ø 50 mm	Lm	15.00		
1.2.2	Ø 75 mm	Lm	15.00		
1.2.3	Ø 110 mm	Lm	35.00		
1.3	<p>Floor Drain</p> <p>Supply and install floor drain P.V.C. with chrome plated brass drain cover with all necessary installation and connections. This includes all civil works and connection to piping as per the Engineer instructions. <input type="checkbox"/></p>	No.	3.00		
1.4	<p>Floor Clean Out</p> <p>Supply and install CPVC 110mm floor clean out, complete with chrome plated brass drain cover with access plate screwed to the cover. Work to include all civil works as per specs and the Engineer's instructions.</p> <p><input type="checkbox"/></p>	No.	3.00		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
1.5	Roof Drain Supply and install roof drain with all necessary installations and connections including all civil works and connections to piping as specified to the approval of the engineer				
1.5.1	Roof Drain 110 mm	No.	10.00		
1.6	Channel Drain Supply and install channel drain cover made of ductile iron as per drawings. The bearing capacity of the grating should be more than 10 ton and should be painted as per the Engineer instructions and should be anti-rust paint. All works should be as per specifications and as per the Engineer instructions.				
1.6.1	300mmx200mm for the inclined roof	m2	250.00		
1.6.2	Wide 300 mm Stainless-Steel heavy-duty wire mesh cover, wire diameter 2mm	m2	55.00		
1.7	Sanitary Fixtures (Installation Only) Installation of Sanitary Fixtures with all required connections and accessories as per drawings, specifications.				
1.7.1	Lavatories	No.	6.00		
1.7.2	WC	No.	10.00		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
2	Piped Systems (Liquids)				
2.1	Cold & Hot Water Piping Inside Building Supply, install and test water supply system inside the building, pipes shall be PPR (PN16) Class 2: 70°C (Application for hot water supply), and the price is per meter sum of each type of installed pipe works. Cost to include all accessories, connections, reducers, isolating valves, water hammer arrestor, excavation, backfilling and accessories so that all piping can receive ideal standard fixtures or approved equal. The Contractor should submit shop drawings for approval by the Engineer. Works should be based on standard installation details, drawings, and specifications to the approval of the engineer.				
2.1.1	Ø 25 mm PPR	Lm	25.00		
2.1.2	Ø 32 mm PPR	Lm	55.00		
2.1.3	Ø 40 mm PPR	Lm	40.00		
3	Thermal Insulation Thermal insulation as specified complete with identification, all mastics, adhesive, mechanical fixings, final coverings and protective and decorative finishes. Thickness and density shall be as specified All outside pipe insulation shall be high density weatherproof.				
3.1	For Hot Water PPR Pipes				
3.1.1	Ø 25 mm	Lm	7.00		
3.1.2	Ø 32 mm	Lm	5.00		
3.2	Hot Water Tanks Supply, install and test of insulated electric hot water tanks with all valves, connections and accessories as specified and detailed on drawings				
3.2.1	EWH (100L)	No.	1.00		

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
4	HVAC SYSTEM				
4.1	Duct Work UPVC Pipe complete with all fittings, accessories, flexible connections, hangers and supports, dampers and accessories. The work to be complete with all required fittings and as specified & shown on drawings to the approval of the engineer.				
4.1.1	Ø 110 mm	Lm	10.00		
4.1.2	Ø 160 mm	Lm	10.00		
4.1.3	Ø 200 mm	Lm	20.00		
4.2	Fans Supply, install and connect ventilation fans with all necessary accessories as shown and specified and as per site condition. Fan shall be of high-quality material and good manufacturing brand. Contractor shall submit complete shop drawing for the approval of engineer.				
4.2.1	Exhaust Air Fans				
4.2.1.1	EAF-01 100 CFM	No.	1.00		
4.2.1.2	EAF-02 200 CFM	No.	2.00		
4.2.2	Ceiling Mounted Fans				
4.2.2.1	Ceiling Fan (CMF-01) - Dia. 1150 mm	No.	16.00		
4.3	Air Terminal Supply & installation of fresh air & exhaust Aluminum louvers as specified including all necessary accessories, fixing and connections.				
4.3.1	Exhaust Air Louvers				
4.3.1.1	200x100mm	No.	1.00		
4.3.1.2	300x150mm	No.	2.00		
4.3.2	Exhaust Air Diffusers				
4.3.2.1	Ø150mm round ceiling diffuser	No.	10.00		
4.3.3	Door Grills				
4.3.3.1	500x200mm	No.	13.00		
4.4	Chimney Pipes Supply & installation of insulated (Calcium Silicate) Diesel Chimney Pipes, made of stainless steel 316, with rain cap, supports, drains, anti-vibration connections and all accessories as per drawings and to the approval of the engineer.				
4.4.1	Ø150 mm	Lm	5.00		
4.5	Catalyzed Diesel Oxidization Catalyst (DOC) Supply and installation of DOC, CO filtration 70-90%, HC 70-90%, Aldehydes 70-90%. Stack emissions of the generator must comply with national emission limit values (ELVs), MoE Decision 16/1 of 2022 and MoE decision 52/1 of 1996.	No.	1.00		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
5	Heating System				
5.1	Heating Boiler Supply, install, connect and test the following cast iron heating water boiler complete with all necessary valves, strainers, headers, flexible connections, flow switch, expansion tank, fuel filter, automatic control, pressure & temperature relief valve, gauges, thermometers, and all necessary fittings and accessories for proper operation of boiler as specified and as shown on drawings and in schedule:				
5.1.1	Boiler (12 KW) (1 Duty- 1 Standby)	No.	2.00		
5.2	Radiator Supply, install, connect and test die cast aluminum radiator complete with all necessary accessories and fittings, fixation support, flanged clean access, isolation valves, thermostatic valve, as specified and as shown on drawings and specifications:				
5.2.1	Radiator - Cost per elements (100 W/EL.)	No.	120.00		
5.3	Heating Water Pipes Supply, install and test heating pipes system, pipes shall be PP-RCT Class 5 (S 3.2, SDR 7.4) and the price is per meter sum of each type of installed pipe works. Cost to include all accessories, connections, reducers, isolating valves, accessories and pipes special painting works. The Contractor should submit shop drawings for approval by the Engineer. To include any required coring and civil works. Works should be based on standard installation details, drawings, and specifications to the approval of the engineer.				
5.3.1	Ø 20 mm	Lm	70.00		
5.3.2	Ø 25 mm	Lm	205.00		
5.4	Thermal Insulation Rubber Foam Thermal insulation, 50mm thickness, 48kg/m3 density with identification, all mastics, adhesive, mechanical fixings, final coverings and protective and decorative finishes. Thickness and density shall be as specified.				
5.4.1	Ø 20 mm	Lm	70.00		
5.4.2	Ø 25 mm	Lm	205.00		
5.5	Heating Pumps Rubber Foam Thermal insulation, 50mm thickness, 60kg/m3 density with identification, all mastics, adhesive, mechanical fixings, final coverings and protective and decorative finishes. Thickness and density shall be as specified.				
5.5.1	HRP-01 (24gpm, 10m) - Duty	No.	1.00		
5.5.2	HRP-02 (24gpm, 10m) - Standby	No.	1.00		
5.5.3	HP-03 (24gpm, 10m) - Duty	No.	1.00		
5.5.4	HP-04 (24gpm,10m) - Standby	No.	1.00		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
6	FUEL SYSTEM				
6.1	Fuel Pipes Supply and installation of black steel pipes, for fuel system. The pipes should have an additional anti-corrosion coating & Vinyl Protection Tape. Price to include fittings, expansion fittings, supports and accessories, valves, filters control valve, excavation, bedding & backfilling, painting, all as specified and shown on drawings and as per the Engineer.				
6.1.1	Pipe, diameter 25mm	Lm	7.00		
6.2	Fuel Tanks Supply and installation of rigid tanks for fuel system with 50mm PU foam insulation and 110% retention pit, complete with float valves, connections, drain points, vent pipe and accessories as per drawings and to the approval of the engineer.				
6.2.1	Tank Capacity 1000L 3mm steel thickness for new generator & boilers	No.	1.00		
6.3	Fuel Pump Supply & installation of supply & return pumps as specified and as per drawings with all necessary connections and accessories:				
6.3.1	Gear Pump, (10 L/hr., 17m)	Set	1.00		
7	Sundries				
7.1	Unseen Mechanical works	Ls	1.00		
	MECHANICAL ENGINEERING WORKS				
	TOTAL CARRIED TO PRICE SUMMARY				

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
PART 4	ELECTRICAL ENGINEERING SERVICES				
	<p>General</p> <p>The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future.</p> <p>The contractor should provide all the necessary maintenance works for all Electrical systems.</p>				
1	Distribution and Final Branch Circuit Panel boards				
1.1	<p>Electrical Distribution Panel Boards</p> <p>Supply, install, connect and test the electrical sub and distribution boards in perfect operating conditions as shown on drawings and specified inclusive of enclosure, all busbars, MCB's protective devices, Surge Arrestors, ELCB's etc..</p> <p>according to IEC 60947-2, and all the necessary components and requirements.</p> <p>The Electrical board should house:</p> <ul style="list-style-type: none"> - Main circuit breaker - Secondary circuit breakers as per the needed drawings for the school. <p>All the above should follow the tender drawings and the Engineer instructions.</p>				
1.1.1	DB-2F	Ls	1.00		
1.1.2	DB-playground	Ls	1.00		

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
2	Conduits, Wireways, Supporting Systems and Related Accessories				
2.1	Low Voltage Distribution Braces Connection and Electrical Cables Supply, install, connect and test the PVC insulated cables including the installations from the electrical source to the new panel board, and from the panel board to all the lighting fixtures and outlets. The cost includes trenches with covers, pipes, sleeves, cable trays, terminations fabricated by Liban Cables, as per the drawings, specifications and Engineer instructions.				
2.1.1	4 x 6 mm ² + E =6 mm ²	Lm	45.00		
2.1.2	4 x 6 mm ² + E =6 mm ² for Playground area to connect to main board	Lm	90.00		
3	Wiring Devices and Disconnect				
3.1	Disconnecting Switches Supply, install and test the disconnecting switches in perfect operating conditions including the conduits, boxes, wiring, cabling according to IEC-609473 with steel cover and protection degree not less than IP=65 as shown on the drawings, specifications and Engineer instructions.				
3.1.1	Isolating switch rated 16A SPN IP 65, for Exhaust Air Fan	No.	1.00		
3.1.2	Isolating switch rated 16A SPN IP 65, for Exhaust EWH	No.	1.00		
3.2	Electrical Sockets Supply, install and test single socket outlet, 230 Volt, 16 Amp, with all the necessary protection. The cost includes conduits, cables, wires, and all accessories as per the drawings, specifications and Engineer instructions.	No.	25		
3.3	Electrical Outlets Supply, install and test the electrical outlet, 230 Volt, 16 Amp for the Mechanical equipment (fans), with all the necessary protection. The cost includes conduits, cables, wires, and all accessories as per the drawings, specifications and Engineer instructions.	No.	24		
3.4	Electrical Devices / Accessories Supply, install, connect and test the wiring devices, 230 Volt, 10 Amp in perfect operating conditions, including the conduits, trenches, boxes, wiring (up to panel boards or to the nearest wiring device or lighting fixture) according to the approved shop drawings, specifications and Engineer instructions.				
3.4.1	Wall mounted one way, one gang light switch	No.	16.00		
3.4.2	Wall mounted one way, two gang light switch	No.	2.00		
3.4.3	Fan switches	No.	24.00		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
4	General Lighting Installations				
4.1	Lighting Fixtures Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from the panel board including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
4.1.1	Surface Mounted Luminaire Housing, 60x60 cm 34W Led Type, IP20, Used in Classroom	No.	56		
4.1.2	Surface Mounted Spot Luminaire Housing, 19.6 W Led, IP 20, Used in Corridors.	No.	8		
4.1.3	Surface Mounted Spot Luminaire Housing, 13 W Led, IP 44, Used in bathrooms.	No.	40		
4.1.4	Highbay playground lighting 150W/4000k each 5 m distance	No.	36		
4.2	Emergency Exit Signs Supply, install and test the Exit lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from the panel board including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
4.2.1	Ceiling/wall mounted exit light fixture. Two side left or right direction. escape sign luminaire with self-contained emergency supply for maintained mode, with 8 w lamp for 3h emergency lighting operation.	No.	1		
4.2.2	Ceiling/wall mounted exit light fixture. One side ahead direction. escape sign luminaire with self-contained emergency supply for maintained mode, with 8 w lamp for 3h emergency lighting operation.	No.	1		
4.2.3	Ceiling/wall mounted exit light fixture. Two side left and right direction. escape sign luminaire with self-contained emergency supply for maintained mode, with 8 w lamp for 3h emergency lighting operation.	No.	1		

Item No.	Description	Unit	Qty	Unit Price US.\$	Total Price US.\$
5	Data/Telephone Distribution				
5.1	Supply, install and connect the following data/Telephone distribution devices including all conduits, cabling (CAT6A) to patch panel and to main patch panel, including the cabling between racks in floors and main server room. Conduit fittings, outlets, boxes, fixing, and all accessories as specified and as shown on the drawings. The contractor should submit shop drawings for approval by the engineer. Works should be based on standard installation details, drawings, and specifications to the approval of the engineer.				
5.1.1	Wall Mounted Single Port data outlet RJ45	No.	10.00		
5.1.2	12 Port RJ 45 Patch Panel with cable Organizer	No.	1.00		
5.1.3	12 Port P.O.E Switch	No.	1.00		
5.1.4	Distribution Cabinet for DATA 6U	No.	1.00		
5.1.5	Wall Mounted Single Port Telephone outlet RJ45	No.	1.00		
5.1.6	Telephone Box	No.	1.00		

Item No.	Description	Unit	Qty	Unit Price US.\$.	Total Price US.\$
6	Bell With Wiring				
6.1	Supply install and connect Bell System with all the necessary wires conduits, boxes and accessories to have a functional system, according to the approved shop drawings, specifications and Engineer instructions.				
6.1.1	Wall Mounted Bell	No.	2.00		
6.1.2	Wall Mounted Push Button	No.	1.00		
7	PV SYSTEM				
7.1	Supply, install connect, test and commission the following photovoltaic power supply system including hybrid inverter (50KW) PV panels , High voltage lithium batteries (100Kw capacity), timers relays, breakers, fuses, surge protector/arrestor AC and DC, AC & DC combiner boxes, needed cables, panel boards, circuit breakers, structural supports, Control interfaces software and all needed accessories, with supplier warranty duration. Contractor shall provide full study and calculation based on required load and submitted materials. (Inverter, PV panels and batteries). The contractor should submit shop drawings for approval by the engineer. Works should be based on standard installation details, drawings, and specifications to the approval of the engineer.	Ls	1		
8	Sundries				
8.1	Unseen works	Ls	1.00		
	ELECTRICAL ENGINEERING SERVICES TOTAL CARRIED TO PRICE SUMMARY				