



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Lot 24
WBS 1110

Bill of Quantities

Programme Title: Right to Education in the Gaza Strip

Project name: Extension and Rehabilitation Works For The Governmental Schools

PAL10- 00094739- LOT 24

Extension and Rehabilitation Works of AL Motanby School



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Al Motanby School Main Building

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No (A) Main Building					
	General Notes: 1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval. 2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisites to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works. 3-The contractor will expect that more than one contractor will be carrying out Works in the school at the same time, the Contractor is presumed to make all necessary coordination and facilitate accessibility to and other work-related issues 4-All Works and installations listed here below should be carried out, tested and commissioned by specialized responsible skilled labors in full coordination with MoEHE , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.				

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No. 1 (Excavation & Earth Works)					
	<p>Contractor shall take into consideration that all – direct and indirect Works and expenses required for the completion of the coming items are included in the unit price. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs.</p> <p>2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site.</p> <p>3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD.</p> <p>4. All required Tests by an accredited laboratory.</p> <p>5. The cadastral survey and levelling of existing status at grids not exceeding 5 m in both directions.</p> <p>6. Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping.</p> <p>7. Laying out the buildings coordinates to be carried out by professional surveyor using total station device.</p> <p>8. Approval of Bench mark and levelling network before excavation works.</p>				
1.1	Demolish and remove safely the existing buildings, concrete stairs and keep the existing interlock tiles safe . The price shall include dismantle the existing caravans and containers and deliver to MOEHE, dismantling of polypeed sheets ,aluminum windows, protective steel screen, doors, laboratory marble benches, interlock tiles... etc. and transport and deliver to M.O.E .and removing all defected materials inside and outside school buildings including but not limited to tiles , plaster , steel, foundations, ground beams, concrete debris, solid waste.... etc. to approved dump sites , as per the engineer's instructions.	L.S	1		
1.2	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M ³	400.00		
1.3	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%), to comply with the design bearing capacity of not less than (18 Kg/cm2). The work must be carried out according to the specifications, design drawings & the engineer's instructions (three load plate tests are required to verify the result)	M ³	340.00		
1.4	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M ³	300		
1.5	Supply, fill by using approved material (sand dune) between ground beams & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M ³	200		
Total					

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No. 2 (Concrete Works)					
	<p>Rates of Concrete Works shall include:-</p> <p>1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Batant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations</p> <p>2. Supplying, Casting, vibrating and curing as per specifications.</p> <p>3. Approved additives and admixtures.</p> <p>4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples.</p> <p>5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other.</p> <p>6. Preliminary installations for Electrical, plumbing and floor drainage in floor slabs including final floor slab.</p> <p>7. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD.</p> <p>8. All Works according to specifications , drawings and supervisor engineer instructions</p> <p>9. Supply, fabricate and fix reinforcement steel (fy= 410 N/mm2) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions</p> <p>10. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials</p> <p>11. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly.</p> <p>12-All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories.</p> <p>13-all kinds of insulation work (polystyrene sheets with any thickness and density not less than 32kg/m3, galvanizes steel wire mesh, galvanized steel ties, poly carbonate weep holes, PVC inclined sheets 2mm thickness, still ties 6mm to connect the two walls and polystyrene sheets</p> <p>14- Shop drawing include structural sheet calculation for wooden supports (form work) of shuttering for roof level over 4.5 m height must be submitted by the contractor to be approved by UNDP Engineer</p> <p>15-The price should include thermal insulation under and over ground floor slab and between slabs (corridors and classes) by 5cm rigid polystyrene sheets 32kg/m3.</p>				
2.1	Supply and cast ready mix plain concrete B (200) kg/cm2 for Blinding beds 5 cm thick including polythene sheets as per specifications and drawings.	M ³	15.0		
2.2	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for foundations (isolated, strip footing, strap & inverted T sec.) as per specifications and drawings.	M ³	135.0		
2.3	Ditto but B (250) kg/cm2 for ground beams including ground beams footings (GF) ,and ground beam for the platform.	M ³	72.0		

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Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.4	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for columns and columns necks as per specifications and drawings.	M ³	145.0		
2.5	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for the ground slab 10cm thick with steel mesh 8mm diameter every 20cm including polythene sheets below concrete slab and compacting the soil beneath the slab to 98% of MDD.as per specifications and drawings.	M ³	570.0		
2.6	Ditto but 10cm thick entrance ramps including granulate surface and platform.	M ³	100.0		
2.7	ditto, but B250 reinforced concrete for Apron (surface treated with mechanical steel troweled finish) the price include polythene sheets. Reinforcement Ø 8mm / 15 cm in both way and reinforced edge beam as well as expansion joints. The price including leveling, 15cm thick compacted base coarse to 100% of MDD and making of expansion joints including its approved filling materials (sika flex or equivalent) according to drawing and specification.	M ³	155.0		
2.8	Supply and cast ready mix concrete B (250) kg/cm2 for suspended slab 25 cm thick, including the reinforced steel, Mechanical trawler finish for each floor, decorative arches in last slab, corridor concrete parapet, under steel balustrade for the typical slab, polystyrene box(KALKAL) (40x50x12cm), concrete block (40x25x6cm) cm, all drop and inverted beams everywhere in the slab, Required polystyrene sheets 5cm (thermal insulation) and all other materials as per specifications and drawings.	M ³	1750.0		
2.9	Supply and cast ready mix concrete B (250) kg/cm2 for suspended slab 40 cm thick, including the reinforced steel, Mechanical trawler finish for each floor, decorative arches in last slab, corridor concrete parapet, under steel balustrade for the typical slab, polystyrene box (KaLKal) (40x50x26cm)cm, concrete block (40x25x6cm) cm, all drop and inverted beams, Required polystyrene sheets 5cm (thermal insulation) everywhere in the slab and all other materials as per specifications and drawings.	M ³	300.0		
2.10	Supply and cast ready mix concrete B (250) kg/cm2 for staircase and electrical rooms solid slab, including the reinforced steel, Mechanical trawler finish , decorative arches in last slab, corridor concrete parapet, under steel balustrade for the typical slab and all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M ³	80.0		
2.11	Ditto but for all elements of stair case including the entrance stairs.	M ³	50.0		
2.12	Ditto but for sills, lintels, coping, concrete wall (hunches for doors), gas room elements .etc.	M ³	60.0		
2.13	Ditto but for vertical sun breaker.	M ³	15.0		
2.14	Ditto , but for wall parapet in corridors under steel balustrade in the ground. floor, ramp side walls, roof expansion joints walls & for stair case walls parapet	M ³	10.0		
2.15	Supply and cast ready mix concrete (B150) for stub columns at the roof.	M ³	15.0		
2.16	Ditto but B200 for water tanks base 20cm thick.	M ³	10.0		
Total					

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Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No. 3 Building Works					
	<p>The price include:</p> <p>1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars ,all kinds of insulation work (polystyrene sheets with any thickness and density not less than 32kg/m3, galvanized steel wire mash, galvanized steel ties, poly carbonate weep halls, PVC inclined sheets 2mm thickness, steel ties 6mm to connect the two walls and polystyrene sheets, Developing new Concrete Job Mix Designs, Sampling, testing and providing test results certificates, storing and saving of samples, reinforced concrete infill (B250) between columns & block walls (10-30 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions.</p> <p>The contractor should:</p> <p>1.Spray the blocks with water before and after built for at least two days</p> <p>2. The contractor should consider the vertical and horizontal leveling</p> <p>3. The mortar should be used within 30 min after mix</p> <p>4. Close all openings between the walls and ceiling</p> <p>5. Payment will be according to measured executing works</p> <p>6. Measurement will be engineering measurements from one side.</p>				
3.1	Supply and build hollow concrete block 20*20*40 cm first class with compressive strength 35 kg/cm2 for external walls and some internal partition, the item includes casting rein. concrete between columns and walls (20 cm ave.width) with steel reinforcement 4T 8 mm and steel sterupsT6 mm every 20 cm	M2	1200		
3.2	.Ditto but 40x20x 15 cm thick	M2	1200		
3.3	.Ditto but 40x20x 10 cm thick	M2	150		
3.4	Supply and build solid cement block 40x20x20 cm, under ground beams, and external boundary for building including painting the buried parts with one coat of primer and two coats of hot bitumen after primer layer (75/25)	M2	140		
3.5	Supply and build glass blocks 20x20x10cm.the price includes white cement ,reinforcement steel, reinforced concrete edges adhesive materials, polish, and any required materials to complete the job .according to specification and engineer's instructions	M2	70.00		
Total					

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No.4 (Carpentry Works)					
	<p>The items include supplying carpentry works from good wood grade "A" including frame cover mould, architrave, sanding sealer, prime coats, at least two coats of oil paint or lazur paint as required, 15cm aluminum kick plate 1mm thick from both sides , hard ware, lock type Wally switch or equivalent and brass hinges 10cm height, door stopper and all other fitting according to specification and drawing.</p> <p>NOTES :</p> <p>* Sizes of carpentry works given in the bills of quantities are skeleton sizes and shall be as per drawings.</p> <p>* Sizes of doors and other items mentioned in the bills of quantities shall allow for tolerance to suit the structural openings shown in the Drawings.</p> <p>* Wooden doors and pair of doors shall be measured in number for each structural opening, unless stated otherwise in the bills of quantities.</p> <p><u>Rates for carpentry and joinery work shall include:</u></p> <p>1. Shop and coordinated drawings.</p> <p>2. Allowance for plastering and tiling and the like.</p> <p>3. Cutting and fitting around obstructions, bedding and painting.</p> <p>4. Grounds, blocking and backings.</p> <p>5. Plugging concrete, block work, and stonework, and making well, frame insulation beneath tiles.</p> <p>6. Ironmongery including wally cylindrical locks ,wally or equal handles, stoppers, screws, temporary fixing, refixing, oiling and adjusting.</p> <p>7. Providing master key for each floor.</p> <p>8. Providing 3 keys for each lock including tagging.</p> <p>9. Preparing surfaces to receive finishes.</p> <p>10. Painting, varnishing, polishing, oiling, and the like, to any area or width in any location including work in multicolor and cutting in edges and putty.</p> <p>11. Dismantle or removing any defected parts or elements, and preparing for new installment.</p> <p>The items include supplying carpentry Works from good wood grade "A" including frame cover mould, architrave, sanding sealer, prime coats , at least two coats of oil paint, 15cm Aluminum kick plate 1mm thick from both sides , hard ware, lock type Wally switch or equivalent and brass hinges 10cm height, door stopper and all other fitting according to specification and drawing.</p>				
4.1	Supply and install protection wood (plywood 17 mm thickness covered with beech veneer with rounded edges from hard wood zan 2*1.7cm) with over all size 15x1.7cm for classes wall rubbing rail.	L.M	450.00		
4.2	Supply and fix soft wood poster hanging rails size 50mm x 20mm with round edges, smooth surface , apply two coats of sanding sealer, sand lightly and apply two coats of varnish, one coat of Lucker paint. drill and fix to concrete or block walls using expansion steel bolts as per specification and drawings..	L.M	90.00		
4.3	Supply and fix framed fibber bulletin board (cork sheet 2 mm thick) size 1.2 x 1.00 m from Kalboard (BC129) or equivalent. Price includes aluminum frame 5 x 1.5 cm silver painted, Plywood veneer 5 mm thick on the back, and all necessary fixings, fittings, accessories.	No	18.00		
4.4	Supply and install wall mounted magnetic green chalk board Lina series, 25 mm profile kALBOARD MG 3612/M size 120x360 cm) with silver anodized elegant aluminum frame (19x25mm thick) and four strong rounded plastic (upvc) corners fixed internally with screws to the wall, and also with silver anodized aluminum try fixed by sliding through the profile which used for chalks, markers and duster and has UPVC edges for safety. The writing surface coated of steel polyester fixed by using automatic gluing machines to 11 mm thick MDF wood covered automatically by aluminum foils. Price to include all related Works as per drawings, specification and Engineer's Instructions.	No	18.00		
4.5	Supply and fix 120x20mm soft wood coat hook rail smoothed , plugged and screwed to wall at 30cm center to center including priming and varnish painting with Galvanized steel coat hook 3mm thick, screwed to rail at 20cm center to center as per specifications and drawings and to be approved by the engineer.	L.M	50.00		

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Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.6	Supply and install classroom wooden cupboard 380x250 cm from plywood 17mm covered with beach veneer and rounded edges strip 20*17mm thickness natural hard wood zan, the work include lockable doors from the same materials, high quality European made switches, hinges and all accessories needed with soft surface , apply two coats of sanding sealer, one coat of lacquer paint. sand lightly and apply two coats of varnish, drill and fix to concrete or block walls using expansion steel bolts as per specification and drawings detail . Measurement : will be for the external dimension of the cupboard.	No.	11.00		
Total					

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Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No.5 Aluminum & Metal Works					
	<p>The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship. The unit price includes Aluminum plates 100*3 mm thick including filling gabs by sika flex to cover the edges of cavity walls</p> <p>Steel work should be properly treated and prepared, painted with two coats of oil paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE.</p> <p>The price include master key for doors.</p>				
5.1	Supply and fix aluminum window type W1 overall size 160x150cm type 7000 sliding complete with frame and double glass (4mm glass thick ,4 mm space, 4mm glass thick) with all ironmongery, hardware and all required accessories.	No.	72.00		
5.2	Supply and fix hinged windows type W2 overall size 60x150cm type 4500 complete with frame and double glass (4mm glass thick ,4 mm space, 4mm glass thick) with all ironmongery, hardware and all required accessories.	No.	58.00		
5.3	Supply and fix mild steel balustrade 40cm high for the staircase handrail comprising of M.S. hollow section tubes 40 x 20 x 2 mm verticals spacing 10 cm clear distance, and welded 60x40x2 mm top and bottom rails fixed to columns and bottom parapet using expansion bolts, rates includes M.S. end angles, painting with one primer, under coats and minimum two coats of hummer paint, (the color to be approved By the Engineer as drawings and specifications	L.M	60.00		
5.4	Supply and fix galvanized steel balustrade for stair case pipe Ø 1.5" 2mm thick fixed to walls by steel plate and 4 bolts every 1m and 10cm space between wall and the pipe, the Works include one primer coat, one under coat and minimum two coats of colored hummer paint in addition to all Accessories needed to finish the work according to specifications, drawings and the engineer's instructions.	L.M	60.00		
5.5	Supply and fix Powder coated galvanized steel balustrade for corridors 100 cm height fixed to inverted concrete beams by steel plate and bolts ,and 2 layers of expanded steel mesh(5*5*2mm) the price include rounded railing from Galvanized steel pipes diameter 2" the Works include all Accessories needed to finish the work according to specifications, drawings and the engineer's instructions.	L.M	175.00		
5.6	Supply and install Powder coated galvanized steel movable sub breaker leaf along the corridor on wheels for corridors (340 cm height x 100 cm width) including 5mm expanded steel mesh (5*5*2mm) , wheels and all accessories fixed to concrete beams by steel plate and bolts , the Works include all Accessories needed to finish the work according to specifications, drawings and the engineer's instructions.	No.	34.00		
5.7	Supply, and fix Mul-T-Lock door, with overall size 110x220cm Single leave with powder coated paint & metal frame with master key . Door lock type 235 & Mul-T-Lock serrated cylinder. The price include rock wool inside door for fire resistance and all accessories and related works all according to drawings, specifications and engineer instructions	No.	19.00		
5.8	Supply and fix flush galvanized steel double external door D7 (100 x220), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware and one primer coat, one under coat and minimum two coats of colored oil paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications	No.	4.00		
5.9	Supply and install Gas room door from galvanized steel with size230x110cm two leaves including painting and all accessories. As details	No.	1.00		
5.10	Supply and install galvanized steel windows Protection As Shown in Drawings	M2	260.00		
Total					

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No.6 FINISHING Works					
	A- Plaster Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work. 2-Preparation Works by covering all conduits of electricity, water supplies , etc., with a galvanized wire mesh at least 20cm width coated by mortar (1:1) cement : sand and the work includes removal of wires and nails and cleaning of surfaces to be ready for plastering. 3- Contractor shall take into consideration that all – direct and indirect Works and expenses required for the completion of the coming items are included in the unit price. 4-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering. 5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any. 6- Curing with water for at least three days for each coat. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer.				
	B- Tiles Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1. Samples for approval and all the required tests. 2. Cleaning, mechanical polishing and pointing using grout. 3.Insulation Works under ceramic floor tiles for all wet areas and kitchens using primer coat two hot bitumen coats (75/75) 4. Plastic angle beads for ceramic wall tiles at the corners and top and sides of ceramic edges. 5. Local marble must be Grade (A) free cracks and clay flaws. 6. Measuring the stockpiled quantities of tiles and obtaining the engineer approval prior to shipment to the site. 7.Transporting and carefully handling the stored quantities to the site.				
	C- Painting Work Rates for painting and decorating work shall include for: 1. Preparation of surface including puttying, sealing and priming, 2. Any area or width, 3. Any location, 4. Work in multi colors, 5. Cutting in edges, 6. Any taping and covering to protect areas and others. All the painting materials should be approved and tested by approved local laboratory				

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Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6.1	Supply and make internal plastering 13 mm thick for ceiling ,walls and soffits. The work includes rough primer nail rendering to form a key with (mix 1:1) cement sand, second layer 13mm: Base-Coat "Rendering" with (1:3:0.25) cement: sand : lime and third layer: Finishing Coat with (1:1:1) cement: sand : lime . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	3,800.00		
6.2	Supply and make smooth external plastering 20mm thick for decoration at three faces : the first is 5mm thick mortar (mix 1: 2) cement: sand, the second is the rough nail rendering (mix 1:1) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime , drawings and supervisor engineer's instructions	M2	1,310.00		
6.3	Supply & execute the external finishes ECOS (colored solvent based grained coating) in accordance with the manufacturer's requirements, specifications, drawings and the engineer's instructions.	M2	1,310.00		
6.4	Supply and make granulate coating finish for ramps, external stairs and corridors with different size and color where require, the price includes all metal decorations, stainless steel separator and all required materials to complete the work according to specifications , drawings and supervisor engineer's instructions.	M2	40.00		
6.5	Supply, install and fix 400x400 x 8 mm or30*30*8mm non slip full body porcelain tiles, of European type(TAU or Equivalent) , including cement mortar bed, cleaning, pointing and polishing .and all required work and materials to compete the job according to specifications and engineer's instructions	M2	800.00		
6.6	Supply and install terrazzo floor tiles (grade A) size 25cmx25cmx2.5cm for corridors with Basalt stone laid on 2.5cm mortar bed and 5 cm thick sand bed and terrazzo skirting 25cmx 7cmx1cm including all materials and testing as per specifications and drawings.	M2	450.00		
6.7	Supply and install granite Rozabita made first class 3cm thick and 52cm width for windows sills.	L.M	120.00		
6.8	Ditto but for coping corridor inverted beams 26 cm width	L.M	175.00		
6.9	Supply, install and fix 200x200mm wall glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	110.00		
6.10	Supply and lay granite Rozabita (grade A) stair treads size 35 cm wide x 3cm thick chamfered once , rebated once and laid on 2cm thick mortar bed , and the price including crema marvel marble stair risers size 12.4cm high x2cm thick and skirting 20cm high x2cm thick on the both sides as specification and drawing.	Mr	300.00		
6.11	Supply and install Rozbita for parapet stair coping size 17cm x 2cm thick.	L.M	70.00		
6.12	Supply and install Rozbita for doors sills size 25cm width and 3cm thick.	L.M	22.00		
6.13	Supply and Paint one-primer and minimum two coats of Poliside for internal walls, ceiling and drop beams as specification and drawings.	M2	2000.00		
6.14	Supply and Paint the internal walls with one coat pendrole, two coats of putty, one undercoat primer and two coat of oil paint as specified in specification and approved by engineer.	M2	1600.00		
6.15	Supply and paint banderol primer coat, and three coats of emulsion paint (external -water proof Supercryl) for external walls including all the required materials as shown on the finishing table, specifications and Engineer's instructions.	M2	330.00		
6.16	Supply and fix GYPSUM Board 10 cm Thick above Wooden Cupboards in the classroom, the price includes painting with oil paint and fixation with galvanized steel elements as shown in the drawings specifications and according to Engineer's instructions.	M2	60.00		
Total					

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Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No.7 (Mechanical works)					
	<p>(1) In general rates for Mechanical works shall include for: 1. Developing shop and as built drawings 2. Cutting and forming all chases, recesses, holes, and the like, 3. Pipe sleeves, 4. Building of concrete and/or brick ducts in floors, walls ...etc., 5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying, 6. Fixing brackets, clips, holder bats, hangers, and the like, 7. Temporary and final fixing, 8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like, Building in or cutting and pinning, 9. Testing and drawings, 10. Painting of pipes, 11. All work of other trades in connection with Mechanical work including all making good.</p> <p>(2) All Plumbing works include the required units and its accessories as described in the items and the rates include: 1- All the plumbing units should be from the best quality and has 2- Submitting shop drawing for water supply and waste water 3- Submitting samples for all required material with catalogue 4- All required tests , pressure for water net work , hydraulic test for 5- Cleaning and disinfecting all water pipes. 6- Insulation of all galvanized water pipes and wrapping it with 7- Supply, install, connect to fixtures and distribution boxes, and test 8- All plumbing works (wash basin, kitchen sink, gully traps, etc...)) 9- All external inspection elbows should covered by galvanized steel plate with thick 2mm .</p> <p>(3) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications.</p> <p>(4) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p> <p>(5) Rates for pipe work including pipe work in frames to shading sheds shall include for: 1. Joints in the running length, 2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like, 3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like, 4. Welded joints and connections including grinding, 5. Lagging and wrapping, Excavation, bedding and backfilling. 6. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes). the unit price of all Items shall includes dismantle the existing interlock tiles, concrete slabs, cut, fill, compaction and reinstatement of the work to the original conditions</p>				
7.1	Supply and fix white glazed fireclay laboratory sink size 60cmx40cm (HARSA Type) or equivalent, complete with Golani water supply pipes 16mm from distribution box , waste, fitting, trap, chain, long swan neck water tap (Hamat or equivalent), and the drainage line 2" to the nearest floor trap as specification and drawings.	No.	10.00		
7.2	Supply , install floor drains ground drains completed with all necessary finishing and cover F.D diameter 4" as required by drawings , specification and Engineer satisfaction .	NO.	15.00		
7.3	Supply , install floor or cleaning clean outs completed with all necessary with and cover as required by drawings , specification and Engineer satisfaction .	NO.	5.00		
7.4	Supply and install UPVC pipe Ø 8" (SN8) with sockets. The work includes excavating of trenches (depth up to 2.0m), bedding, compacted backfilling with clean sand, connecting to the manholes, fittings , all connections and hydraulic test according to the specifications and drawings.	L.M	11.00		
7.5	Ditto but diameter 100 mm	L.M	40.00		
7.6	Supply , install , test vertical pipe for ventilation UPVC 100 mm and all required and all accessories as drawings Engineer satisfaction .	L.M	60.00		
7.7	Supply and fix oil painted galvanized steel threaded pipe 3" including jointing, fittings Tee ,elbows ,shows,& fixing to walls with metallic brackets and 3 inch diameter wire balloon grating, caps on the top ends and floor traps in all floors as specification and drawings.	L.M	150.00		

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.8	Supply and install B300 concrete manhole of internal diameter 60 cm and (50-100) cm depth according to the required level, 10cm thick plain concrete for walls and base, slab, with cast iron cover with frame 50cm opening, 8 ton bearing capacity, including excavation, backfilling with kurkar in layers 20 cm thick each and compaction 98% MDD, 200 Kg/cm2 plain concrete for benching, hunching and making good according to specification, drawing, and the engineer instructions.	NO.	2.00		
7.9	Supply , install and test , galvanized steel pipes diameter 1" class B , for cold water , including all necessary fittings , valves vents sleeves , supports , clips and components and connection with water tank and all required as per drawings and Engineer satisfaction .	L.M	150.00		
7.10	Ditto but galvanized steel pipe diameter . 1 or 1¼"	L.M	110.00		
7.11	Ditto but galvanized steel pipe diameter 3/4"	L.M	70.00		
7.12	Supply and install Collector Box ,hot and cold water distribution system completed with all necessary Rozabita granite boxes 100*50 cm(two leaves aluminum door and lock) ,with Italian made connections, fittings ,main valves, valves for each line, the price includes supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, collectors , records , and as required by drawings , specification and Engineer satisfaction .	L.S	1.00		
7.13	Supply and fix water storage plastic tank 2 m3 capacity , (3 layers - class A)with locks for cover, with approved type not less than 32 kg weight, complete with lockable cover,1 inch diam. automatic float valve, overflow pipe (1" diam) and drip tray, and ventilation pipe, with all connections for rising main and distribution pipe work and stop valves 1" with all accessories as specification and drawings, including painting tanks with white oil paint .	NO.	2.00		
7.14	Supply and install water pumps set (Type Flagyt or equivalent) with automatic control and control panel and electrical cable .Including concrete base 4mx3m x0.2 m ,electrical floats for water tanks (60% for domestic water and 40% for fire fighting) with all connections and fittings. The price includes all necessary collectors , valves fixing satires , flexible , connections and accessories and all connections completed with alternative operating electrical control panel , and all required as drawings , specification and Engineer satisfaction .	NO.	1.00		
7.15	Supply , install and test operation water meter diameter 1.5" with all necessary fitting as drawings , specification and Engineer satisfaction .	NO.	1.00		
7.16	Supply and fix fire extinguisher, 6kg capacity filled with CO2, fixed at 2m height, the price includes supporting to wall. According to, specification, drawings and as per Palestinian fire defiance requirements.	NO.	4.00		
7.17	Ditto but filled with powder.	NO.	4.00		
7.18	Excavation and construction soakaway reinforced concrete (B250) depth 5 meter , inside diameter 1.5 m 60 cm cast iron covers (8 ton) and frames per drawing Engineer satisfaction .	NO.	1.00		
7.19	Supply and construct soakaway manholes complete 250 cm internal diameter depth up to 6 m with 60cm cast iron cover (25 tons capacity) , frame ,rings, and special joint required to fix the drainage pipes to the manhole. The item also includes B300 benching, shuttering, excavation in any type of soil to any depth, build solid block, Ground beam 50*25 cm , and (Macadam of 64-150mm size) about the soakaway manhole's, reinforced concrete slab 20 cm and two external hot bitumen coating, and back filling in layers 25cm maximum using suitable material (Kurkar) with watering, and compaction. The price includes performing the works according to drawings and specification .	NO.	2.00		
7.20	Supply and construct in site reinforced concrete septic tank (B300) 4m length * 2.4 width * 2.5 m depth and details as shown on the drawings. The price shall include construct wall , reinforced concrete Ground slab 20cm and reinforced concrete slab 20 cm contain one access opening (60cmx60cm) with cast iron cover (25 ton type). Price also include the plastering for walls and slab ,excavation and backfill . The price includes performing the works according to drawings and specification .	NO.	2.00		
Total					

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No.8 (Proofing works)					
	<p>(1) Rates for foam concrete/ cement and mortar work shall include for:</p> <ol style="list-style-type: none"> 1. Supply and storage of cement. 2. Supply and storage of aggregates and water, 3. Mixing, 4. Hacking concrete, applying cement slurry or raking out joints of block work to form key, 5. Application to any surface, 6. Finish to surface, 7. Finish to falls and cross falls, 8. Forming bays including joints, 9. Finish to edges, 10. Making good around steel sections, pipes, tubes, bars, brackets, outlets, and the like, <p>(2) Rates for waterproofing shall include for:</p> <ol style="list-style-type: none"> 1. Preparation of surface, 2. Any area or width, 3. Cutting in edges. 4. Over laps, priming and treatment at the corners and floor drains. 5. Testing for the roof with water 6. Dressing over parapets and stub columns including forming groove to receive edge of plasticized bitumen membrane and sealing with elastic sealer. <p>(3) Rates for roof sheets shall include for:</p> <ol style="list-style-type: none"> 1. Side and end laps, Fittings including bolts, hook bolts, screws and washers, 2. Sheets of any width or length. 				
8.1	<p>Supply and lay one layer of plasticized bitumen roofing membrane (Polypeid) with chipping 4mm thick including priming concrete surface prior to laying, dressing into rain water outlets to form water proofing seal and cover angle fillets as shown in the drawings, specifications and according to engineer's instructions.</p> <p>Note: Measurement will be for the horizontal projection</p>	M2	620.00		
8.2	<p>Supply and lay one layer of plasticized bitumen roofing membrane with chipping 4 mm thick, including priming concrete surface prior to laying, dressing into rain water outlets to form water proofing seal and cover the angle fillets. The rate include verticals parts skirting as per specification and drawings.</p>	M2	620.00		
Total					

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No.9 (Electrical Works)					
	supply and erecting of the electrical works as per drawings, specifications, and engineer's instructions. The price of the following items includes, all necessary junction boxes, wires, conduits, clamps, bolts, connectors and connecting all cables to suit All installation shall be in accordance with : * The drawings , specifications and instructions and demands of the engineer. * The electricity law and electrical code requirements of the BRITISH Standards. The contractor should refer to the drawings , specifications and other Contract Documents . The prices will be deemed to include for the full cost as described in all Documents.				
9.1	Lighting Fittings				
a.	Supplying, installing connect and operating surface mounted LED lighting fixture 32W or 36W, European made. Model Fortan 1258 LED # 386671 or equivalent (Type is LENA or equivalent). The item includes PVC conduits, Boxes, fixing screws (Galv.) and wiring and all necessary equipment's for installation and operation as per drawings, specifications and engineer instructions.	No.	108.00		
b.	Ditto but 1x16 w or 18w with special reflector for black board. Model Specto LED # 343858 or equivalent (Type is LENA or equivalent).	No.	35.00		
c.	Ditto but round bulk head light, water proof IP65, LED lighting fixture 16W . (Type is GAASH #552r404 or equivalent).	No.	70.00		
d.	Ditto but external security flood lighting fixture, water proof IP65, LED lighting fixture 50W . (Type is GAASH or equivalent).	No.	6.00		
e.	Supply, install, connect and test Ac LED tube length 1200mm, (18-21)Watt , T8 lamp, Cap-Base G13, Efficacy more than 100 Lm/W, Flux more than 2000 Lumen, Color temperature 3000-4500, Power factor > 95%. The item includes dismantling and removing the existing fluorescent tubes, ballasts, condensers and rewiring to be compatible with instant Start and allows fixture to maintain original compliance. All works must be according to engineer's instruction. (Type is PHILIPS or equivalent) (for the existing fluorescent fixtures)	No.	108.00		
f.	Supply, install, connect and test Ac LED lamp 16W, Flux more than 1000 Lumen, Color temperature 3000-4500, Power factor > 95%. (Type is PHILIPS or equivalent). (for the existing circular glob)	No.	40.00		
9.2	Electrical Fans				
a.	Supply, install, connect and test ceiling fan with switch, complete with PVC conduits, J. boxes, wiring, and all necessary accessories. (Type is CHMC or equivalent).	No.	6.00		
b.	Supply, install, connect and test 8 inch extractor fan with 500 CFM capacity , complete with PVC conduits, J. boxes, wiring, and all necessary accessories. (Type is Venta or equivalent).	No.	1.00		
9.3	Switches:				
a.	Supply, install connect and test single pole one way switch, 220v, 13A, complete with PVC conduits, J.boxes, wiring, cover and all necessary accessories. (Type is GEWISS CHORUS or equivalent).	No.	16.00		
b.	Ditto, but water proof.	No.	1.00		
c.	Ditto, but one way, two pole switch.(Type is GEWISS CHORUS or equivalent).	No.	3.00		
d.	Ditto, but water proof.	No.	1.00		
e.	Ditto, but two way switch, one pole.(Type is GEWISS CHORUS or equivalent).	No.	6.00		
f.	Ditto, but push button with illuminated lamp .(Type is GEWISS CHORUS or equivalent)..	No.	9.00		
g.	Ditto, but one way, three pole switch.(Type is GEWISS CHORUS or equivalent).	No.	16.00		
9.4	Sockets:				
a.	supply, install connect and, testing single socket outlet 16A, 220v, 2p+E for flush or surface mounting, complete with PVC conduits, J.boxes, wiring, and all necessary accessories. (Type is GEWISS CHORUS or equivalent)	No.	50.00		

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
b.	Ditto, but single socket outlet with different color for PV system.	No.	5.00		
c.	supply, install connect and, testing double socket outlet waterproof 16A, 220v, 2p+E for flush or surface mounting, complete with PVC conduits, J-boxes, wiring, and all necessary accessories. (Type is GEWISS CHORUS or equivalent)	No.	10.00		
d.	Supply, install computer socket outlet complete with all conduits and cat6-STP cables from the socket to the sub-computer junction box including computer junction box. (Type is GEWISS CHORUS or equivalent).	No.	15.00		
9.5	Sound system				
a.	Supply and install Amplifier Bosch type or equivalent with the following specifications: * Nominal max power 200W. * frequency response 50-1500Hz * Signal/noise ratio >80dB outputs/ohms 4, 8, 16 ohm outputs/volts 50, 100 V	No.	1.00		
b.	Supply and install microphone outlet complete with PVC conduits, J-boxes, cables, and all necessary accessories. (Type is GEWISS CHORUS or equivalent).	No.	2.00		
c.	ditto, but loud speaker 100w BOSCH type or equivalent.	No.	3.00		
d.	ditto, but movable microphone with cable not less than 5 meter.	No.	1.00		
e.	Supplying and erecting electrical bell and bell switch with Including all wiring requirements.	No.	3.00		
9.6	Cables and conduits				
	Supply, laying and termination of XLPE cable. The work includes laying under ground PVC piping system for the under ground electrical network as per drawings , excavation (depth of excavation over the pipes is 0.9 m.) , laying pipes, sand bedding 10cm around the pipes, backfilling and wiring tape.				
a.	Supply, laying and termination of XLPE cable , (3X25+16)mm2 CU.	L.M	150.00		
b.	Supply, laying and termination of XLPE cable , (5X10)mm2 CU.	L.M	100.00		
c.	Ditto, but XLPE (5X6)mm2	L.M	40.00		
d.	Concrete manhole 60cm Dai., with 8Ton cover.	No.	6.00		
e.	Corrugated PVC 3 inch (provisional Item)	L.M	120.00		
9.7	Supplying				
a.	Reconnect the main distribution board to GEDCO network at the area in order to meet the new location. This rehabilitation shall be coordinated with GEDCO and shall mainly include all necessary materials and equipment such as, wooden poles, insulators, LV switches, LV conductors and cables, civil works,...etc., all according to GEDCO requirements and specifications.	Set	1.00		
b.	Supply, install and test Main Telephone cable 4P with aluminum shield laid underground from main telephone box of local tel. co. to the existing main box of the bldg. as directed by the engineer and termination from both sides as per Telecommunication co. 's standards The works include excavation, laying cable and all other civil works to complete the job neat and in operable conditions. Made: TELDOR, IL or Approved equal.	Set	1.00		
c.	Supply, install sub telephone box size 15*12 cm complete with all connection strips, termination.	No.	2.00		

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
9.8	Main Distribution Board				
a.	Supply, install and commission main distribution board as specified and as shown on drawings, factory assembled wired and tested in accordance with international standards, including 2mm Galv. steel frame with anti static paint including bus bars, neutral and earthing terminal with all necessary accessories	No.	1.00		
b.	LTL fuse with base 3x63A	No.	1.00		
c.	MCCB 3X63A (NZMB1-63A MOELLER type or equivalent)	No.	1.00		
d.	Kwh meter 3 phase 3x5A	No.	1.00		
e.	KVAr meter, 3 phase 3x5A	No.	1.00		
f.	Signal lamps R.S.T with 25 Resistance 220V and push button 3 stages.	No.	3.00		
g.	Current transformer 3x(100/5A)	set	2.00		
h.	MCCB 3X40A (NZMB1-40A MOELLER type or equivalent)	No.	3.00		
i.	MCB 3X32A. (Type is MOELLER FAZ-D32/3 or equivalent).	No.	1.00		
j.	MCB 3X25A. (Type is MOELLER FAZ-D25/3 or equivalent).	No.	3.00		
k.	MCB 1X32A. (Type is MOELLER FAZ-D32/3 or equivalent).	No.	1.00		
l.	MCB 1X16A. (Type is MOELLER FAZ-C16/1 or equivalent).	No.	2.00		
m.	MCB 1X10A. (Type is MOELLER FAZ-B10/1 or equivalent).	No.	1.00		
n.	Step Relay	No.	1.00		
o.	timer,photo cell and contactor for external lighting	L.S.	1.00		
p.	manual change over 4x63A MOELLER type or equivalent.	No.	1.00		
q.	multimeter Digital European made	No.	1.00		
r.	10kVAR capacitor Bank with protection	No.	1.00		
s.	Surge arrestor with protection European made	No.	1.00		
t.	Under voltage Relay,contactor,protection and all necessary European made	No.	1.00		
9.9	Sub-Distribution Boards (DB/G1)				
a.	Supply, install sub-distribution board with 30% spare size consists of lockable board frames as per specifications including 2mm Galv. steel sheets with anti-static paint, bus bars for incoming cables, neutral and earthing terminal with all necessary accessories	No.	1.00		
b.	Signal lamps R.S.T with 25 Resistance 220V and push button 3 stages.	No.	1.00		
c.	MCB 3X32A. (Type is MOELLER AZ-32/3 or equivalent).	No.	1.00		
d.	Ditto but MCB 1X16A. (Type is MOELLER FAZ- C16 or equivalent).	No.	4.00		
e.	Ditto but MCB 1X10A. (Type is MOELLER FAZ- C10 or equivalent).	No.	9.00		
f.	Ditto but residual current circuit breaker 4X40/0.03A. (Type is MOELLER FAZ-4- B40-FIM0,03 or equivalent).	No.	1.00		
g.	step relay	No.	2.00		
9.10	Sub-Distribution Boards (DB/LAP)				
a.	Supply, install sub-distribution board with 30% spare size consists of lockable board frames as per specifications including 2mm Galv. steel sheets with anti-static paint, bus bars for incoming cables, neutral and earthing terminal with all necessary accessories	No.	1.00		
b.	Signal lamps R.S.T with 25 Resistance 220V and push button 3 stages.	No.	1.00		
c.	MCB 3X25A. (Type is MOELLER FAZ-C25/3 or equivalent).	No.	1.00		
d.	Ditto but MCB 1X16A. (Type is MOELLER FAZ- C16 or equivalent).	No.	7.00		
e.	Ditto but MCB 1X10A. (Type is MOELLER FAZ- C10 or equivalent).	No.	2.00		
f.	Ditto but residual current circuit breaker 4X40/0.03A. (Type is MOELLER FAZ-4- B40-FIM0,03 or equivalent).	No.	1.00		

Bill of Quantity for Al Motanaby Primary Boys School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
9.11	Sub-Distribution Boards (DB/F1,DB/F2)				
a.	Supply, install sub-distribution board with 30% spare size consists of lockable board frames as per specifications including 2mm Galv. steel sheets with anti-static paint, bus bars for incoming cables, neutral and earthing terminal with all necessary accessories	No.	2.00		
b.	Signal lamps R.S.T with 25 Resistance 220V and push button 3 stages.	No.	1.00		
c.	MCB 3X25A. (Type is MOELLER FAZ-C25/3 or equivalent).	No.	2.00		
d.	Ditto but MCB 1X16A. (Type is MOELLER FAZ- C16 or equivalent).	No.	10.00		
e.	Ditto but MCB 1X10A. (Type is MOELLER FAZ- C10 or equivalent).	No.	18.00		
f.	Ditto but residual current circuit breaker 4X40/0.03A. (Type is MOELLER FAZ-4- B40-FIM0.03 or equivalent).	No.	2.00		
9.12	Sub-Distribution Boards (DB/PV)				
a.	Supply, install and test DB/PV with 30% spare size consists of lockable board frames as per specifications including 2mm Galv. steel sheets with anti-static paint, bus bars for incoming cables, neutral and earthing terminal with all necessary accessories	No.	1.00		
b.	Signal lamps R.S.T with 25 Resistance 220V and push button 3 stages.	No.	1.00		
c.	MCB 3X40A. (Type is MOELLER AZ-40/3 or equivalent).	No.	1.00		
d.	MCB 3X32A. (Type is MOELLER FAZ-C32/3 or equivalent).	No.	2.00		
e.	Ditto but MCB 1X16A. (Type is MOELLER FAZ- C16 or equivalent).	No.	2.00		
f.	Ditto but MCB 1X10A. (Type is MOELLER FAZ- C10 or equivalent).	No.	1.00		
g.	Ditto but residual current circuit breaker 2X40/0.03A. (Type is MOELLER or equivalent).	No.	1.00		
9.13	Earthing system				
a.	Supply, install and commission a complete grounding system including all required galvanized 35x3 mm steel sheet, cables, earthing pits, electrodes according, specification and engineers instructions such that the resistance shall not exceed 2 ohm	L.s	1.00		
Total					
SUBTOTAL OF BILL (A) - NEW BUILDING SUMMARY					
1	Excavation & Earthworks.				
2	Concrete Works.				
3	Building Works				
4	Carpentry works				
5	Metal works				
6	Finishing works				
7	Mechanical works				
8	Roofing works				
9	Electrical Works				
-	SUB TOTAL				



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Al Motanby School Multi-Purpose Hall (MPH)

Bill No (B) Multi Purpose Hall					
Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p>General Notes:</p> <p>1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval,</p> <p>2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisites to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works.</p> <p>3-The contractor will expect that more than one contractor will be carrying out Works in the school at the same time, the Contractor is presumed to make all necessary coordination and facilitate accessibility to and other work-related issues</p> <p>4-All Works and installations listed here below should be carried out, tested and commissioned by specialized responsible skilled labors in full coordination with MoEHE , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.EXCAVATION & Earthworks					
	<p>Contractor shall take into consideration that all – direct and indirect Works and expenses required for the completion of the coming items are included in the unit price. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs.</p> <p>2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site.</p> <p>3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD.</p> <p>4. All required Tests by an accredited laboratory.</p> <p>5. The cadastral survey and leveling of existing status at grids not exceeding 5 m in both directions.</p> <p>6.Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping.</p> <p>The price includes dismantle of any interlock tiles, existing utilities, demolish any concrete items , removal of tress, obstacles.. Etc, and deliver any required materials to MoEHE, and removal of surplus materials to approved dump site.</p>				
1.1	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M ³	250		
1.2	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%), to comply with the design bearing capacity of not less than (2.1Kg/cm2). The work must be carried out according to the specifications, design drawings & the engineer's instructions (three load plate tests are required to verify the result)	M ³	200		
1.3	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M ³	350		
1.4	Supply, fill by using approved material (sand dune) between ground beams & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M ³	200		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <p>1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Blatant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations.</p> <p>2. Supplying, Casting, vibrating and curing as per specifications.</p> <p>3. Approved additives and admixtures.</p> <p>4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples.</p> <p>5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other.</p> <p>6. Preliminary installations for Electrical, plumbing and floor drainage in floor slabs including final floor slab.</p> <p>7. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD.</p> <p>8. All Works according to specifications , drawings and supervisor engineer instructions</p> <p>9. Supply, fabricate and fix reinforcement steel (fy= 410 N/mm2) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions</p> <p>10. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials</p> <p>11. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly.</p> <p>All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories.</p> <p>the unite price includes all kinds of insulation work for Example (polystyrene sheets with any thickness and density not less than 32kg/m3, galvanizes steel wire mash, poly carbonate weep halls, polyethylene sheets 2mm thickness</p> <p>The price should include thermal insulation under and over ground floor slap and between slabs (corridors and classes) by 5cm rigid polystyrene sheets 32kg/m3.</p> <p>The price includes dismantle of any interlock tiles, existing utilities, demolish any concrete items , removal of tress, obstacles.. Etc, and deliver any required materials to MoEHE, and removal of surplus materials to approved dump site.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.1	Supply and cast ready mix plain concrete B (200) kg/cm2 for Blinding beds 10 cm thick including polythene sheets as per specifications and drawings.	M3	30		
2.2	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for the ground slab 10cm thick with steel reinforcement mesh 8mm every 20 cm including polythene sheets below concrete slab and compacting the beneath the slab to 98% of MDD.as per specifications and drawings.	M2	100		
2.3	Supply and cast ready mix reinforced concrete B (250) kg/cm2 smooth surface for playground by mechanical trawling machine including surrounding Beams ,foundations, polythene sheets, expansion joints(cut after casting by mechanical saw), 25cm base coarse(in two layers), mastic compressible materials, levelling of subgrade and compaction of each layer of base coarse and subgrade and finish the surface with colored approved materials, the price also includes marking works with approved thermoplastic paint as per specifications and drawings and finish the surface with colored approved materials (PG coat) as per specifications and drawings	M2	500		
2.4	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for foundations (isolated, strip footing, strap & inverted T sec.) as per specifications and drawings.	M3	70		
2.5	Ditto but for ground beams	M3	30		
2.6	Ditto but for strap beams between the foundations.	M3	10		
2.7	Ditto but for sills, lintels, coping, concrete wall (hunches for doors), gas room elements .etc.	M3	45		
2.8	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for columns and columns necks as per specifications and drawings.	M3	60		
2.9	Supply and cast ready mix concrete B (300) kg/cm2 for suspended hollow block slab 30 cm thick, including the reinforced steel, Mechanical trawler finish, decorative arches in last slab, corridor concrete parapet, under steel balustrade for the typical slab, hollow cement block 40*25*22 cm, all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	110		
2.10	ditto, but B250 reinforced concrete for Apron (surface treated with mechanical steel troweled finish) the price include polythene sheets. Reinforcement Ø 8mm / 15 cm in both way and reinforced edge beam as well as expansion joints. The price including leveling, 15cm thick compacted base coarse to 100% of MDD and making of expansion joints including its approved filling materials (sika flex or equivalent) according to drawing and specification.	M2	100		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams, all kinds of insulation work for Example (polystyrene sheets with any thickness and density not less than 32kg/m3, galvanizes steel wire mash, poly carbonate weep halls, polyethylene sheets 2mm thickness, still ties 6mm to connect the two walls and polystyrene sheets and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions.				
3.1	Supply and build hollow concrete block 20*20*40 cm first class with compressive strength 35 kg/cm2 for external walls and some internal partition, the item includes casting rein. concrete between columns and walls (20 cm ave.width) with steel reinforcement 4T 8 mm and steel sterupsT6 mm every 20 cm.	M2	650.00		
3.2	Ditto but 40x20x 15 cm thick.	M2	550.00		
3.3	Ditto but 40x20x 10 cm thick.	M2	100.00		
3.4	,Supply and build solid cement block 40x20x20 cm, under ground beams and external boundary for building including painting the buried parts with .one coat of primer and two coats of hot bitumen (75/25) after primer layer	M2	100		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.Aluminum & Metal Works					
	<p>The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship.</p> <p>Steel work should be properly treated and prepared, painted with two coats of oil paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE</p>				
4.1	Supply and fix colored aluminum window section 7000 type W1. , overall size 150 x 300cm, complete with frame, white color, four sliding leaves ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	15		
4.2	Supply and fix colored aluminum window section 4500 type W2. , overall size 150 x 60cm, complete with frame, white color, hinged ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	14		
4.3	Supply and install colored phenolic toilets partitions (H.P.L high Pressure laminate made of 16 mm solid phenolic) panels including doors and all required accessories according to drawings and specifications.	M2	40		
4.4	Supply and fix flush galvanized steel double external door D3 (220 x210), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware and one primer coat, one under coat and minimum two coats of colored hummer oil paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications for ground floor.	No	4		
4.5	Supply and fix flush galvanized steel double external door D4 (300 x450), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware and one primer coat, one under coat and minimum two coats of colored hummer oil paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications for ground floor.	No	2		
4.6	Supply and fix flush galvanized steel double external door D5 (300 x300), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware and one primer coat, one under coat and minimum two coats of colored hummer oil paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications for ground floor.	No	8		
4.7	Supply, and fix Mul-T-Lock door, with overall size 110x220cm Single leave with powder coated paint & metal frame with master key . Door lock type 235 & Mul-T-Lock serrated cylinder. The price include rock wool inside door for fire resistance and all accessories and related works all according to drawings, specifications and engineer instructions	No	3		
4.8	Supply and fix steel protection for windows over all size W2 (ground floor) 150x60 cm .the prices including mild steel frame size 40 x 8mm thick, vertical steel plate size 20mm wide x 8mm thick fixed every 12cm (clear distance), decorative circles 20x2mm, all by welding to the frame. Fixed on walls by steel angle ties and plates, painting with one coat of primer, undercoat and at least two coats of oil paint, all according to drawing, specification and engineer instructions.	No	14		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.9	supply and install double colored corrugated sheets for MPH roof filled with extruded foam thermal insulation, the upper layer of corrugated sheets is 0.5 mm thickness and the lower layer is 0.4 mm thickness and 5 cm foam thickness. The price includes supply and install required steel structural elements Main beams I beam NO 45 (IBM)(450X170X24/16.2 mm) , burliness steel profile 80*40*3 mm each 75 cm center to center , galvanized steel triangles 80*50*3mm, fixation anchors Bolts 24mm diameter and 50cm length, Double foundation steel plates 40*40*25mm, galvanized steel Gutter 2mm thickness, G.S rings, welding, special bolts and galvanized steel sheets to prevent any water leakage, scaffolding, water leakage test of the roof , workmanship, painting with one coat of primer, undercoat and at least two coats of hummer paint, and including and all accessories and materials to complete the work according to drawings, specification and engineer's instructions	M2	500		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. FINISHING Works					
	A- Plaster Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work. 2-Preparation Works by covering all conduits of electricity, water supplies , etc., with a galvanized wire mesh at least 20cm width coated by mortar (1:1) cement : sand and the work includes removal of wires and nails and cleaning of surfaces to be ready for plastering. 3- Contractor shall take into consideration that all – direct and indirect Works and expenses required for the completion of the coming items are included in the unit price. 4-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering. 5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any. 6- Curing with water for at least three days for each coat. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer. B- Tiles Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1. Samples for approval and all the required tests. 2. Cleaning, mechanical polishing and pointing using grout. 3.Insulation Works under ceramic floor tiles for all wet areas and kitchens using primer coat, two hot bitumen coats (75/25) 4. Plastic angle beads for ceramic wall tiles at the corners and top and sides of ceramic edges. 5. Local marble must be Grade (A) free cracks and clay flaws. 6. Measuring the stockpiled quantities of tiles and obtaining the engineer approval prior to shipment to the site. 7.Transporting and carefully handling the stored quantities to the site. C- Painting Work Rates for painting and decorating work shall include for: 1. Preparation of surface including puttying, sealing and priming, 2. Any area or width, 3. Any location, 4. Work in multi colors, 5. Cutting in edges, 6. Any taping and covering to protect areas and others. All the painting materials should be approved and tested by approved local laboratory				
5.1	Supply and make internal plastering 13 mm thick for ceiling ,walls and soffits. The work includes rough primer nail rendering to form a key with (mix 1:1) cement sand, second layer 13mm: Base-Coat "Rendering" with (1:3:0.25) cement: sand : lime and third layer: Finishing Coat with (1:1:1) cement: sand : lime . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	1200		
5.2	Supply and make smooth external plastering 20mm thick for decoration at three faces : the first is 5mm thick mortar (mix 1: 2) cement: sand, the second is the rough nail rendering (mix 1:1) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime , drawings and supervisor engineer's instructions	M2	1100		
5.3	Supply & execute the external finishes ECOS (colored solvent based grained coating) in accordance with the manufacturer's requirements, specifications, drawings and the engineer's instructions.	M2	1100		
5.4	Supply, install and fix 200x200mm Floor glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing	M2	100		
5.5	Supply, install and fix 200x200mm wall glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	300		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5.6	Supply and install local marble (grade A) size 50 cm wide x 3cm thick for windows sills laid on 2 cm thick mortar bed including polishing and grooving as approved by engineer and as specification and drawings..	Mr	70		
5.7	Supply and make internal Eggshell finish painting for MPH walls . The work includes fines the wall surface by using the following coats: 1-two coats of bandrol, 3 coats of white mortar one coat of undercoat and 3 coats of Eggshell colored paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions.	M2	1000		
5.8	Supply and make internal Emulsion painting for ceiling . The work includes fines the surface by using the following coats:1-tow coats of bandrol, 3 coats of white acrylic emulsion paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions.	M2	150		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6-Isolation works					
	<p>(1) Rates for foam concrete/ cement and mortar work shall include for:</p> <ol style="list-style-type: none"> 1. Supply and storage of cement. 2. Supply and storage of aggregates and water, 3. Mixing, 4. Hacking concrete, applying cement slurry or raking out joints of block work to form key, 5. Application to any surface, 6. Finish to surface, 7. Finish to falls and cross falls, 8. Forming bays including joints, 9. Finish to edges, 10. Making good around steel sections, pipes, tubes, bars, brackets, outlets, and the like, 11. Ends, intersections, ramps, and the like, on fillets, <p>(2) Rates for waterproofing shall include for:</p> <ol style="list-style-type: none"> 1. Preparation of surface, 2. Any area or width, 3. Cutting in edges. 4. Over laps, priming and treatment at the corners and floor drains. 5. Testing for the roof with water 6. Dressing over parapets and stub columns including forming groove to receive edge of plasticized bitumen membrane and sealing with elastic sealer. <p>(3) Rates for roof sheets shall include for:</p> <ol style="list-style-type: none"> 1. Side and end laps, Fittings including bolts, hook bolts, screws and washers, 2. Sheets of any width or length. 				
6.1	<p>Supply and lay one layer of plasticized bitumen roofing membrane (Polypeid) with chipping 4mm thick including priming concrete surface prior to laying, dressing into rain water outlets to form water proofing seal and cover angle fillets as shown in the drawings, specifications and according to engineer's instructions.</p> <p>Note: Measurement will be for the horizontal projection</p>	M2	150		
6.2	<p>Supply and cast in place slopping foam concrete for roof screening of average thickness 7.0cm as shown in the drawings specifications and according to Engineer's instructions.</p>	M2	150		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7. Mechanical works					
	<p>(1) In general rates for Mechanical works shall include for: 1. Developing shop and as built drawings</p> <p>2. Cutting and forming all chases, recesses, holes, and the like,</p> <p>3. Pipe sleeves,</p> <p>4. Building of concrete and/or brick ducts in floors, walls ...etc.,</p> <p>5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying,</p> <p>6. Fixing brackets, clips, holder bats, hangers, and the like,</p> <p>7. Temporary and final fixing,</p> <p>8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like,</p> <p>9. Building in or cutting and pinning,</p> <p>10. Testing and drawings,</p> <p>11. Painting of pipes,</p> <p>12. All work of other trades in connection with Mechanical work including all making good.</p> <p>(2) All Plumbing works include the required units and its accessories as described in the items and the rates include:</p> <p>1- All the plumbing units should be from the best quality and has trade mark.</p> <p>2- Submitting shop drawing for water supply and waste water networks for approval prior to commencement of the work.</p> <p>3- Submitting samples for all required material with catalogue indicating its specifications.</p> <p>4- All required tests , pressure for water net work , hydraulic test for sewage lines</p> <p>5- Cleaning and disinfecting all water pipes.</p> <p>6- Insulation of all galvanized water pipes and wrapping it with bitumen's sheets and protect pipes located under tiles with cement mortar. In addition to the insulation materials against heat loss for hot water pipes.</p> <p>7- Supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, and fittings.</p> <p>8- All plumbing works (wash basin, kitchen sink, gully traps, etc...) include the connection to the nearest trap, WC to the nearest vertical sewage header in the typical floors and WC in the GF to the nearest manhole and include all accessories including PVC S and caps for all the ends of pipes at parapet.</p> <p>9- All external inspection elbows should be covered by galvanized steel plate with thick 2mm .</p> <p>(3) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,</p> <p>(4) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p> <p>(5) Rates for pipe work including pipe work in frames to shading sheds shall include for:</p> <p>1. Joints in the running length,</p> <p>2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like,</p> <p>3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like,</p> <p>4. Welded joints and connections including grinding,</p> <p>5. Lagging and wrapping,</p> <p>6. Excavation, bedding and backfilling.</p> <p>7. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes).</p> <p>8. the unit price of all Items shall include dismantle the existing interlock tiles, concrete slabs, cut , fill, compaction and reinstatement of the work to the original conditions.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Sewage Works:-					
7.1	Supply and install B300 concrete manhole of internal diameter 60 cm ,and (50-100) cm depth according to the required level, 10cm thick plain concrete for walls and base, slab, with cast iron cover with frame 50cm opening, 8 ton bearing capacity, including excavation, backfilling with kurkar in layers 20 cm thick each and compaction 98% MDD, 200 Kg/cm2 plain concrete for benching, hunching and making good according to specification, drawing, and the engineer instructions.	No	13		
7.2	Supply and install Floor Trap Gully (F.T.G) Ø 4", 2.5mm thick ,complete with concrete protection, heavy duty brass grating and 4"& 2" PVC drainage pipe to the nearest manhole or next vertical pipes, Stainless steel Covers and including heavy duty S trap where needed as per specifications , drawings and supervisor engineer instructions.	No.	10		
7.3	Ditto but Floor Trap (F.T) Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	5		
7.4	Ditto but Floor Clean Out Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	1		
7.5	Supply and install UPVC pipeØ6" (SN8) with sockets. The work includes excavating of trenches (depth up to 2.0m), bedding, compacted backfilling with clean sand, connecting to the manholes, fittings , all connections and hydraulic test according to the specifications and drawings.	Lm	70		
7.6	Supply and install Roof Trap drain Ø 4", Including Stainless steel Covers 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	No.	5		
7.7	Supply and install Roof drain Gutter .Including Stainless steel Covers,Ø 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	L.S	1		
Domestic Water Works:-					
7.8	Supply and install galvanized steel pipe Ø 1.5" , (Schedule -40). Including fixing , excavation for trench, backfilling, compaction, UPVC pipe Ø 4" for sleeves, insulation, valves , fittings and all connections.	Lm	90		
7.9	Ditto but galvanized steel pipe Ø 1.25"	Lm	50		
7.10	Ditto but galvanized steel pipe Ø 1"	Lm	40		
7.11	Ditto but galvanized steel pipe Ø 3/4"	Lm	20		
7.12	Supply and install Collector Box for (CB-H11) (hot and cold water distribution system completed with all necessary Rozabita granite boxes 100*50 cm(two leaves aluminum door and lock) ,with Italian made connections, fittings ,main valves, valves for each line, the price includes supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, collectors , records , and as required by drawings , specification and Engineer satisfaction .	No.	2		
7.13	Supply and install Collector Box for (CB-T1) (hot and cold water distribution system completed with all necessary Rozabita granite boxes 80*50 cm(two leaves aluminum door and lock) ,with Italian made connections, fittings ,main valves, valves for each line, the price includes supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, collectors , records , and as required by drawings , specification and Engineer satisfaction .	No.	4		
7.14	Ditto but Collector Box (50x50x12 cm) for (CB-H2) .	No.	1		
7.15	Ditto but 20 mm diameter PE pipes with sleeve UPVC pipe Ø 4" for sleeves, fittings and all connections.	L.M	30		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.16	Supply and fix water storage plastic tank 1.5 m3 capacity , (3 layers - class A)with locks for cover, with approved type not less than 32 kg weight, complete with lockable cover,1 inch diam. automatic float valve, overflow pipe (1" diam) and drip tray, and ventilation pipe, with all connections for rising main and distribution pipe work and stop valves 1" with all accessories as specification and drawings, including painting tanks with white oil paint .	No.	6		
Finishing Works:-					
7.17	Supply and fix white glazed fire clay hand wash basin size 52cm x45cm (Vitra type - grade A) or equivalent, complete with all water supply pipes 16mm (Golany) to the nearest distribution box (DB), waste fitting, trap, plug and chain, chromium water mixer (Hamat ,jack, wall mounted type or equivalent), glazed fire clay soap holder, and the drainage line 2" to the nearest floor trap.	No	11		
7.18	Ditto but for handicapped Washing basin, with stainless steel supports 1.25 " fixed to walls, with all connections, and fittings.	No.	1		
7.19	6mm mirrors including sealant and fixing accessories mirror, size 600 X 400 mm	No.	12		
7.20	Supply and fix white glazed fireclay European W.C. suite (Vitra type - grade A), or equivalent complete with heavy duty cover , 9 liter plastic double action flushing cistern, and fixed chromium plated tap 1/2" Tibesa type or equivalent, including all water supply pipes 16mm(Golany) to the nearest dist. box (DB), flushing hose sprayer, glazed fire clay paper holder, angle valves, UPVC drainage pipe connecting to the nearest manhole or sewage header as per specifications , cap for ventilation pipes sprayer hose , all valves , toilet paper holders white color vitreous china with all connections, and fittings according to drawings and supervisor engineer instructions.,	No.	10		
7.21	Ditto but for handicapped , with stainless steel supports with all connections, and fittings .	No.	4		
7.22	Supply, install test and commission First Class (70x70cm) internal Vitreous China shower with trims taps, traps, brackets, stays, shower arms, hot and cold water shower mixer, shower tray, including all connections with pipes works complete as shown on drawings and as per specifications and engineering instructions..	No.	4		
7.23	Supply and install 3/4" water chrome tap, for flushing and R.O water .	No.	6		
7.24	Supply and install Electrical Heater (Ariston type) or approved equivalent. Capacity =50 L., Including thermostat with all connection and fittings.	No.	2		
Fire System :					
	Supply, install, test and commission a complete fire fighting system strictly in according to Civil Defense and the specification and as indicated on the drawing including the necessary identification plates etc. and all builders work.				
7.25	Supply and install Fire pumps set with automatic control panel which includes circuit breakers, RST relay, overload protection, timers, relays, contactors and all protection devices needed , electrical floats for water tanks (60% for domestic water and 40% for fire fighting) with all connections and fittings. Number of pumps : 3 1- Jockey Pump (1 duty) Capacity : 5m ³ /hr. Head : 55m 2-Main Fire Fighting Pumps (2 pumps) (1 duty+ 1 stand by) Each one Capacity : 20m ³ / hr. Each one Head : 55m Including gate valves, dressers, check valves, inlet, outlet pipes, suitable pressure tank and all connections,pressure switches, fittings, according to drawings, specifications, and supervision engineer requests .	L.S	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.26	Supply and install galvanized steel pipe Ø 1.5" , (Schedule -40). Including fixing , excavation for trench, backfilling, compaction, UPVC pipe Ø 4" for sleeves, fittings , connections, insulation, valves and all other accessories required.	Lm	40		
7.27	Supply & install complete stainless steel hose Reel cabinets , thickness 1 mm and dimension (80x80x25)cm, wall mounted with rubber hose (12bar) pressure, 30m length, Ø25mm, angle globe valveØ 1.25", Jet nozzle with all necessary pipes, connections and fittings	No.	1		
7.28	Supply and install Dry powder type portable fire extinguisher (3 kg).	No.	7		
	<i>Ventilation System</i>				
7.29	Supply and install wall mounted extract fan (EX-F1) of 3000 m3/hr. at static pressure 30 pascal, Ø 16". Including all electrical wires, control panel with all connections and fittings	No	4		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8. Electrical works					
	NOTES : All the following items shall be executed according to the drawings, specifications and as directed by the Engineer with <u>APPROVED QUALITY AND TYPE</u> , the rates shall include all electrical testing and commissioning .				
A-	LIGHTING FITTINGS :				
	Supply and install IP-64, 60W low bay LED of aluminum alloy body, 5400 lumen and 2500 color temperature. Type-Philips or equivalent.	No.	12		
B-	SWITCHES AND SOCKETS :				
1-	Supply and install N.O. single pole illuminable push button with 220V miniature signal lamp for stairs light. switching.	No.	4		
2-	Supply and install single phase, 3-pin, flush mounting, 220V-16A socket outlet with safety shutters. Type Gewiss-Chourus.	No.	8		
3-	Ditto as (2), but different color for solar (UPS) socket.	No.	6		
C-	DATA & TEL SYSTEMS:				
1-	Supply and install RJ-45 data socket, this includes data cable GIGA UTP, CAT6, 4 pairs (Teldor type) to be installed inside 0.75 inch dim. PVC conduit and three gangs junction box. Type Gewiss-Chourus.	No.	6		
2-	PVC box for crossing DATA cables (J.B)	No.	1		
3-	Connecting the data sockets to the nearest data rack including conduits, data cable GIGA UTP, CAT6, 4 pairs (Teldor type).	LS	1		
D-	EARTHING SYSTEM:				
1-	Supply, install and test earthing system Faraday Cage way including 30x4mm flat galvanized steel tape, testing points, tap-off, equipotential bus bars, two 80cm diam. manholes, u-bolted clamps, bare copper conductor and digging of two set of three 19mm diam. copper electrodes, 70mm copper wire with copper lugs bolted to the tape ends & covered entirely with PVC shrink-on tube in expansion joints positions, according to specifications and drawings. The earthing resistance should not exceed 2 ohms.	L.S.	1		
E-	Sub-Distribution Board :				
E-0	SDB1 Board :				
1-	Supply and erect framework of switchboard made of 2mm thick steel sheets, painted with anti-static insulation material, lockable type with key barrel for one lock. The panel should include metallic partition to separate essential loads and non-essential loads, hard copper bus-bars for three phases, neutral and separate earth bus bar, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller.	Set	1		
2-	Miniature circuit breaker 3x16A with S.C.C. 10KA. Type Moeller.	No.	3		
3-	Ditto as (2), but 3x10A.	No.	1		
4-	Ditto as (2), but RCD 4x40, 0.03A.	No.	2		
5-	Ditto as (2), but 2x16A.	No.	6		
6-	Ditto as (2), but 2x10A.	No.	4		
7-	AC3-380V three poles contactor DIL-M7. Type Moeller or approved equivalent.	No.	2		
F-	Cables and Conduits:				
1-	Supplying and erecting 1.25"pipe (LDPE) at 100cm depth or inside walls including excavation, backfilling, plastering and a warning tape.	Mr.	50		
2-	5x2.5mm ² N2XY copper cable.	Mr.	50		
	MPH Toilets				
	NOTES : All the following items shall be executed according to the drawings, specifications and as directed by the Engineer with <u>APPROVED QUALITY AND TYPE</u> , the rates shall include all electrical testing and commissioning .				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
A-	LIGHTING FITTINGS :				
1-	Supply and install surface mounted lighting fixture 2X20 W, with 4000 lumen, exit window 140 degree, and life time 40000 hours LED T8 tubes of length 1200 mm. Type-Philips or equivalent.	No.	3		
2-	Supply and install surface mounted Globe With Polycarbonate 2x10W, LED lamps. Type-Philips or equivalent.	No.	4		
3-	Supply and install surface mounted Globe With Polycarbonate 15W, water proof type, LED lamp. Type-Philips or equivalent.	No.	14		
B-	SWITCHES AND SOCKETS :				
1-	Supply, install and connect single pole switch including conduit and wires under plastering. Type Gewiss-Chourus.	No.	3		
2-	Ditto as (1), but with IP-55 water tight plate.	No.	3		
3-	Ditto as (2), but double pole switch.	No.	2		
4-	Supply and install single phase, 3-pin, flush mounting, 220V-16A socket outlet with safety shutters. Type Gewiss-Chourus.	No.	4		
C-	EXTRACT FANS:				
1-	Supply and fix 6" diameter 250m3/hr wall mounted extract fan; with louver, Type-Venta or equivalent.	No.	5		
Total					

Summary of MPH

DESCRIPTION	Total Amount \$
1. Excavation & Earth Works.	-
2. Concrete Works.	
3. Building Works	
3.Metal Works	
5. Finishing Works	
6. Isolation Works	
7. Mechanical Works	
8.Electrcial works	
Sub total (\$)	



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Al Motanby School Landscape Works

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Bill No C Land Landscape Works					
	General Notes: 1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval. 2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisite to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works.				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
A. New Building					
Bill No (1C) Land Escape					
1. EXCAVATION & EARTH Works					
	<p>Contractor shall take into consideration that all – direct and indirect Works and expenses required for the completion of the coming items are included in the unit price. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <ol style="list-style-type: none"> 1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs. 2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site. 3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD. 4. All required Tests by an accredited laboratory. 5. The cadastral survey and leveling of existing status at grids not exceeding 5 m in both directions. 6. Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping. 				
1.1	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M ³	100		
1.2	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%), to comply with the design bearing capacity of not less than (2.1 Kg/cm2). The work must be carried out according to the specifications, design drawings & the engineer's instructions (three load plate tests are required to verify the result).	M ³	30		
1.3	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M ³	60		
1.4	Supply, fill by using approved material (sand dune) between ground beams , flower boxes & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M ³	2500		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <p>2. Supplying, Casting, vibrating and curing as per specifications.</p> <p>3. Approved additives and admixtures.</p> <p>4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples.</p> <p>5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other.</p> <p>6. Preliminary installations for Electrical, plumbing and floor drainage in floor slabs including final floor slab.</p> <p>7. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD.</p> <p>8. All Works according to specifications , drawings and supervisor engineer instructions</p> <p>9. Supply, fabricate and fix reinforcement steel ($f_y = 410 \text{ N/mm}^2$) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions</p> <p>10. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials</p> <p>11. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly.</p> <p>All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories.</p> <p>The price includes dismantle of any interlock tiles, existing utilities, demolish any concrete items , removal of tress, obstacles.. Etc, and deliver any required materials to MoEHE, and removal of surplus materials to approved dump site.</p>				
2.1	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for external steps , ramps and flower boxes (fair face concrete) with steel mesh 10mm diameter every 20cm including polythene sheets below concrete and compacting the soil beneath the work to 98% of MDD.as per specifications and drawings. The price includes decorative colored granulate 30 mm thick for surface and sides for elements determined by supervisor engineer.	M3	50		
2.2	Supply and cast ready mix reinforced concrete B (250) kg/cm2 smooth surface for playground by mechanical trawling machine including surrounding Beams ,foundations, polythene sheets, expansion joints(cut after casting by mechanical saw), 25cm base coarse(in two layers), mastic compressible materials, levelling of subgrade and compaction of each layer of base coarse and subgrade and finish the surface with colored approved materials, the price also includes marking works with approved thermoplastic paint as per specifications and drawings and finish the surface with colored approved materials (PG coat) as per specifications and drawings	M2	500		
2.3	Supply and cast ready mix concrete B (300) kg/cm2 for Decorative Frames of school gate , including the reinforced steel, dismantle the existing steel gate and deliver to MOEHE,DEmolish and remove block walls and any concrete elements to apply the new design to approved dump site , and all other materials required as per specifications and drawings.	M3	20		
2.4	Supply and construct interlock tiles (B400) 8cm thick including 20 cm base coarse layer (80% C.B.R). The price includes compaction of base course layer to 100% compaction ratio, watering, and testing, levelling of subgrade, compaction of subgrade (98%), removal of any obstacles, tress, concrete debris, dismantle old and defected interlock tiels and deliver to MOEHE or approved dump site as instructions , the price also includes 5 cm sand . Levels, colours and shapes all determined according to drawings, specifications and the supervisor Engineer's instructions	M2	2000		
2.5	Supply and cast concrete seat B (250) kg/cm2 , including the reinforced steel, and terrazo layer on top 5 cm thick , and all other materials required as per specifications and drawings.	.No	40		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions.				
3.1	Supply and build hollow cement blocks 40x20x20cm	M2	200		
3.2	Supply and build solid cement block 40x20x20 cm, under ground beams, and external boundary for building including painting the buried parts with one coat of primer and two coats of hot bitumen after primer layer (75/25)	M2	50		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.Aluminum & Metal Works					
	The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship. Steel work should be properly treated and prepared, painted with two coats of oil paint,one primer (polyzinc) and one undercoat.The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE				
4.1	Supply and fix steel gate over all size 540x290 .the prices including mild steel frame , vertical steel plate, painting with one coat of primer, undercoat and at least two coats of hummer paint, all according to drawing, specification and engineer instructions.	.No	1		
4.2	Supply and fix steel Basket ball tower .the prices including mild steel frames , all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint,and including basket board and net all according to drawing, specification and engineer instructions.	.No	2		
4.3	Supply and fix steel volly ball net support .the prices including all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint,and including vollyball net all according to drawing, specification and engineer instructions.	.No	2		
4.4	Supply and install steel shed (4.9 m Height).the price includes all steel types to finish the work including steel profile 12*12*4mm thick with steel base plate 300×300×8mm to be fixed to the concrete foundation using another leveling bearing steel plate 300×300×8mm, steel trusses with Philips bolts complete with all washers nuts, supports, and all needed accessories to perform the required works as per specifications, drawings and the instruction of the supervisor Engineer. The works include all sheeting (cladding) works with corrugated steel sheets 0.55mm with fixation double and single channels 100×40×15 of 3mm thick. The item includes galvanized steel gutter 4mm thickness, 1.0m upper vertical cladding and all required accessories, bolts, nuts ... etc., and painting with one primer coat and three coats of approved hummer paint.	M2	170		
4.5	Supply and fix steel trash basket holder .the prices including all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including concrete foundations in addition to supply a European colored plastic Basket with cover all according to drawing, specification and engineer instructions.	.No	15		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. FINISHING Works					
	A- Plaster Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work. 2-Preparation Works by covering all conduits of electricity, water supplies , etc., with a galvanized wire mesh at least 20cm width coated by mortar (1:1) cement : sand and the work includes removal of wires and nails and cleaning of surfaces to be ready for plastering. 3- Contractor shall take into consideration that all – direct and indirect Works and expenses required for the completion of the coming items are included in the unit price. 4-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering. 5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any. 6- Curing with water for at least three days for each coat. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer.				
5.1	Supply and make smooth external plastering 20mm thick for external facades at three faces : the first is the rough nail rendering (mix 1:1) cement: sand, the second is 5mm thick mortar (mix 1: 2) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime; and all this is according to specifications , drawings and supervisor engineer's instructions	M2	2000		
5.2	Supply & execute the external finishes (colored solvent based grained coating) (Ecos) in accordance with the manufacturer's requirements, specifications, drawings and the engineer's instructions.	M2	2000		
Total					
6-Planting works					
6.1	supply and install fake grass non water proof with halls 1/2 " every 20 cm including rubber , all works according to specifications and supervisor engineer's instructions.	M2	500		
6.2	supply and grow tree type T1 with total height 300 cm all works according to specifications and supervisor engineer's instructions.	.No	10		
6.3	ditto but type T2 with trunk diameter 6 " and full height 220 cm	.No	10		
6.4	ditto but type T3	.No	35		
6.5	ditto but type T4 height 80-100 cm	.No	25		
Total					

Summary of Landscaping

DESCRIPTION	Total Amount \$
1. Excavation & Earthworks.	
2. Concrete Works.	
3. Building Works	
4. Metal Works	
5. Finishing Works	
6. Planting	
Sub total (\$)	



UNITED NATIONS DEVELOPMENT PROGRAMME

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Al Motanby School Drainage Works

Bill No D Storm water Infiltration

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	General				
	<p>(1) In general rates for Mechanical works shall include for: 1. Developing shop and as built drawings 2. Cutting and forming all chases, recesses, holes, and the like, 3. Pipe sleeves, 4. Building of concrete and/or brick ducts in floors, walls ...etc., 5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying, 6. Fixing brackets, clips, holder bats, hangers, and the like, 7. Temporary and final fixing, 8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like, 9. Building in or cutting and pinning, 10. Testing and drawings, 11. Painting of pipes, 12. All work of other trades in connection with Mechanical work including all making good.</p> <p>(2) All Plumbing works include the required units and its accessories as described in the items and the rates include: 1- All the plumbing units should be from the best quality and has trade mark. 2- Submitting shop drawing for water supply and waste water networks for approval prior to commencement of the work. 3- Submitting samples for all required material with catalogue indicating its specifications. 4- All required tests , pressure for water net work , hydraulic test for sewage lines 5- Cleaning and disinfecting all water pipes. 6- Insulation of all galvanized water pipes and wrapping it with bitumen's sheets and protect pipes located under tiles with cement mortar. In addition to the insulation materials against heat loss for hot water pipes. 7- Supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, and fittings.</p>				
	<p>8- All plumbing works (wash basin, kitchen sink, gully traps, etc...) include the connection to the nearest trap, WC to the nearest vertical sewage header in the typical floors and WC in the GF to the nearest manhole and include all accessories including PVC S and caps for all the ends of pipes at parapet. 9- All external inspection elbows should be covered by galvanized steel plate with thick 2mm .</p> <p>(3) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications.</p> <p>(4) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p> <p>(5) Rates for pipe work including pipe work in frames to shading sheds shall include for:</p> <p>1. Joints in the running length, 2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like, 3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like, 4. Welded joints and connections including grinding, 5. Lagging and wrapping, 6. Excavation, bedding and backfilling. 7. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes). 8. the unit price of all Items shall include dismantle the existing interlock tiles, concrete slabs, cut , fill, compaction and reinstatement of the work to the original conditions.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Drainage (Rain Water) Works:-					
1	Drill 80cm diameter borehole through cohesive and non-cohesive material up to 5 meter below the clay layer in the Kurkar layer as shown in the drawings and as directed by the engineer. Price shall include all needed accessories required to perform the work.	LM	82		
2	Supply and lay non-woven geotextile membrane according to specifications to protect the inner surface of the 80 cm diameter borehole.	LM	82		
3	Ditto but for surface areas, and manholes premiter	M2	20		
4	Supply and fill in boreholes solid , clean washed, and free from dust gravel of at least 2" size.	M ³	37		
5	Ditto but ¾ " aggregates	M ⁴	1.5		
6	Ditto but ¼ " aggregates	M ⁵	1.5		
7	Supply and install pre-cast circular reinforced concrete manhole (Ø 600 mm) B300 complete with 40 cm cast iron cover (8 tons capacity), frame, rings, and special joint required to fix the sewer pipes to the manhole. The item also includes B300 benching, shuttering, inside cast iron steps each step 30 cm maximum and safety measures, excavation in all soil to any depth, plain concrete 5 cm thick below the manhole, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material with watering, compaction according to specification, drawing, and the engineer instructions..	No	17		
8	Ditto but Ø 1000 mm and 25 ton bearing capacity, 20 cm wall ,roof and foundation thickness.	No.	7		
9	Ditto but Ø 1500 mm and 25 ton bearing capacity, roof and foundation thickness. The price include 30 cm clean sand in Manhole, and stainless steel grill size 25* 25 cm for outlet.	No.	6		
10	Supply and install 110x300cm (3 inlets) combined storm-water drainage gully complete with four 80x40cm cast iron screens 25 tons bearing capacity. The item also includes casting B300 concrete for walls, footing and benching as per drawings, shuttering, excavation in any type of soil to any depth, plain concrete, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material (Kurkar) with watering, and compaction. Final location of gullies should be shown on shop drawings based on field survey and approval of the engineer.	Unit	7		
11	Supply and install 8" uPVC Tee with 600 mm long pipe, as directed by engineer.	No.	7		
12	Ditto but 10" uPVC Tee	No.	1		
13	Supply and install UPVC pipeØ 10" (SN8) with sockets. The work includes excavating of trenches (depth up to 2.0m), bedding, compacted backfilling with clean sand, connecting to the manholes, fittings , all connections and hydraulic test according to the specifications and drawings.	LM	6		
14	Ditto but 8" pipe	LM	415		
15	Ditto but 4" pipe	LM	75		
16	Supply and install Gully trap dia. 6" to 6" with dia. 60cm M.H (Cast iron cover 8ton type). Manhole with frame and cover. The price includes external hot bitumen painting (two Layers on one prime layer), excavation, construction plastering proper benching backfilling. This Gully trap for connection storm water outlets with sewage manhole and all required as per drawings specifications and Engineer satisfaction	No	2		
Total					

OVERALL SUMMARY

NO.	Description	Total price (\$)
A	Main Building	
B	Multi-Purpose Hall (MPH)	
C	Landscape Work(External Works)	
D	Drainage Works	
Total		

Total in numbers:

Total in letters:

Name of the contractor:

Authorized signature:

Signature and Sealing:.....

Title:

Telephone:.....

Fax:

Mobile: