

Bill Of Quantities

Abdeh Nursery

Item	Work Description	Reference	QTY.	UNIT	UNIT PRICE (L.L.)
1	INFRASTRUCTURE - Aabdeh				
	ESTIMATED QUANTITIES FOR CIVIL WORKS				
	General Description of the needed work	I			
1.1	Clean and remove all weeds, trees and debris within planting beds, roads and paths between planting beds (from bed 1--> 24 and from bed 31-->38)	1	4,500	m ²	
1.2	Clean and remove all weeds, trees and debris from green house area	2	2,000	m ²	
1.3	1. Remove 14 planting beds	3	5,000	m ²	
	2. Then totally clean the zone (using bobcat or similar) , of the planting beds and the adjacent zone	4			
	3. Levelling of the whole zone	5			
	4. cover the area with 30 cm basscoarse layer and compact it	6			
1.4	Clean all weeds and debris in all parts of the nursery not mentioned in item 1 and 2, while conserving the trees (just pruning) unless otherwise indicated by the supervision committee. Contractor shall prune and clean all remaining trees	7	6,000	m ²	
2	Infrastructure	II			
	Description of Planting beds	5			

2.1	Concrete protection wall for the 10 new planting beds made out of construction stones (15 cm width * 40 cm * 20 cm high)	5.1	3,500	stone	
2.2	1. Replace broken stones in the remaining 34 planting beds with new one (15 cm width * 40 cm * 20 cm high)	5.2	1,000	stone	
2.3	2. Concrete layer on the top of the protection walls (0.2 m width and 0.003 m height * 3000 m)	5.3	18	m ³	
2.4	Construction stones for pathways inside planters (0.2 m * 0.4 m * 0.15 m) is it inside planters or between two adjacent beds	5.4	5,300	stone	
2.5	Cover all planting beds with weed block membrane. The memberane shall be delivered in rolls and placed under the planting beds. The membrane should allow water and air penetration. It should have high UV and puncture resistance with a minimum warranty of 10 years	5.5	4,000	m ²	
3	Fence	6			
3.1	1. Supply and install concrete stones for the wall (20cm * 40cm * 20 cm) (for 100 m wal legnth and 1.5 height)	6.1	2,000	Stone	
3.2	Supply and install of reinforced concrete coulumnns between stone wall (2m height * 0.4 m thickness * 0.2 m width)	6.2	8.5	m ³	
3.3	Reinforced concrete layer at the base of the wall 100 m long (thickness 0.4 m width 0.2 m)	6.3	8	m ³	
3.4	reinforced Concrete layer at the top of the concrete stone wall (0.1 m thickness, 100 m long and 0.2 m wide)	6.4	2	m ³	
3.5	1. Supply and install of galvanized barbed wire (as per drawings and specs) 2. Made of 1 line wire with 4 spikes, spaced at a distance of 70 mm - 120 mm. 3. Horizontal line wire diameter 2.8 mm. 4. Barb wire diameter 2.0 mm. 5. Number of spikes 4. 6. Packed in coils: 25-45 kg/coil, or 100 m, 500 m/coil.	6.5	300	m	

3.6	Galvanized iron gate (2 m height) 2 doors 4 m width. Iron Bars 3 cm thickness. As per drawing.	6.6	1	unit	
3.7	Brass lock minimum 2.5 inch Perfect strength Durable finish standard Finely polished	6.7	3	pcs	
4	Rehabilitation of fence	7			
4.1	Rehabilitation of the fence (as per drawing) The mesh is made from hard steel wire with simple torsion. The steel wires shall be galvanized. The mesh has a diamond pattern 50 * 50 mm. Wire diameter between 2 and 3 mm. Edges are folded and hooked onto each other. Galvanized iron poles are used as wire holder. The distance between each pole is 3.5 m with a height of 2 m.	7.1	250	m	
5	Greenhouses	8			
5.1	Remove the 4 greenhouses, and reinstallation in the new location (as per drawings and specifications) and replacement of all damaged parts and accessories and fittings that may be broken during the remove and reinstallation	8.7	4	unit	
5.2	Excavation works in the new location at the base of each column (0.2*0.2*0.2 m)	8.1.1	92	unit	
5.3	Reinforced concrete to fill the excavated columns (0.2*0.2*0.2 m)	8.1.2			
5.4	Shade cloth fabric for greenhouses (3m *35 m) made from high density 100% UV stabilized ultra violet polyethylene HDPE. - It is used for shade protection from the Sun, keeps the soil cool and reduces moisture loss through evaporation in excessive heat. - The shade level has to be between 50 and 60 % - Burst Strength (kg/cm2) between 3.7 and 4.3 - Diffuse Light Transmission between 65% and 55%. - Rolls dimension: 3m (width) x 35m (length) = (total 26 Rolls) - Durability: 5 years	8.2	26	rolls	

6	Table and trays in the individual greenhouse	8.3			
6.1	1. Galvanized iron structures for individual greenhouse (0.88 m * 3.9 m * 0.035 m) diameter 2 mm as per drawing	8.3.1	30	table	
	2. Galvanized iron structure shall rely on galvanized iron triangular columns (0.035 m * 0.035 m) and height 1 m. 10 galvanized iron structures are needed per table	8.3.2			
6.2	1. Galvanized iron trays (86.5* 3.88m * 7cm) diameter 1 mm	8.3.3	30	tray	
	2. 3/4 inch holes shall be made from two sides of each tray. The entrance hole at the top of the tray and the outlet hole at the base of the tray	8.3.4			
	3. galvanized iron pipe of 0.05 m shall be molded to every tray	8.3.5			
6.3	Metal galvanized wire mesh (86*3.85 cm) (0.86 m * 3.85 m) Material : galvanized wire Diameter : 2 mm Aperture (distance between 2 parallel wires) : 0.03 m Dimensions: 0.86 m * 3.85 m	8.3.6	30	unit	
6.4	Rigid polystyrene boxes (40cm * 28 cm * 7cm) for the germination of plants and shall be perforated at the bottom with a dimension of (0.4 m * 0.28 m * 0.07 m)	8.3.7	800	unit	
6.5	72 cell plug trays shall be provided for transplanting aromatic plant seedlings. Material: Plastic Dimensions: 0.54 * 0.28 m Cell Size: 0.04 m*0.04m* 0.07m deep	8.3.8	2,000	unit	
7	Shading Tent	9			
7.1	Cleaning and levelling of the floor of the shading tent	9.1	225	m²	
7.2	Bass coarse for shading tent (0.1 m)	9.2	23	m³	
7.3	Reinforced concrete floor for shading tent (0.25 m thickness)	9.3	57	m³	
7.4	Galvanized iron poles (12 mm diameter) shall be at 0.20 m distance between each 2 parallel galvanized iron poles as per drawing	9.4	225	m²	
7.5	Installation of shading structures at the top of the tent	9.5	5	unit	
7.6	Installation of Iron bridges (4 m length and 0.03 m thickness)	9.6	2	unit	

7.7	Installation of metal wire mesh around the tent PVC coated welded wire mesh. 5 mm diameter. Mesh size between (75*75mm) Weld strength shall be 75 % of the minimum tensile strength of the wire (Tensile range 540-690 N/m2) Height 4 m, length 2m Total number of mesh wire (15) for an area of 120 m2	9.7	120	m ²	
7.8	Iron gate for the shading tent (3.75 m * 3.90 m height and 3 cm thickness) 2 doors, with iron mesh as specified in the specs	9.8	1	unit	
7.9	Brass lock minimum 2 inch Perfect strength Durable finish standard Finely polished	9.9	1	unit	
8	Full rehabilitation of the existing pumping room	10			
8.1	Preparation, cleaning, glossy surface, filling...)	10.1	1	Lm	
8.2	Apply paint (enamel paint sealing with white spirit) and related material with an undercoat plus two coats of selected finish color (Preferably grey color). Allow each coat to harden for the drying time (or time between coats) recommended by the manufacturer. Finish - Ensure each coat of paint is uniform in color, gloss, thickness and texture and free of runs, sags, blisters, or other discontinuities.	10.2	1	Lm	
8.3	Walls shall be cleaned and covered with necessary cement rendering from inside and outside the room	10.3	120	m ²	
8.4	Ceiling shall be cleaned and covered with necessary cement and painted	10.4	30	m ²	
8.5	Roof cleaned and repainted with waterproof paint	10.5	30	m ²	
8.6	Floor cleaned and covered with vinyl layer	10.6	30	m ²	
	Windows	10.7			
8.9	Sliding Aluminium window with 6mm glass (dim 0.97 m hieght * 0.65 m width)	10.7	1	unit	
8.10	Sliding Aluminium window with 6mm glass (dim 0.97 m hieght * 0.90 m width)	10.7	2	unit	

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8.11	Provision of light and switches to the pumping room	10.8	1	Lm	
8.12	Connect the pumping room to the main power supply of the nursery	10.9	1	Lm	
8.13	Maintenance of the Door with all the necessary anti-rust coat and paints with a secure lock.(Dim 1m width *1.85 m height)	10.1	1	unit	
	IRRIGATION SYSTEM - AABDEH-NURSERY	III			
	ESTIMATED QUANTITIES FOR IRRIGATION SYSTEM				
9	Estimated quantities for water reservoirs	1			
9.1	Galvanized iron door for the existing reservoir (0.60 m * 0.60 m) 3mm thickness	1.1	1	pcs	
9.2	Installation of Polyethylene triple layer water tank 10, 000 L (2.4 m diameter * 2.6-2.8 m height) with a 2 inch connector.	1.2	2	pcs	
9.3	Connect irrigation tank with all necessary piping and fittings to the artesian well	1.3	1	Lm	
10	Supply & Install all the following polyethylene pipes with all the necessary accessories	2			
10.1	H.D.P.E. pipes 63mm dia.(PN 10)	2	250	m	
10.2	H.D.P.E. pipes 32mm dia.(PN 6)	2	775	m	
10.3	L.D.P.E pipes 25 mm dia. (PN6)	2	750	m	
10.4	Miscellaneous P.E. fittings and accessories	3	1	item	
10.5	Excavation and Irrigation pipe cover: Excavated material shall be satisfactory for backfilling. Backfill shall be free from rubbish, vegetal matter and stones larger than 5 mm and from hard objects that may damage the pipe 600 mm minimum cover over irrigation main pipes (63 mm) 400 mm minimum cover over all other pipes provided	4	4,155	m	
11	Supply & Install all the following irrigation equipments with all necessary P.E fittings and accessories needed for complete assemblies.	6			
11.1	Cut Galvanized iron riser threaded (1/2 inch, 1.5 m height) Assy. To be 1m height	6.1	260	pcs.	
11.2	Galvanized iron riser threaded (1/2 inch , 1 m height) Assy	6.2	600	pcs	
11.3	Iron Pole (12 mm , 1m) with metal rigid clamps	6.3	770	pcs	
11.4	metal rigid clamps	6.4	1,600	pcs	

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11.5	Plastic nozzle (2.4m radius, quarter circle, 5/8"-28 NPT F) low angle	6.5	50	pcs	
11.6	Plastic nozzle (2.4m radius, half circle, 5/8"-28 NPT F) low angle	6.5	200	pcs	
11.7	Plastic nozzle (4.5 m radius, quarter circle, 5/8"-28 NPT F) low angle	6.5	200	pcs.	
11.8	Plastic nozzle(4.5 m radius, half circle, 5/8"-28 NPT F) low angle	6.5	350	pcs.	
11.9	Brass shrub head adaptor (1/2" female NPT; 5/8"-28 NPT F out)	6.6	770	pcs.	
11.10	Ball tap with hose 3/4" (iron) (Assembly w/ 3/4" galvanized iron riser, 1m long)	6.7	15	pcs	
11.11	Valve box standard (12"x18"x12" deep Rectangular)	6.8	11	pcs	
11.12	Valve box large (10 inch Round)	6.8	5	pcs.	
11.13	Ball valve 1.5 inch (iron, pressure 0.5 to 10 bars)	6.9	30	pcs	
11.14	Ball valve 2 inch (iron, pressure 0.5 to 10 bars)	6.9	10	pcs	
11.15	Mini plastic valve 25 mm * 3/4 inch threaded	6.1	60	pcs	
12	Reinstallation of the existing head unit as per drawing	7			
12.1	3 HP centrifugal pump Flow rate between 160 and 250 l/min Head between 30m and 35m	7.1	1	pc.	
12.2	Strainer 2 "	7.1	1	pc.	
12.3	Check valve 2"	7.1	1	pc.	
12.4	Pressure switch	7.1	1	pc.	
12.5	Pressure gauge (glycerine)	7.1	3	pcs.	
12.6	Gate valve 2"	7.1	1	pc.	
12.7	Disk filter 2" Assembly	7.1	1	pc.	
12.8	1 inch Fertilizer Injector assembly Body - Polypropylene for resistance to acids and other chemicals. Maximum working pressure 785kPa Minimum working pressure on pressurized systems must be 98kPa. When using on by pass pressure differential between the inlet and outlet must be at least 70kPa. Venturi should always be installed on level plain	7.1	1	item	
12.9	Electrical Breakers and dry contact including all the electrical installation (wiring and conduits between the panel board and the pumps)	7.1	1	item	
12.10	Pumping unit protection concrete / metal waterproof case	7.1	1	item	
12.11	Connect to irrigation tank all necessary piping and fittings.	7.1	1	item	

13	Supply & Install all the following pump with all the necessary accessories, fittings and pipework	7.2			
13.1	Centrifugal Pump 5.5 HP Flow rate Between 180 and 250 l/min Head between 51m and 55m	7.2.1	1	pc.	
13.2	Centrifugal pump 1.5 HP Flow rate between 30 and 60 l/h Head between 45m and 60m	7.2.2	1	pc.	
13.3	Check valve 2"	7.2.3	1	pc.	
13.4	Pressure relief valve (Brass 1 1/4")	7.2.4	1	pc.	
13.5	Pressure switch	7.2.5	1	pc.	
13.6	Pressure gauge (glycerine)	7.2.6	3	pcs.	
13.7	Gate valve 2"	7.2.7	1	pc.	
13.8	Disk filter 2" Assembly (plastic, 15 0 mesh)	7.2.8	1	pc.	
13.9	Fertilizer Injector Assembly (P.E. inlet -outlet 1". press. 20-70 psi; flow 4 - 9 GPM)	7.2.9	1	item	
13.10	Electrical Breakers and dry contact including all the electrical installation (wiring and conduits between the panel board and the pumps)		1	item	
13.11	Connect to irrigation tank all necessary piping and fittings.		1	item	
14	Remove the existing submersible pump in the well and replace it with a new one as per specifications	7.3			
14.1	New Submersible Pump (45 m depth ; Q: 10 m3/hr) 2 HP 220 V 2" Outlet size Max Flow: 55 GPM (12.5 m3 / h) Max Head: 45 m Float Switch	7.3	1	pc	
14.2	Reconnect Electrical Breakers and dry contact including all the electrical installation (wiring and conduits between the main electrical source, the panel board and the centrifugal pumps)	7.3	1	item	

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14.3	Underground mainline conduit between the well and the water reservoirs (H.D.P.E 63 mm PN 10)		30	m	
	SOLAR SYSTEM - AABDEH-NURSERY	IV			
	ESTIMATED QUANTITIES FOR SOLAR SYSTEM				
15	Estimated quantities for Solar Photo Voltaic	1			
15.1	Solar PV modules and Array minimum 10 kWp. It will be used for the two pumps 5.5 HP	1.1	1	Unit	
15.2	Mounting structures shall be mounted on fixed metallic structure. Size of angle iron should not be less than 50*50*5 mm	1.2			
15.3	Junction boxes	1.3			
15.4	Power conditioning unit	1.4			
15.5	DC & AC Switches	1.5			
15.6	Cables and Accessories	1.6			
15.7	Earthing and Lighting protection	1.7			
15.8	Operation and Maintenance manual	1.8			

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TOTAL (L.L.)

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