

**BILL OF QUANTITIES  
CONSTRUCTION OF WASTE HANDLING FACILITY  
HA. BAARAH HEALTH CENTER**

Item	Description	Unit	Quantity	Rate/ Unit		Total Unit Rate	Amount
				Material	Labour	Rates per Units	
	<b><u>BILL No: 01</u></b> <b><u>PRELIMINARIES</u></b>						
<b>1.1</b>	<b><u>General Notes</u></b>						
(1)	<u>Abbreviations</u> m - meter No - numbers m <sup>3</sup> - cubic meter m <sup>2</sup> - square meter Lm - Linear meter KG - Kilograms incl - including mm - millimeter dia - diameter SS - Stainless Steel GI - Galvanized Iron						
<b>1.2</b>	<b><u>Sign Board</u></b> Allow for sign board.	Item	1.00				
	<b>BILL No: 01 PRELIMINARIES</b> <b>TOTAL OF BILL No: 01 - Carried over to summary</b>						
	<b><u>BILL No: 02</u></b> <b><u>GROUND WORKS</u></b>						
<b>2.1</b>	<b><u>General</u></b> (a) Rates shall include for: leveling, grading, trimming, compacting to faces of excavation, keep sides plumb, backfilling, consolidating and disposing surplus soil.						
<b>2.2</b>	<b><u>Site Clearing</u></b>						



**CONCRETE**

**3.1 General**

Rates shall include for cleaning, fabrication, placing, the provision for all necessary temporary fixings and supports including tie wire and other supports, laps and wastage, all reinforcement bars except 6 mm dia bars shall be of deformed high strength bars. 6 mm bar shall be round mild steel bars. Binding wire shall be of 1.6 mm or 1.4 mm soft iron wire.

Reinforcement bars shall be cleaned before use i.e. should be free from rust, oil, dirt, or other coatings that reduces bonds, all reinforced bars and binding wires shall be stored under cover of at least 450 mm above the ground, cutting and bending according to approved manner & the approved working drawing, placing and fixing in position and binding should be as per the approved working drawing, laps in the bars shall be staggered, concrete cover for reinforcement shall not less than 50 mm for substructure, 40 mm for columns & side beams and not more than 30 mm for slab and beam bottoms.

**3.2 Lean Concrete**

Lean concrete shall be 50mm thick & mix ratio shall be 1:3:6 by dry volume. Lean concrete placed at bottom of footing and foundation beam and below plinth for protection according to line and length mentioned in the approved drawing. Quantity measured to the edges of concrete foundation members. Rate shall include of placing any formwork where necessary, batching, mixing, casting in all required items pouring & compacting and curing for 3 days and removal of any formwork include for provision casting of required items & finishing after removal of formwork and additional concrete required to conform to structural and excavated tolerances and rates shall include supply of all required works

(1) Foundation Pads, 50mm thick

m<sup>3</sup> 0.13

(2) Foundation Beams and Tie Beams, 50mm thick

m<sup>3</sup> 0.53

**3.3 Reinforced Concrete**

In-situ reinforced concrete to:

\*Add water proofing compound / admixture to concrete mix for walls GL and Roof Slabs

**3.3.1 Foundation Level**

(1) F1 (750x750x200mm)

m<sup>3</sup> 0.78

(4) TB (250x350mm)

m<sup>3</sup> 2.31

(5) GB (200x150mm)

m<sup>3</sup> 0.65

(6) C1 (200x200mm)

m<sup>3</sup> 0.12

**3.3.2 Ground Floor Level**

(1) C1 (200x200mm)

m<sup>3</sup> 0.97

(2) RB (200x150mm)

m<sup>3</sup> 0.79

(3) 75mm Thick RCC Ground Slab

m<sup>3</sup> 2.78

(4) 50mm Thick Mass Concrete At Hand Washing Area

m<sup>3</sup> 0.07

(5) 50mm Thick Mass Concrete at Washing Area

m<sup>3</sup> 0.05

(6) Lintel beams

m<sup>3</sup> 0.31

(7) 100mm Thick RCC Entrance Ramp

m<sup>3</sup> 0.47

(8) 100mm Thick RCC Ramp at Autoclaved General Waste Storage

m<sup>3</sup> 0.46

3.5.5	<b>Lintel &amp; Sill beams</b>				
(1)	Lintel beams and sill beams, Rates includes for concrete, rebar and formworks	m	17.90		
3.4	<b>Formwork</b>				
(a)	Rates shall include for all necessary boarding, supports, erecting, framing, temporary cambering, cutting, perforations for reinforcing bars, bolts, straps, ties, hangers, pipes and removal of formwork. All materials such as plywood, shutter oils and other items and transportation to work place and secure the formwork in highly precise manner guaranteeing straight and smooth concrete edges. Cutting, fixing, bracing and oiling according to line and length as per approved working drawings removal of it after concrete has set without damaging the concrete faces.				
3.4.1	<b>Foundation Level</b>				
(1)	F1 (750x750x200mm)	m <sup>2</sup>	2.76		
(2)	TB (250x350mm)	m <sup>2</sup>	18.52		
(3)	GB (200x150mm)	m <sup>2</sup>	3.45		
(4)	C1 (200x200mm)	m <sup>2</sup>	1.84		
3.4.2	<b>Ground Level</b>				
(1)	C1 (200x200mm)	m <sup>2</sup>	15.46		
(2)	RB (200x150mm)	m <sup>2</sup>	10.58		
(3)	RCC slab for Entrance Ramp area, washing area, hand washing area as per the drawing	m <sup>2</sup>	1.69		
3.5	<b>Reinforcement</b>				
	GENERAL : Rates shall include for cleaning, fabrication, placing, the provision for all necessary temporary fixings and supports including tie wire and other supports, laps and wastage, all reinforcement bars except 6 mm dia bars shall be of deformed high strength bars. 6 mm bar shall be round mild steel bars. Binding wire shall be of 1.6 mm or 1.4 mm soft iron wire. Reinforcement bars shall be cleaned before use i.e. should be free from rust, oil, dirt, or other coatings that reduces bonds, all reinforced bars and binding wires shall be stored under cover of at least 450 mm above the ground, cutting and bending according to approved manner & the approved working drawing, placing and fixing in position and binding should be as per the approved working drawing, laps in the bars shall be staggered, concrete cover for reinforcement shall not less than 50 mm for substructure, 40 mm for columns & side beams and not more than 30 mm for slab and beam bottoms.  (b) All reinforcing bars shall be high strength bars.				
3.5.1	<b>Ground Floor</b>				
(1)	F1 (750x750x200mm) Steel deformed bars, 10mm dia. x 6m	Bars	8.00		
(2)	TB (250x200mm) Steel deformed bars, 12mm dia x 6m	Bars	16.00		
(3)	Steel ring bars, 6mm dia x 6m	Bars	17.00		

	GB (200x150mm)						
(4)	Steel deformed bars, 16mm dia x 6m	Bars	8.00				
(5)	Steel ring bars, 6mm dia x 6m	Bars	6.00				
	C1 (250x250mm)						
(6)	Steel deformed bars, 12mm dia x 6m	Bars	13.00				
(5)	Steel ring bars, 6mm dia x 6m	Bars	8.00				
	RB (200x150mm)						
(7)	Steel deformed bars, 12mm dia x 6m	Bars	22.00				
(8)	Steel ring bars, 6mm dia x 6m	Bars	18.00				
	100mm Thick RCC Ground Slab and Entrance Ramps and washing areas.						
(9)	Steel ring bars @ 300c/c Both ways, 6mm dia x 6m	Bars	90.00				
	200X200mm beam, end of the ramps.						
(10)	Steel deformed bars, 10mm dia x 6m	Bars	4.00				
(11)	Steel ring bars @ 150c/c Both ways, 6mm dia x 6m	Bars	3.00				
	Inspection Chambers (IC)						
(12)	Fabricate and completion of Inspection Chambers as per drawings	Item	2.00				
<b>BILL No: 03 - CONCRETE WORKS</b>							
<b>TOTAL OF BILL No: 03 - Carried over to summary</b>							
<b>BILL No: 04</b>							
<b>MASONRY AND PLASTERING</b>							
<b>4.1 General</b>	<p>Rates shall include for: cleaning out cavities, forming rebated reveals and pointing and cleaning down to reveals where necessary; fractional size blocks, all necessary machine cutting, cutting or forming chases or edges of floor slabs, cutting or leaving holes and openings as recesses for and building in pipes, conduits, sleeves and similar as required for all trades; leaving surfaces rough or raking out joints for plastering and flashings, bedding frames or plates, building in joists, bearers or similar, temporary supports to openings, templates, reinforcement in walls and for all necessary making good. Bedding mortar (mixing ratio 1:4 i.e. cement: river sand) shall be of OPC &amp; fine aggregate shall be imported river sand shall be approved in grading &amp; clean from any harmful substance. Masonry work shall be done with approved Machine compact cement blocks (300X150X150) with no defects. Lay in line and length as per approved working drawing Block making (mixing ratio 1:4 i.e. cement: river sand) shall be of OPC &amp; Local sand free form salt.</p> <p>floor slabs, cutting or leaving holes and openings as recesses for and building in pipes, conduits, sleeves and similar as required for all trades; leaving surfaces rough or raking out joints for plastering and flashings, bedding</p>						



<b>5.3 Capping and Flashings</b>						
(1) Ridge Capping/ flashing as per drawing: Blue scope steel international limited MSP, Total coated thickness minimum 0.47mm thick- Aqua marine or equivalent	m	8.20				
(2) Hip Capping (Roof hips): Blue scope steel international limited MSP, Total coated thickness minimum 0.47mm thick- Aqua marine or equivalent	m	14.80				
<b>5.4 Gutter</b>						
(a) MSP Color bond flat sheet gutter 200X200mm, Total coated thickness minimum 0.47mm thick, including framing, and supports, straps, brackets, clips, stop ends, overflow, downpipe outlets, mesh flashings and all fixings and fastenings.						
(1) GUTTER: Blue scope steel international MSP- Aqua marine or equivalent for Main building	m	16.40				
<b>5.5 Down Pipes</b>						
(1) 75 mm dia uPVC down pipes including bends, junctions, straps, brackets, clips, roof drain strainer and all fixings. (8 down pipes)	m	17.00				
<b>5.6 Roof Structure</b>						
(a) Rates shall include for: all labour in framing, notching and fitting around projections, pipes, light fittings, hatches, grilles, welding, application of redoxide at welded joints and similar and complete with cleats, packers, wedges and similar and all nails and screws. Also Rates shall include application of two-part epoxy paint on all Steel surfaces including the welded joints.						
(1) 2 nos. of 50 X 100mm GI RHS Ridge beam as per drawing	m	17.00				
(2) 50 X 100mm GI RHS Wall plate on roof beam fixed with 12mm. GI bolt embedded to Roof beam @ 900c/c	m	13.00				
(3) 50 X 100mm GI RHS rafters @ 900 C/C	m	80.00				
(4) 50 X 50mm GI SHS purlin @ 600c/c as per drawing	m	83.00				
(6) Application of two-part epoxy paint on all steel steel surfaces	item	1.00				
(7) Cement fiber fascia board 12 X 250mm with 2 nos of 25X50 GI RHS section.	m	32.00				
<b>5.7 Roof Insulation</b>						
(1) 50mm thick Mineral wool installation with both side reflective foil on Fixed to underside of roofing with 12.5X12.5mm plastic mesh, Connection and edges of the foil to be sealed properly with a approved tape from consultant.	m <sup>2</sup>	60.68				
<b>BILL No: 05 - ROOFING</b>						
<b>TOTAL OF BILL No: 05 - Carried over to summary</b>						
<b>BILL NO: 06</b>						
<b>DOORS AND WINDOWS</b>						
<b>6.1 General</b>						

<p><b>Aluminum Doors and windows</b>, Fabricate and fix in position the aluminum doors and window frame - aluminum doors and window (white powder coated, 60-80 micron, 1.5mm profile thickness) using recommended material with specified fixtures as shown in approved working drawings and installation should be as per technical specifications. Rates shall include for locks, latches, closures, push plates, pull handles, bolts, kick plates hinges, screws, washer and all door and window hardware and these materials should be of ss steel according to drawing and of superior quality. (a) All door and window frames and panels shall be as specified in the drawing <b>(Profiles to be chosen by client, minimum thickness of profile must be minimum 2.5mm).</b></p> <p><b>6.2 Door / Windows units</b></p> <p>(1) D1, Minimum 80 Micron Aluminum, Dark sandy grey powder coated Door 1400x2200 mm with panels as per drawings.</p> <p>(2) D2, Minimum 80 Micron Aluminum, Dark sandy grey powder coated Door 800x2200 mm with panels as per drawings.</p> <p>(3) W1, Minimum 80 Micron Aluminum, Dark sandy grey powder coated Door 1000x1150 mm Aluminium window as per drawings.</p> <p><b>6.3 Sink Cupboard at Hand Washing Area</b> Fabrication of Concrete sink cupboard at Hand washing area, 0.9 Meter length and 600mm width as per drawings, Rates shall include, concrete works tiling of all surfaces, installation of</p> <p>(1) Quarts Kitchen Sink 21x18 inch, with an wall mount elbow operated faucet. And Rates shall also include all hydraulic works related to this item. Also rates shall include fixing of timber door panel and shelves.</p>		no	2.00			
<p><b>BILL NO: 06 - DOORS AND WINDOWS</b> <b>TOTAL OF BILL No: 06 - Carried over to summary</b></p>						
<p style="text-align: center;"><b><u>BILL NO: 07</u></b> <b><u>TILING</u></b></p> <p><b>7.1 General</b> Prepare surface for approved bedding tiles with reach bedding materials as per the technical specifications &amp; approved working drawings, fix tiles with ct grout in a precise manner to maintain correct alignment, applying tile grout and wiping any excess grout to ensure the required standards of finished works. Rates shall include for: fixing, bedding, grouting, and pointing materials; making good around pipes, sanitary fixtures, and similar; cleaning down and polishing any other similar works to ensure the required finish. All tiles shall be homogeneous or equivalent.</p> <p><b>7.2 Floor finish</b> 300x300 skid resistant High quality full body homogeneous floor tiles at Autoclave area,</p> <p>7.2.1 Infectious Waste Storage, Shredding area, Autoclaved General Waste Storage, Handwashing area and washing area.</p>		m <sup>2</sup>	40.52			





<p><b>Interior wall</b> shall be of 2-3 coats over 1 coat of water based sealer. Rates includes Erection of scaffolding, preparing working platforms, applying sealer and two coats of paint as specified in the working drawings. Removal of scaffolding if any after completion of work. Rates shall include for: the provision, erection and removal of scaffolding, preparation, rubbing down between coats and similar work, the protection and/or masking floors, fittings and similar work, removing and replacing door and window and including soffits and sides of beams.</p> <p><b>Exterior &amp; Exterior Ceiling</b> (interior and exterior) shall be of 2 coats of (wood paint over 1 coat of wood primer or equivalent. Erection of scaffolding, preparing working platforms, applying sealer and two coats of paint as specified in the working drawings. Removal of scaffolding if any after completion of work. Rates shall include for the provision and removal of scaffolding, preparation, rubbing down between coats and similar work, the protection and or masking floors fittings and similar work removing and replacing door window furniture.</p> <p>All painting work shall be carried in accordance with the Specifications</p> <p><b>9.2 Wall painting</b></p> <p>(1) External and Internal Plaster surface of walls</p> <p><b>9.3 Ceiling painting</b></p> <p>(1) External ceiling, (2) Internal ceiling,</p>		m <sup>2</sup>	218.00			
<p><b>BILL No: 9 - PAINTING</b> <b>TOTAL OF BILL No: 9 - Carried over to summary</b></p>						
<p style="text-align: center;"><b>BILL No: 10</b> <b>ELECTRICAL INSTALLATIONS</b></p> <p><b>10.1 General</b></p> <p>(a) Rates shall include for: screws, nails, bolts, nuts, standard cable fixing or supporting clips, brackets, straps, rivets, plugs and all incidental accessories (b) Rates for work in trench shall include for: excavation, maintaining faces of excavations, backfilling, compaction, appropriate cable covers, warning tape and disposal of surplus spoil (c) Rates shall include for electrical conduits, fittings, equipment and similar all fixings to various building surfaces (d) Each Light/ light fixture and its switch is measured as one one point; similarly each fan or each socket outlet is measured as one point; (e) Rates shall include for supply and complete installation</p> <p><b>10.2 Mains connection</b></p>						

<p>Main connection: Rates shall include screws, nails, bolts, nuts, standard cable, fixing or supporting clips, brackets, straps, rivets, plugs, and all incidental accessories. Rates shall include electrical conduits, fittings, equipment, and similar items. Three - PHASE CABLE WIRING TO D-BOARD: All necessary work in the trench shall include excavation, maintaining faces of excavations, backfilling, compaction, appropriate cable covers warning tape, and disposal of surplus soil supply and laying of the cable according to Maldives electricity bureau. ( 16mm2 4-Core Cable, Approved by respective Authorities, GI pipe, warning tape), The main cable is to be connected from Health Center D Board to the waste handling facility, Contractor must upgrade the existing D board to connect Health Canter and the waste handling facility, Contractor Must measure the cable length from the site and additional works required to upgrade existing panel board as per Fenaka Standard to connect 2 building.</p>	no	1.00	
<p><b>10.3 Electrical Boards</b></p>	<p>Three phase electrical distribution board (<b>wall embedded</b>) with one Meter: Supply and installation of D-Board . Rates Shall include all required Brackets and other electrical appliance as per drawings and Maldivian Regulations ( wall embedded ) Meter to be cover with whether proof box. All the light circuit should be one DB Sockets to be one DB.</p>		
<p>(1)</p>	no	1.00	
<p><b>10.4 Electrical wiring</b></p>	<p>Single phase Electrical wiring with copper conductor cable in conduits in walls and in casing on soffits of slab as specified to:</p>		
<p>(1) Wiring with 2.5 mm<sup>2</sup> cable to 1x13 Amp Power points</p>	points	9.00	
<p>(2) Wiring with 2.5 mm<sup>2</sup> cable to 3 phase isolator (40A)</p>	points	3.00	
<p>(3) Wiring with 2.5 mm<sup>2</sup> cable to 1 x 15 Amp Power points</p>	points	5.00	
<p>(4) Wiring with 2.5 mm<sup>2</sup> cable to lights and fan</p>	points	27.00	
<p><b>10.5 Lighting / Fan</b></p>	<p>Ceiling diffusing embedded down light 200mm dia with 21W LED bulb, (Philips) E27, Cool day light, (not crystal light or not Stellar bright) Total lumen 1400. or equivalent,</p> <p>(2) LED Emergency light ( 2 hours Battery charge)</p> <p>(3) Ceiling Fan, 1200mm dia. USHA or equivalent</p> <p>Supply and completion of 300x300mm Ceiling Mounted Heavy duty Exhaust fans (4 nos) KDK or equivalent with pipeline as per the drawings. sound level must be not higher than 50 decibels (dB).</p>		
<p>(1)</p>	no	20.00	
<p>(2)</p>	no	4.00	
<p>(3)</p>	no	2.00	
<p>(6)</p>	Item	1.00	
<p><b>10.6 Socket outlets</b></p>	<p>(a) All socket outlets shall be "Legrand" or equivalent.</p> <p>(1) 1x13Amp wall Socket outlet with water proof cover , 1200mm above floor level</p> <p>(3) 1x13Amp wall Socket outlet with water proof cover , Above Ceiling level for Exhaust Fans</p> <p>(4) Completion of 3 phase isolator (40A), 1200mm above floor level</p> <p>(5) 1x13Amp wall Socket outlet with water proof cover, 200mm below ceiling.</p> <p>(6) 1x15Amp wall socket outlet with water proof cover</p>		
<p>(1)</p>	no	5.00	
<p>(3)</p>	no	4.00	
<p>(4)</p>	no	3.00	
<p>(5)</p>	no	4.00	
<p>(6)</p>	no	5.00	
<p><b>10.7 Light switches</b></p>	<p>(a) All light switches shall be "Legrand" or equivalent. Each light should be control by one switch.</p>		

(1)	Three gang switch	no	2.00			
(2)	Two gang switch	no	4.00			
(3)	Out door photo cell switch	no	6.00			
(4)	Fan control	no	2.00			
<b>10.8</b>	<b>Earthing</b> Earth pit with resistance less than 2 ohms, 3/4 earth rods must be used and must have clamps at the end, Earth pit should be covered junction with cover.					
(1)	Completion of earth pit with earthing cable and completion of earthing as per the above requirements.	Item	1.00			
<b>10.9</b>	<b>Fire Fighting</b>					
(1)	CO2 Extinguisher	Item	3.00			
(2)	H2O Extinguisher	Item	3.00			
<b>BILL No: 10 - ELECTRICAL INSTALLATIONS</b>						
<b>TOTAL OF BILL No: 10 - Carried over to summary</b>						
<b><u>BILL No: 11</u></b> <b><u>HYDRAULICS &amp; DRAINAGE</u></b>						
<b>11.1</b>	<b>Hydraulics</b>					
11.1.1	<u>General</u> (a) Rates shall include for excavation, laying pipes and backfilling trenches, maintaining faces of drainpipe trenches and pits, backfilling, disposal of surplus soil, bends, junctions, reducers, expansion joints brackets, joints, straps, hangers, screws, nails and fixing complete, and all joints and other incidental material, All Pipes and fittings area high pressure uPVC pipes fixing complete, including cutting and forming holes; excavating, laying pipes and backfilling trenches. (b) All pipe work shall be uPVC.					
11.1.2	<u>Ground water supply pipe work</u> (1) Completion of ground water pipe line and Connect to existing water Supply system.	Item	1.00			
11.1.3	<u>Sanitary fixtures &amp; accessories</u> Sanitary fixtures & Accessories: Sanitary fixtures complete including, piping, brackets, flush pipes, valves, overflows, plugs and washers, as specified.					
(1)	Floor drain with gully & water trap.	no	6.00			
(2)	Wall Mount Faucet , ( Cotto) or equivalent	no	5.00			
(3)	Muslim Shower, ( Cotto) or equivalent with valve for washing area.	no	1.00			
(4)	Ball Valves, ( Cotto) or equivalent	No	6.00			
<b>11.2</b>	<b>Drainage</b>					
11.2.1	<u>General</u>					

11.2.2	<p>(a) Rates shall include for: excavation, maintaining faces of drain pipe trenches and pits, backfilling, disposal of surplus spoil; bends, junctions, reducers, expansion joints and all joints and other incidental materials. (b) All pipe work shall be UPVC</p> <p><b>Pipe work</b></p> <p>(1) Installation and Complete Connection of Waste disposal pipe 75mm dia UPVC to existing drainage system.</p>	Item	1.00				
<p><b>BILL No: 11 - HYDRAULICS &amp; DRAINAGE</b> <b>TOTAL OF BILL No: 11 - Carried over to summary</b></p>							
<p style="text-align: center;"><b>BILL No:12</b> <b>TENDERER'S ADJUSTMENTS</b></p> <p>(a) Provide detail description of work items under each bill and insert extra pages if required.</p> <p>13.1 <b>Additions</b></p> <p>(1) PRELIMINARIES, Bill no. 01 (2) GROUND WORKS, Bill no. 02 (3) CONCRETE, Bill no. 03 (4) MASONRY AND PLASTERING, Bill no. 04 (5) ROOFING, Bill no. 05 (6) DOORS AND WINDOWS, Bill no. 06 (7) TILING, Bill no. 07 (8) CEILINGS, Bill no. 08 (9) PAINTING, Bill no. 09 (10) HYDRAULICS &amp; DRAINAGE, Bill no. 10 (11) ELECTRICAL INSTALLATIONS, Bill no. 11</p> <p><b>ADDITIONS TOTAL</b></p> <p>13.2 <b>Omissions</b></p> <p>(1) PRELIMINARIES, Bill no. 01 (2) GROUND WORKS, Bill no. 02 (3) CONCRETE, Bill no. 03 (4) MASONRY AND PLASTERING, Bill no. 04 (5) ROOFING, Bill no. 05 (6) DOORS AND WINDOWS, Bill no. 06 (7) TILING, Bill no. 07 (8) CEILINGS, Bill no. 08 (9) PAINTING, Bill no. 09 (10) HYDRAULICS &amp; DRAINAGE, Bill no. 10 (11) ELECTRICAL INSTALLATIONS, Bill no. 11</p> <p><b>OMISSIONS TOTAL</b></p>							
<p><b>BILL No: 13 - TENDERER'S ADJUSTMENTS</b></p>							

<b>TOTAL OF BILL No: 13 - Carried over to summary</b>					
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