

CONSTRUCTION OF WASTE COLLECTION CENTRE - HA. THAKANDHOO
Bill of Quantities
SUMMARY SHEET

Bill No	Item	Amount
1	Preliminaries	
2	Site Clearance	
3	Earth works	
4	Concrete works	
5	Structural steel works	
6	Masonry works	
7	Plastering works	
8	Painting works	
9	Wall cladding works	
10	Roofing works	
11	Electrical works	
12	Plumbing works	
13	Doors and windows	
14	Fire fighting	
15	Tiling works	
16	Miscellaneous Works	
Sub Total		
Contingency 10%		
Total		
GST 6%		
GRAND TOTAL		

CONSTRUCTION OF WASTE MANAGEMENT CENTRE
HA. THAKANDHOO
Bill of Quantities

NOTES:

ALL MATERIALS SHALL BE SUBMITTED FOR APPROVAL.

TECHNICAL SPECIFICATIONS SHALL BE FOLLOWED UNLESS OTHERWISE STATED IN DRAWINGS / BOQ.

No	Item	Unit	Quantity	Rate	Amount
1	Preliminaries				
1.1	Mobilization to site	LS	1.00		
1.2	Site management cost including set up of tempory services for contractor's services as maybe necessary	LS	1.00		
1.3	Setup sign boards on site as specified	LS	1.00		
1.4	Clean up site upon completion of works	LS	1.00		
1.5	Demobilization	LS	1.00		
			-		
2	Site Clearance		-		
2.1	Allow for all site clean up work including uprooting and clearing of trees required, relocation of existing waste to a temporary location identified by island council. This shall be carried out in accordance with the ESMP. Refer to ESMP for details of vegetation and site clearance required.	LS	1.00		
2.2	Removal of all top soil from the site as deemed necessary to obtain proper ground condition for construction works. Rate shall include transport of soil to a location identified by island council.	m ²	929.00		
			-		
3	Earth works		-		
	<i>Filling, ground levelling and compaction of IWMC site.</i>		-		
3.1	Ground filling with sand, levelling and compaction work for IWMC site. Rate shall include for any required cut and fill, removal any waste on the site. Finished site ground level shall be at minimum +50mm existing road level. Demolition waste materials may be used for filling after appropriate gradation along with sand (any steel or other materials must be removed).	m ²	929.00		
	<i>Excavation work for foundations as follows</i>		-		
3.2	Footings F1	m ³	2.75		
3.3	Footings F3	m ³	3.98		
3.4	Tie beams	m ³	37.80		
3.5	Flood light pole	m ³	0.24		
3.6	Setting up a 900mm dia ground water well in the location shown	LS	1.00		
3.7	Setting up septic tank in the location shown	LS	1.00		
3.8	Setting up rainwater drain pits in the locations shown	LS	1.00		
3.9	Setting up drain pits in the locations shown	LS	1.00		
			-		
4	Concrete works		-		
	<i>Rate shall include all formwork, reinforcement, lean concrete and casting of concrete as per drawing and specifications Concrete covers shall be as stated in drawings and BoQ. If unspecified, covers shal be as stated in Technical Specifications.</i>		-		

No	Item	Unit	Quantity	Rate	Amount
4.1	75mm concrete floor slab according to the slope shown in drawing. Reinforcement for the slab shall be R6@150 BW single layer, 30mm concrete cover.	m ³	3.14		
4.2	100mm concrete floor slab according to the slope shown in drawing. Reinforcement for the slab shall be T10@150 BW top and bottom layer, 40mm concrete cover.	m ³	1.20		
4.3	150mm concrete floor slab according to the slope shown in drawing. Reinforcement for the slab shall be T10@150 BW top and bottom layer, 40mm concrete cover.	m ³	4.35		
4.4	F1 Footing cast according to drawing, including column stump below ground level. Reinforcement shall be as shown on drawing.	m ³	0.99		
4.5	F3 Footing cast according to drawing, including column stump below ground level. Reinforcement shall be as shown on drawing.	m ³	1.42		
4.6	TB Tie beam cast according to drawing. Reinforcement shall be as shown on drawing	m ³	11.59		
4.8	C1 (column stump above ground level) Concreting cover for GI pipes cast according to drawing.	m ³	0.83		
4.9	C5 (waste management block) Concreting column cast according to drawing.	m ³	0.21		
4.10	C4 Concreting column cast according to drawing	m ³	0.64		
4.11	C5 (office and hazardous waste storage block) Concrete column cast according to drawing.	m ³	1.67		
4.12	C7 Concrete column cast according to drawing.	m ³	0.85		
4.13	RB Roof beams for walls cast according to drawing. Reinforcement shall be as shown on drawing.	m ³	1.76		
4.15	L1, S1 Lintel and sill beams as required cast according to drawing. Reinforcement shall be as shown on drawing.	LS	1.00		
4.16	Rainwater drain pits as shown on drawing.	LS	1.00		
4.17	Drain pits as shown on drawing.	LS	1.00		
4.18	All concrete works of entrance gates. Reinforcement shall be as shown on drawing.	LS	1.00		
4.19	Foundation for flood light poles	m ³	0.28		
4.20	Ground water well (900mm dia) casting work. Rate shall include setting the well in place to the required depth based on ground water level, including bottom slab and cover slab.	LS	1.00		
			-		
5	Structural steel works		-		
	<i>Waste Management Building Block</i>		-		
5.1	GI column, C1 (on F1) Supply, fabrication and installation of GI columns as shown in drawings. Rate shall include all cuts, welds, cleats, anchor rebars and all other connections deemed necessary to make the column stable	Nos	9.00		

No	Item	Unit	Quantity	Rate	Amount
5.2	GI column, C1 (on F3) Supply, fabrication and installation of GI columns as shown in drawings. Rate shall include all cuts, welds, cleats, anchor rebars and all other connections deemed necessary to make the column stable	Nos	13.00		
5.3	GI truss, TR1 Supply, fabrication and installation of trusses as shown in drawings. Rate shall also include all cuts, welds and other connections deemed necessary to make the structure stable	m	178.00		
5.4	GI roof eave truss Supply, fabrication and installation of 25mm dia GI trusses as shown in drawings. Rate shall also include all cuts, welds and other connections deemed necessary to make the structure stable	Nos	4.00		
	<i>Perimeter Wall</i>		-		
5.5	Perimeter fence using 50mm G.I pipe column and horizontal framing pipes as shown on drawing. Rate shall include all cuttings, weldings, applying of protective coating for welded joints, and, setting up the fence including barbed wires.	m	37.70		
	<i>Flood light pole</i>				
5.6	Provide 75mm G.I pipe as flood light fixing poles. Rate shall include installation charges as shown on drawing.	Nos	2.00		
6	Masonry works				
	<i>Masonry walls of 100mm thick masonry blocks</i>				
	<i>Hazardous waste storage room</i>				
6.1	Hollow block masonry walls	m ²	75.60		
	<i>Office/Locker Building Block</i>				
6.2	Hollow block masonry walls	m ²	140.46		
	<i>Building Perimeter Walls with cladding on top</i>				
6.3	Hollow block masonry walls, 0.6m height from GL	m ²	32.43		
	<i>Separation walls with cladding on top</i>				
6.4	Hollow block masonry walls, 0.6m height from GL	m ²	8.93		
	<i>Boundary walls</i>				
6.5	Hollow block masonry walls, 600mm height from GL	m ²	37.70		
7	Plastering works				
	<i>Plastering on 100mm masonry block walls, 25mm thickness plastering on each side of walls</i>				
7.1	<i>Hazardous waste storage room</i>	m ²	151.20		
	Hollow block masonry walls				
7.2	<i>Office/Locker Building Block</i>	m ²	280.91		
	Hollow block masonry walls				
7.3	<i>Building Perimeter Walls with cladding on top</i>	m ²	64.86		
	Hollow block masonry walls, 0.6m height from GL				
7.4	<i>Separation walls with cladding on top</i>				
	Hollow block masonry walls, 0.6m height from GL	m ²	17.86		
7.5	<i>Boundary walls</i>				
	Hollow block masonry walls, 600mm height from GL	m ²	75.40		
8	Painting works				
	GENERAL				

No	Item	Unit	Quantity	Rate	Amount
	<i>Emulsion paint coating: one primer coat and two top coat. Wall paint color: Nippon paint offwhite 5039 or equivalent</i>				
	<i>Hazardous waste storage room</i>				
8.1	Hollow block masonry walls	m ²	151.20		
	<i>Office/Locker Building Block</i>				
8.2	Hollow block masonry walls	m ²	280.91		
	<i>Building Perimeter Walls with cladding on top</i>				
8.3	Hollow block masonry walls, 0.6m height from GL	m ²	64.86		
	<i>Separation walls with cladding on top</i>				
8.4	Hollow block masonry walls, 0.6m height from GL	m ²	17.86		
	<i>Boundary walls</i>				
8.5	Hollow block masonry walls, 600mm height from GL	m ²	75.40		
	<i>Steel members</i>				
8.6	Apply epoxy protective paint coating SIGMAPRIME200/SIGMACOVER456 (Grey color) OR EQUIVALENT on all exposed surfaces of G.I pipe columns, flood light poles, framing, truss members, metal doors and gates, including MS sheets. Rate shall include redoxide primer on all welded joints, primer and 2 top coats as specified by the paint supplier.	LS	1.00		
	<i>Other</i>				
8.7	Apply emulsion paint coating on drain pit covers	no	5.00		
9	Wall cladding works				
9.1	C-purlins - 50 x 150 x 2.2mm thick. As girts to fix wall cladding as shown on drawing. Rate shall include all cuts, welds, cleats, and all other connections deemed necessary	LS	1.00		
9.2	Lysaght roofing sheet (maroon color) sheets as wall cladding over areas shown on drawing. Rates shall include all laps, flashing, connections and provision of intermediate supports to firmly fix the elements to the main structure.	LS	1.00		
			-		
10	Roofing works		-		
	<i>Waste Management Block</i>		-		
10.1	Lysaght roofing sheet (maroon color) Rate shall include all necessary laps, fastening, fixtures and sealing of joints	m ²	430.00		
10.2	Roof flashing. Rate shall include fastening and sealing of joints	m	56.95		
10.3	C-purlins - 50 x 150 x 2.2mm thick. Rate shall include for all fixing, lapping and joints.	m	505.00		
10.4	Provide a 5" lysaght roof gutter with 3" PVC down pipes as shown in drawings. Rates shall include all materials and fastenings.	LS	1.00		
	<i>Office/Locker Building Block</i>		-		
10.5	Lysaght roofing sheet (maroon color) Rate shall include all necessary laps, fastening, fixtures and sealing of joints	m ²	69.00		
10.60	Roof flashing. Rate shall include fastening and sealing of joints	m	5.75		
10.70	Timber rafters - 100 x 50mm. Rate shall include for all fixing and joints	m	76.67		

No	Item	Unit	Quantity	Rate	Amount
10.80	Timber battens - 50 x 38mm. Rate shall include for all fixing and joints.	m	115.00		
10.90	Provide a 5" lysaught roof gutter with 3" PVC down pipes as shown in drawings. Rates shall include all materials and fastenings.	LS	1.00		
	<i>Hazardous Waste Storage Block</i>		-		
10.1	Lysaght roofing sheet (maroon color) Rate shall include all necessary laps, fastening, fixtures and sealing of joints	m ²	36.04		
10.11	Roof flashing. Rate shall include fastening and sealing of joints	m	17.05		
10.12	Timber rafters - 100 x 50mm. Rate shall include for all fixing and joints	m	40.04		
10.13	Timber battens - 50 x 38mm. Rate shall include for all fixing and joints.	m	60.06		
10.14	Provide a 5" lysaught roof gutter with 3" PVC down pipes as shown in drawings. Rates shall include all materials and fastenings.	LS	1.00		
			-		
11	Electrical works		-		
	GENERAL		-		
	<i>(a) Design, provide and install electrical network for the entire building complete in accordance to standards set by the local governing body.</i>		-		
	<i>(c) The cost shall include for: screws, nails, bolts, nuts, standard cable fixing or supporting clips, brackets, straps, rivets, plugs and all incidental accessories.</i>		-		
	<i>(d) The cost shall also include for trenching including: excavation, maintaining faces of excavations, backfilling, compaction, appropriate cable covers, warning tape and disposal of surplus soil.</i>		-		
	<i>(e) Rates shall include switches, electrical isolators, conduits, fittings, equipment and similar items shall include for: all fixings to various building surfaces.</i>		-		
	<i>(h) Contractor shall provide all cabling, wiring, conduits, etc. required for completing all electrical installations.</i>		-		
	<i>(g) All sockets & switches shall be ABB / clipsal or equivalent</i>		-		
	<i>Supply and installation:</i>		-		
11.1	Electric meter, 4 pole MCCB, Single Phase distributions boards and 3 Phase distribution boards as shown on drawing. Earth link and connection to earth rod with proper earth pit should be provided as well	LS	1.00		
11.2	25 sqmm 4 core power supply cable from nearest distribution box to main distribution board.	m	120.00		
11.3	16 sqmm 4 core power supply cable for internal wiring from main distribution board to all other distribution boards.	LS	1.00		
11.4	3-phase 15A power sockets. Rate shall include connection to circuit breaker using 6sqmm power supply cable and all necessary accessories	no	4.00		
11.5	3-phase 15A power sockets (weather proof). Rate shall include connection to circuit breaker using 6sqmm power supply cable and all necessary accessories	no	2.00		
11.6	13A double sockets. Rate shall include connection to circuit breaker using 6sqmm power supply cable and all necessary accessories	no	9.00		

No	Item	Unit	Quantity	Rate	Amount
11.7	20W LED light Rate shall include switches near respective entrance doors and connection to circuit breaker	no	3.00		
11.8	20W ceiling mount LED light Rate shall include switches near respective entrance doors and connection to circuit breaker	no	9.00		
11.9	20W wall mount exterior LED light Rate shall include switches near respective entrance doors. Rate shall include connection to circuit breaker	no	4.00		
11.1	10W wall mount LED emergency light Rate shall include required sockets and connection to circuit breaker	no	2.00		
11.11	25W swivel type LED flood light for waste management block (interior) Rate shall include connecting each light to a switch near circuit breaker and providing power to the switch	no	12.00		
11.12	200W LED flood light for illuminating the waste yard. Rate shall include connecting each light to a switch near circuit breaker and providing power to the switch	no	4.00		
11.13	Ceiling fans Rate shall include fan controller near the respective entrance doors, connection to circuit breaker and all necessary accessories	no	2.00		
11.14	12,000BTU AC (Inverter) (Hitachi or equivalent) Rate shall include required socket, connection to circuit breaker and all necessary accessories	no	1.00		
11.15	Exhaust fans Rate shall include provision of switch near the respective entrance, connection to circuit breaker and all necessary accessories	no	3.00		
11.16	Well water pump, Hitachi or equivalent Rate shall include power socket and its fixing at location shown in drawing.	no	1.00		
			-		
12	Plumbing works		-		
	<i>Water piping works</i>		-		
12.1	Complete construction of fresh water pipe work including all pipe work, vent pipe work, fittings, valves, etc including outlet pipes to PVC taps, plumbing to toilet and wash area as shown in drawings.	LS	1.00		
	<i>Sewer network connection and piping works</i>		-		
12.2	Provide sewer / drain piping connections as shown in the drawings. Rate shall include connection piping of flush toilet, drains to the septic tank/leachate well, provision of appropriate drain, bends, fittings and others as deemed necessary.	LS	1.00		
	<i>Fittings</i>		-		
12.3	Wash Closet (one piece) (Cotto C1111 Victor or Equivalent)	no	1.00		
12.4	Wash basin complete with pedestal and gully trap.	no	2.00		
12.5	Muslim shower complete with valve, shower head and hose.	no	1.00		
12.6	PVC tap for wash area	no	1.00		
12.7	Floor drains	no	2.00		

No	Item	Unit	Quantity	Rate	Amount
12.8	PVC taps at ends of outlet pipes.	no	2.00		
12.9	Supply 25mm diameter flexible hose	m	25.00		
			-		
13	Doors and windows		-		
	GENERAL		-		
	<i>All doors should be lockable.</i>		-		
	Fabrication and installation of doors:		-		
13.1	SLIDING DOOR. Supply and installation of sliding door for hazardous waste room and store as per drawings and specifications. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and proper fixing of the door. Rate shall include fabrication and fixing of guide rails and wheels as well.	no	2.00		
13.2	SWING GATE. Supply and installation of steel swing gate as per drawings and specifications. Rate shall include all cuts, welds, applying protective coating to welded joints, painting the door and properly fixing the door to the boundary wall columns.	no	2.00		
13.3	D2. Supply and installation of aluminium door as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	4.00		
13.4	D3. Supply and installation of aluminium door as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	1.00		
13.5	W1. Supply and installation of aluminium louver window as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	2.00		
13.6	W2. Supply and installation of aluminium sliding window as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	2.00		
13.7	W3. Supply and installation of aluminium louver window as per drawings and specifications. Rate shall include all cuts, sealants,screws etc necessary for proper fixing of the door.	no	1.00		
			-		
14	Fire fighting		-		
	<i>Supply and installation of fire fighting equipment</i>		-		
14.1	50KG DCP Trolley for collection bay	no	2.00		
14.2	50LTR Foam Trolley for collection bay	no	1.00		
14.3	Wet Chemical 6Ltr with Cabinet for hazardous waste area	no	1.00		
14.4	Water 9Ltr with Cabinet for Office Area - Outside	no	1.00		
14.5	CO2 2KG with Cabinet for Office Area - Outside	no	1.00		
			-		

No	Item	Unit	Quantity	Rate	Amount
15	Tiling works		-		
15.1	Supply and laying 300x300mm ceramic tiles (light color) for office floor.	m ²	16.50		
15.2	Supply and laying of 300x300mm ceramic tiles (light color) for toilet floor and ceiling height of walls.	m ²	18.00		
15.3	Supply and laying of 300x300mm ceramic tiles (light color) for wash area floor and ceiling height of walls	LS	70.60		
			-		
16	Miscellaneous Works		-		
	Damp proof membrane		-		
16.1	Provide 1000 gauge HDPE damp proof membrane below floor slabs	m ²	476.07		
	Leachate tank covers		-		
16.2	Provide timber removable covers for the leachate collection tank of size 750x750mm. Rates shall include all materials, fastenings and handles.	no	5.00		
	Septic tank		-		
16.3	Provide septic tank for flush toilet as shown in drawing. Rate shall include the connection of flush toilet to the septic tank, provision of appropriate drain, bends, fittings and others as maybe necessary.	LS	1.00		
	Wash area		-		
16.4	Construction of wash area as shown in drawing. Rate shall include masonry walls 150mm high, plastering and the likes including provision of appropriate drain, bends, fittings and others as maybe necessary.	LS	1.00		
	Rainwater drain pits		-		
16.5	Provide rainwater drain pits as shown in drawing. Rate shall include the connection of downpipes to the drain pits, providing gravel, bends, fittings and others as maybe necessary.	no	6.00		
	Ceiling works		-		
16.6	Provide suspended ceiling using 6mm gypsum board inside office, locker room and toilet. Rate shall include all ceiling support work, applying putty and painting the surface with primer and two coats of finishing paint. (Nippon paint offwhite 5039 or equivalent)	m ²	32.67		
	Sign boards		-		
16.7	Fabricate and install 900 x 600 IWMC name board on 5mm plastic sheet as per design specifications provided by client. All letters, logos and symbols used on the board should be acrylic painted.	no	1.00		
16.8	Fabricate and install 900 x 300 fire safety sign boards on 5mm plastic sheet as per design specifications provided by client. All letters, logos and symbols used on the board should be acrylic painted.	no	5.00		
16.9	Fabricate and install 900 x 600 collection bay sign boards on 5mm plastic sheet as per design specifications provided by client. All letters, logos and symbols used on the board should be acrylic painted.	no	13.00		
	Expansion joints		-		
16.10	Provide expansion joints as shown in drawing. Rate shall include supply and installation joint filler foam and sealant.	LS	1.00		
Sub Total					