

PROJECT: Construction of safe Shelter at Muli Island, Meemu Atoll

Bill Of Quantities

Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
BILL No: 01					
<u>PRELIMINARIES</u>					
1.1	<u>GENERAL NOTES</u>				
(1)	<u>Abbreviations</u> m - metre Nos - numbers m ³ - cubic metre m ² - square metre m - metre kg - kilogram incl - including mm - millimetre dia - diameter SS - Staiinless Steel GI - Galvinised Iron				
1.2	<u>SITE MANAGEMENT COSTS</u> Allow for all on and off site management costs including costs of foreman and assistants, temporary services, telephone, fax, hoardings, fences and similar items.	1	Item		
1.3	<u>TRANSPORTATION</u> Providing transport for the raw materials , machineries and tools that is required for the completion of the project.	1	item		
1.5	<u>SIGN BOARD</u> (1) Allow for sign board.	1	Nos		
1.6	<u>CONCRETE TESTING</u> (1) Allow for a standard concrete cube test on everypour of concrete	1	Item		
1.7	<u>CLEAN - UP</u> Allow for clean up of completed works and site upon completion	1	Item		
BILL No: 01 - PRELIMINARIES					
TOTAL OF BILL No: 01 - Carried over to summary					
BILL No: 02					
<u>GROUND WORKS</u>					
2.0	<u>GENERAL</u> Rates shall include for; levelin, grading, trimming, compacting to faces of excavation, keep sides plumb, backfilling, consolidating and disposing surplus soil Rates shall include for protection and replanting of trees, shrubs when ever necessary.				

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2.1	<u>SITE CLEARING</u> Demolition of any existing buildings and removal of those material from the site. Removing and clearing any shrubs or trees from the site. Dispose off loose boulders and waste materials away from site directed by the client.	1	Item		
2.2	<u>EXCAVATION</u> Excavation quantities are measured to the faces of concrete members. Rates shall include for all additional excavation required to place the formwork/shuttering and dewatering the trenches and others. (1) Excavation for foundation Strip and Pad footings (2) Excavation for tie beams and stair starter (3) Excavation for water tank	38.00 27.00 22.00	m³ m³ m³		
2.3	<u>WATER PROOFING</u> Rates shall include for dressing around and sealing all penetrations. (1) Application of two coats of approved water proofing chemical on all concrete surfaces below finished floor level in accordance with drawings, specification and manufacturers instructions.	1	Item		
2.4	<u>BACK FILLING</u> Rates shall include for transportation, levelling, grading, trimming and compacting. (a) Excavated foundation trench shall be mechanically compacted before placing of lean concrete (b) Backfilling of excavated area, including compaction as per specification, after concreting of foundations	1	Item		
BILL No: 02 - GROUND WORKS					
TOTAL OF BILL No: 02 - Carried over to summary					
BILL No: 03					
	<u>CONCRETE WORK</u>				
3.1	<u>GENERAL</u> (a) Rates shall include for: provision to place in position; casting of all required items and finishing after removal of formwork and additional concrete required to conform to structural and excavated tolerances.				

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	(b) Rates shall include supply of all formwork item including form oil, timber, plywood, nails etc. (c) Mix ratio for reinforced concrete shall be 1:2:3 unless otherwise specified and lean concrete shall be 1:3:6 by volume				
3.2	<u>LEAN CONCRETE</u> Note: Quantity is measured to the edges of concrete members. 50mm thick lean concrete to bottom of:				
(1)	Foundation footings	3.20	m ³		
(2)	Tie Beams	1.28	m ³		
(3)	Water tanks	0.96	m ³		
3.3	<u>DAMP PROOF MEMBRANE</u> Damp proof membrane to bottom of concrete elements as per specification				
(1)	Polythene sheet over lean concrete for foundation pads, beams and watertanks	110.00	m ²		
3.4	<u>REINFORCED CONCRETE</u> In-situ reinforced concrete to:				
3.4.1	<u>Foundation level or below ground slab</u>				
(1)	Foundation footings, 1400mm x 1400mm x 350mm	10.98	m ³		
(2)	Tie beams TB, 250mm x 400mm deep and Stair starter	10.45	m ³		
(3)	Water tanks 3000mm x 3000mm x 2450mm deep	13.48	m ³		
(4)	Columns C1, 250mm x 250mm	1.45	m ³		
(5)	Columns C2, 250mm x 250mm	0.10	m ³		
(6)	Attached ground floor slab beams B1, 250mm x 400mm deep	6.61	m ³		
(7)	Attached first floor slab beams CB1, 250mm x 400mm deep	0.19	m ³		
(8)	Attached first floor slab beams CB1, 250mm x 400mm deep	0.19	m ³		
(9)	Ground floor slab 150mm thick	27.53	m ³		
(10)	Outdoor Staircase	1.68	m ³		
3.4.2	<u>Ground floor level</u>				
(1)	Columns C1, 250mm x 250mm	2.72	m ³		
(2)	Columns C2, 250mm x 250mm	0.18	m ³		
(3)	Attached first floor slab beams B1, 250mm x 400mm deep	6.61	m ³		
(4)	Attached first floor slab beams CB1, 250mm x 400mm deep	0.19	m ³		
(5)	First floor slab 150mm thick	25.54	m ³		

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
(6)	Outdoor Staircase	3.28	m ³		
(7)	Main staircase	3.03	m ³		
3.4.3	<u>First floor level</u>				
(1)	Columns C1, 250mm x 250mm	2.54	m ³		
(2)	Attached second floor slab beams B1, 250mm x 400mm deep	5.58	m ³		
(3)	Second floor slab 150mm thick	19.72	m ³		
(4)	Main staircase	3.03	m ³		
3.4.4	<u>Roof level</u>				
(1)	Columns C1, 250mm x 250mm	0.65	m ³		
(2)	Attached roof slab beams B1, 250mm x 400mm deep	1.09	m ³		
(3)	Roof slab 150mm thick	4.62	m ³		
3.4.5	<u>Other Concrete Works</u>				
(1)	Lintel beams and Sill beams around doors and windows, 150mm x 200mm	1	item		
(2)	1350mm diameter RCC ground water well as given in the detailed drawing	1	nos		
(3)	Septic tank and filter tank as shown in the detailed drawings.	1	nos		
(4)	Soak pit with 100mm dia openings on the wall as shown in the detailed drawings	1	nos		
3.5	<u>FORM WORK</u>				
	<u>GENERAL</u>				
	(a) Rates shall include for: all necessary boarding, supports, erecting, framing, temporary cambering, cutting, perforations for reinforcing bars, straps, ties, hangers, pipes, edge formwork and removal of formwork.				
3.5.1	<u>Foundation level or below ground slab</u>				
(1)	Foundation footings, 1400mm x 1400mm x 350mm	32.00	m ²		
(2)	Tie beams TB, 250mm x 400mm deep and Stair starter	84.00	m ²		
(3)	Water tanks 3000mm x 3000mm x 2450mm deep	60.00	m ²		
(4)	Columns C1, 250mm x 250mm	23.25	m ²		
(5)	Columns C2, 250mm x 250mm	1.55	m ²		
(6)	Attached ground floor slab beams B1, 250mm x 400mm deep	80.00	m ²		

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
(7)	Attached first floor slab beams CB1, 250mm x 400mm deep	2.00	m ²		
(8)	Attached first floor slab beams CB1, 250mm x 400mm deep	2.00	m ²		
(9)	Ground floor slab 150mm thick	164.00	m ²		
(10)	Outdoor Staircase	9.00	m ²		
3.5.2	<u>Ground floor level</u>				
(1)	Columns C1, 250mm x 250mm	43.50	m ²		
(2)	Columns C2, 250mm x 250mm	2.90	m ²		
(3)	Attached first floor slab beams B1, 250mm x 400mm deep	80.00	m ²		
(4)	Attached first floor slab beams CB1, 250mm x 400mm deep	2.00	m ²		
(5)	First floor slab 150mm thick	153.00	m ²		
(6)	Outdoor Staircase	18.00	m ²		
(7)	Main staircase	19.00	m ²		
3.5.3	<u>First Floor level</u>				
(1)	Columns C1, 250mm x 250mm	41.00	m ²		
(2)	Attached second floor slab beams B1, 250mm x 400mm deep	67.00	m ²		
(3)	Second floor slab 150mm thick	115.00	m ²		
(4)	Main staircase	19.00	m ²		
3.5.4	<u>Roof level</u>				
(1)	Columns C1, 250mm x 250mm	11.00	m ²		
(2)	Attached roof slab beams B1, 250mm x 400mm deep	15.00	m ²		
(3)	Roof slab 150mm thick	30.00	m ²		
3.6	<u>REINFORCEMENT GENERAL</u>				
	(a) Rates shall include for: cleaning, fabrication, placing, the provision for all necessary temporary fixings and supports including tie wire and chair supports, laps and wastage				
	(b) All reinforcing bars except 6mm dia bars shall be high strength deformed bars.				
	(c) The exact length exclusive of laps are given. The rates shall take into account laps and any wastage.				
3.6.1	<u>Foundation level or below ground slab</u>				

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
(1)	Foundation footings, 1400mm x 1400mm x 350mm 10mm dia bars	0.23	t		
(2)	Tie beams TB, 250mm x 400mm deep and Stair starter 16mm dia bars 6mm dia bars	0.77 0.21	t t		
(3)	Water tanks 3000mm x 3000mm x 2450mm deep 10mm dia bars	0.38	t		
(4)	Columns C1, 250mm x 250mm 16mm dia bars 6mm dia bars	0.56 0.08	t t		
(5)	Columns C2, 250mm x 250mm 20mm dia bars 6mm dia bars	0.06 0.01	t t		
(6)	Attached ground floor slab beams B1, 250mm x 400mm deep 16mm dia bars 6mm dia bars	1.25 0.41	t t		
(7)	Attached first floor slab beams CB1, 250mm x 400mm deep 16mm dia bars 6mm dia bars	0.03 0.01	t t		
(8)	Attached first floor slab beams CB1, 250mm x 400mm deep 16mm dia bars 6mm dia bars	0.03 0.01	t t		
(10)	Ground floor slab 150mm thick 10mm dia bars	2.32	t		
(11)	Outdoor Staircase 10mm dia bars	0.17	t		
3.6.2	<u>Ground Floor level</u>				
(1)	Columns C1, 250mm x 250mm 16mm dia bars 6mm dia bars	0.66 0.14	t t		
(2)	Columns C2, 250mm x 250mm 20mm dia bars 6mm dia bars	0.07 0.01	t t		
(3)	Attached first floor slab beams B1, 250mm x 400mm deep 16mm dia bars 6mm dia bars	1.25 0.41	t t		
(4)	Attached first floor slab beams CB1, 250mm x 400mm deep				

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
	16mm dia bars	0.03	t		
	6mm dia bars	0.01	t		
(5)	First floor slab 150mm thick				
	10mm dia bars	2.27	t		
(6)	Outdoor Staircase				
	10mm dia bars	0.33	t		
(7)	Main staircase				
	10mm dia bars	0.28	t		
3.6.3	<u>First Floor level</u>				
(1)	Columns C1, 250mm x 250mm				
	16mm dia bars	0.62	t		
	6mm dia bars	0.13	t		
(2)	Attached second floor slab beams B1, 250mm x 400mm deep				
	16mm dia bars	1.06	t		
	6mm dia bars	0.35	t		
(3)	Second floor slab 150mm thick				
	10mm dia bars	2.05	t		
(4)	Main staircase				
	10mm dia bars	0.28	t		
3.6.4	<u>Roof level</u>				
(1)	Columns C1, 250mm x 250mm				
	16mm dia bars	0.08	t		
	6mm dia bars	0.02	t		
(2)	Attached first floor slab beams B1, 250mm x 400mm deep				
	16mm dia bars	0.23	t		
	6mm dia bars	0.08	t		
(3)	First floor slab 150mm thick				
	10mm dia bars	0.26	t		
BILL No: 03 - CONCRETE WORKS					
TOTAL OF BILL No: 03 - Carried over to summary					
BILL No: 04					
	<u>MASONRY, PLASTERING AND FLOORING</u>				
4.1	<u>GENERAL</u>				

Bill Of Quantities

Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
	Rates shall include for: cleaning out cavities, forming rebated reveals and pointing and cleaning down reveals where necessary; and blocks, cutting or leaving holes and openings as recesses, building in pipes, conduits, sleeves and similar as required for all trades; leaving surfaces rough or raking out joints for plastering and flashing, bedding frames, temporary supports to openings. Providing approved quality mesh at joints between structural members and masonry in the exterior walls.				
4.2	<u>CEMENT BLOCK WORK</u>				
1.0	(a) 150mm thick solid block wall, with dimensions (150mm x 300mm x 100mm) MCPI solid blocks, laid on and including 1:5 cement sand mortar, tie rods, compression gap filler, nylon plastic mesh as specified and should be approved.				
4.2.1	<u>Under Ground Slab</u>				
(1)	Below ground slab	82.00	m ²		
4.2.2	<u>External Walls</u>				
(1)	Ground floor	94.00	m ²		
(2)	First floor	90.00	m ²		
(3)	Roof level	50.00	m ²		
(4)	Main Entrance Step	42.00	m ²		
(5)	Satircase protection wall (Outside Stair)	14.00	m ²		
4.2.3	<u>Parrapet wall</u>				
(1)	Roof level	43.00	m ²		
4.2.4	<u>Internal Walls</u>				
(1)	Ground floor	71.00	m ²		
(2)	First floor	47.00	m ²		
4.4	<u>PLASTERING</u>				
	Plastering on walls and concrete surfaces using 1:4 cement sand mortar, in accordance with the drawings and specifications				
4.4.1	<u>External</u>				

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
	Average 24mm thick cement plastering (made up of 2 layers, both layers being 12mm thick on external surfaces of walls and concrete surfaces with 1:4 cement mortar mix as specified including wire mesh at joints of concrete surfaces and masonry walls				
(1)	Below ground slab	99.00	m ²		
(2)	Ground floor	113.00	m ²		
(3)	First floor	108.00	m ²		
(4)	Roof level	163.00	m ²		
(5)	Main Entrance Step	42.00	m ²		
(6)	Satircase protection wall (Outside Stair)	34.00	m ²		
4.4.2	<u>Internal</u> 12mm Thick cement plastering on internal surfaces of walls and concrete column surfaces with 1:4 cement mortar mix as specified including wire mesh at joints of concrete surfaces and masonry walls				
(1)	Below ground slab	99.00	m ²		
(2)	Ground floor	255.00	m ²		
(3)	First floor	202.00	m ²		
(4)	Roof level	60.00	m ²		
4.5	<u>FLOORING</u>				
4.5.1	Average 50mm thick cement sand screed on concrete floor with 1:5 mortar mix with a smooth finish				
(1)	Ground floor including main staircase	189.00	m ²		
(2)	First floor including main staircase	189.00	m ²		
(3)	Second floor	120.00	m ²		
(4)	Out door stair and main entrance stair	57.00	m ²		
BILL No: 04 - MASONRY AND PLASTERING					
TOTAL OF BILL No: 04 - Carried over to summary					
BILL NO: 05					
	<u>DOORS AND WINDOWS</u>				
5.1	<u>GENERAL</u>				

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
	<p>(a) Rates shall include for locks, latches, closures, push plates, pull handles, bolts, kick plates, hinges and all door & window hardware. These materials should be brass and of superior quality.</p> <p>(b) Rates shall include for door frames, mullions, transoms, trims, glazing, tinting, timber panels, boarding, framing, lining, fastenings and all fixings</p> <p>(c) Rates shall include for painting timber doors</p> <p>(d) All doors shall be in accordance with drawings and specification and all measurements shall be checked on site by the contractor before fabrication.</p> <p>(e) The contractor shall submit shop drawings for all doors and windows, for approval before fabrication and proceeding with the works</p>				
5.2	<u>DOOR UNITS</u>				
(1)	D1	2	Nos		
(2)	D2	5	Nos		
(3)	D3	1	Nos		
(4)	D4	6	Nos		
5.3	<u>WINDOW UNITS</u>				
(1)	W1	1	Nos		
(2)	W2	1	Nos		
(3)	W3	3	Nos		
(4)	W4	9	Nos		
5.4	<u>VENTILATOR UNITS</u>				
(1)	V1	8	Nos		
(2)	V2	3	Nos		
BILL NO: 05 -DOORS AND WINDOWS					
TOTAL OF BILL No: 05 - Carried over to summary					
BILL NO: 06					
	<u>METAL WORKS</u>				
6.10	<u>GENERAL</u>				
	<p>(a) Rates shall include for all labour in framing, fixing, notching and fitting around projections, pipes, light fittings, hatches, grilles and similar and complete with cleats, packers, wedges and similar and all nails and screws.</p> <p>(b) Rates shall include application of protective coatings, painting on metal surfaces as approved by consultant.</p>				
6.20	<u>STAIRCASE HANDRAILING</u>				
6.2.1	Main staircase				

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
(1)	GI pipe 50mm dia	20.00	m		
(2)	GI pipe 25mm dia	55.00	m		
6.2.2	Long stair				
(1)	GI pipe 50mm dia	16.00	m		
6.3.3	Main entry staircase				
(1)	GI pipe 50mm dia	11.00	m		
(2)	GI pipe 25mm dia	30.00	m		

BILL NO: 06 - METAL WORKS

TOTAL OF BILL No: 06 - Carried over to summary

BILL No:07

PAINTING

7.10 GENERAL

(a) 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 window furniture

(b) All painting work shall be carried in accordance with the Specifications

(c) Emulsion paint finish on cement plastered walls and concrete column, sides and soffits of beam and soffits of slab surfaces as specified. Exterior walls should be applied with weather proof paint. 1 coat of wall sealer, 2 coats of paint. Interior surfaces 1 coat of wall sealer and 2 coats of paint. Soffits of the Slab to be grinded before painting. Soffits of the slab with 1 coat of wall sealer, 2 coats of Wall putty, and 2 coats of Paint. Ceilings with 1 coat of wall sealer, 2 coats of Wall putty, and 2 coats of Paint.

(d) The colour brand should be Nippon or an equivalent brand. Colour of paint shall be decided by the architect or consultant

7.20 WALLS AND CONCRETE SURFACES

7.2.1 External

(1)	Below ground slab	99.00	m ²		
(2)	Ground floor	113.00	m ²		
(3)	First floor	108.00	m ²		
(4)	Roof level	163.00	m ²		
(5)	Main Entrance Step	12.00	m ²		

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
(6)	Satircase protection wall (Outside Stair)	34.00	m ²		
7.2.2	<u>Internal</u>				
(1)	Below ground slab	99.00	m ²		
(2)	Ground floor	255.00	m ²		
(3)	First floor	202.00	m ²		
(4)	Roof level	60.00	m ²		
7.30	<u>SOFFIT OF SLAB/STAIR AND CELING</u> Emulsion paint finish after grinding and application of putty.				
7.3.1	<u>Ground floor</u>				
(1)	First floor slab soffit	183.00	m ²		
7.3.2	<u>First floor</u>				
(1)	Second floor slab soffit	140.00	m ²		
7.3.3	<u>Second floor</u>				
(1)	Roof slab soffit	34.00	m ²		
7.3.4	<u>Main stair soffit</u>				
(1)	Stair soffit	30.00	m ²		
7.3.5	<u>Outside stair soffit</u>				
(1)	Stair soffit	28.00	m ²		
BILL No: 07 - PAINTING					
TOTAL OF BILL No: 07 - Carried over to summary					
BILL N0: 08					
<u>FINISHES</u>					
8.1	<u>GENERAL</u>				
	Note: Rates shall include for: fixing, bedding, grouting, pointing, and making good around pipes, sanitary fixtures , and similar; cleaning down, polishing and any other similar works to ensure the required finish.				
8.2	<u>FLOOR FINISHES</u>				
8.2.1	300mm x 300mm Homogenous floor tiles as per detail given				
(1)	Ground floor general area	151.00	m ²		
(2)	First floor general area	98.00	m ²		
(3)	Second floor general area	11.00	m ²		

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Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
8.2.2	200mm x 200mm Non-Skid floor tiles for toilet areas as per detail given. All the toilet floor areas including turn up walls, should be applied with approved water proofing before tiling.				
(1)	Ground floor	17.00	m²		
(2)	First Floor	17.00	m²		
8.2.3	300mm x 300mm Non-Skid floor tiles at terrace as per detail given. These floor areas including turn up walls, should be applied with approved water proofing before tiling.				
(1)	First Floor	42.00	m²		
(2)	Second floor	108.00	m²		
8.2.3	300mm x 300mm Homogenous tiles with nosing on staircase				
(1)	Main Staircase	37.00	m²		
(2)	Main Entrance step	27.00	m²		
8.3	<u>WALL FINISHES</u>				
8.3.1	200mm x 300mm wall tiles in toilet areas up to 2100mm height as per detailed given				
(1)	Ground Floor	68.00	m²		
(2)	First Floor	68.00	m²		
8.4	<u>SKIRTING</u>				
8.4.1	300mm x 100mm Homogenous Polished skirting tiles as per detail given				
(1)	Ground Floor	62	m		
(2)	First Floor	46	m		
(3)	Second Floor	15	m		
8.4.2	300mm x 100mm Homogenous Out door skirting tiles at terrace as per detail given				
(1)	First floor	28	m		
(2)	Second floor	53	m		
BILL No: 08 - FINISHES					
TOTAL OF BILL No: 08 - Carried over to summary					
BILL No: 9					
<u>ELECTRICAL INSTALLATIONS</u>					

Bill Of Quantities

Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
9.1	<u>GENERAL</u> (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 for electrical conduits, fittings, equipment and similar items shall include for: all fixings to various building surfaces (d) Light end and switch end of wiring together measured as one point (e) A point wiring for power points is measured as one point for each socket outlet; other end of wire is not included in the quantity. (f) Rates shall include for supply and complete installation (g) Rates for fans shall include for fan regulator and rates for lighting shall include for switched (h) Three phase power supply.				
9.2	<u>ELECTRICAL BOARDS</u> Complete installation, including for all connections, earthing, painting, testing and similar of: (1) Three phase main panel board with connections from the mains including meter, cut-off fuse and other accessories to be located in the panel room at ground floor to electrical engineers specification (2) Electricity Meter (3) Distribution Board		1.00 1 1	Item Nos Nos	
9.3	<u>ELECTRICAL WIRING</u> Electrical wiring with copper conductor cable in conduits in walls and concrete as per government regulations. (1) Wiring to lightings (2) Wiring to power points (3) Wiring to fans		73 13 12	points points points	
9.4	<u>LIGHTING & FANS</u> Fixing of (1) Fourascent tube light (2nos x 4ft) (2) Energy saving wall light (3) Energy saving weather proof wall light (4) Ceiling Fan (5) Fan Dimmer		16 14 13 12 12	Nos Nos Nos Nos Nos	
9.5	<u>POWER POINTS</u>				

Bill Of Quantities

Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
(1)	13amp Power Point (double gang)		13	Nos	
9.6	<u>SWITCHES</u>				
(1)	Single gang switch		10	Nos	
(2)	Double gang switch		2	Nos	
(3)	Three gang switch		4	Nos	
(4)	Four gang switch		2	Nos	
9.7	<u>OTHERS</u>				
(1)	TV outlet		3	Nos	
(2)	Telephone outlet		3	Nos	
BILL No: 9 - ELECTRICAL INSTALLATION					
TOTAL OF BILL No: 9 - Carried over to summary					
BILL No: 10					
	<u>HYDRAULICS AND DRAINAGE</u>				
10.1	<u>HYDRAULICS</u>				
10.1.1	<u>Preamble notes</u>				
	(a) Rates shall include for sockets, running joints, connectors, elbows, junctions, valves, reducers, expansion joints, backn and similar, incidental fittings, clips saddles, brackets, straps, hangers, screws, nails and fixing complete, including cutting and forming holes, excavating, laying pipes and backfilling trenches.				
	(b) All pipe work and fittings shall be high pressure PVC				
	(c) Rate shall include for supply and fixing of all pipes				
10.1.2	<u>Internal Plumbing</u>				
	Internal plumbing to all toilets and pantry incl. Supply and laying of pipes.		1	Item	
10.1.3	<u>External plumbing</u>				
(1)	Well water connection to all WC's & sinks. Rates shall include for supply and laying of pipes		1	Item	
(2)	Waste water and sewage connection from all the toilets inc. supply and laying of pipes including inspection chambers as necessary		1	Item	
10.1.4	<u>Sanitary Fixtures & Accessories</u>				
	Sanitary fixtures complete including brackets, stop valves, fittings etc. All sanitary fittings shall be of superior quality. Taps, Hand shower, Head shower and towel bar should be plastic.				
(1)	Water closet, complete with flush tank		6	Nos	
(2)	Urinal		4	Nos	

Bill Of Quantities

Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
(3)	Wash basin including tap and pedestal	4	Nos		
(4)	Muslim shower	6	Nos		
(5)	Floor drain with gully trap in toilets and Balcony	8	Nos		
(6)	Stainless steel sink	1	Nos		
(7)	Sink Tap	1	Nos		
10.1.5	<u>Pumps</u>				
(1)	Supply and installation of Water pump set complete with main pump and auxillary pump, including pump stand, connecting to pipe work and electricity as specified for groundwater	1	Nos		
10.1.6	<u>Water tank</u>				
(1)	Supply and installation 2000litres of Water tank on second floor terrace. Rates shall include for installation and connections as shown in the detailed drawing.	1	Nos		
10.2	<u>DRAINAGE</u>				
10.2.1	<u>Preamble notes</u>				
	(a) Rates shall include for excavation, maintaining faces of drain pipe trenches and pits, backfilling, disposal of surplus soil, bends, junctions, reducers, expansion joints and all joints and other incidental materials. (b) All pipework shall be PVC	1	item		
10.2.2	<u>Inspection chambers</u>				
	Supply and installation of inspection chambers as shown in the drawings according to specifications	2	no		
BILL No: 10 - HYDRAULICS AND DRAINAGE					
TOTAL OF BILL No: 10 - Carried over to summary					
BILL No: 11					
	<u>FIRE FIGHTING</u>				
11.1	<u>GENERAL</u>				
	(a) Rates shall include for supplying and complete installation as per given drawings.				
11.2	<u>FIRE FIGHTING EQUIPMENT</u>				
(1)	CO2 fire extinguisher 2kg	4.00	nos		
(2)	Water fire extenguisher 9litre	4.00	nos		
BILL No: 11 -FIRE FIGHTING					

Bill Of Quantities

Item	Description	Unit	Qty	Unit Price US\$	Total Price US\$
TOTAL OF BILL No: 11 - Carried over to summary					