

Bill of Quantity - Transitional Mudbrick Shelter with Veranda (3.3x6.45

No.	Description	Unit	Quantity (2 room shelter)	Estimated Cost (NGN)		Estimated C
				Unit Cost (NGN)	Total Cost (NGN)	Unit Cost (USD)
A	Setting out, Excavation and Backfilling of excavated soil					
1	Clear site, set out the shelter according to layout provided by IOM and Excavate foundation trench to a minimum depth of 305mm below natural ground and in width 300mm to receive the foundation footing of 75mm thick. And excavate 5Nos of foundation holes for studded poles each 200x100mm by 600mm deep	CuM	3.15		0.00	0.00
2	Backfill and Rammer sides of the excavated trench, as well as internal rooms and veranda to serve as base for finishing with sand cement floor, using excavated material from the foundation and the latrine pit excavation.	CuM	6.08		0.00	0.00
B	Substructure and floor					
	Foundation footings: plain in situ sandcrete for foundations footing and studded poles (ratio 1:4 of cement:sharp sand - batching 1 cement bag for 2 wheelbarrows of sharp sand). 1. Footing of 75mm thick and 300mm wide. and 2. Fill the sides of 5Nos excavated footings of studded poles.	CuM	0.54		0.00	0.00
	Perimeter blockwork: Sandcrete hollow blocks 6"x 18"x 9" (150x450x230mm) bedded and jointed in cement-sand mortar (ratio 1:6 - batching is 1 cement bag for 3 wheelbarrows of sand), block holes filled with mud. Two courses for the foundation of the main rooms and one course for the veranda.	SqM	13.54		0.00	0.00
	Plastering of blockwork. External sand-cement plastering of foundation blockwork above ground level (ratio 1:6 cement to plaster sand. Batching is 1 cement bag for 3 wheelbarrows of sand).	SqM	4.18		0.00	0.00
	Damp proof membrane (DPM). Plastic sheet high puncture resistance extremely durable water & vapour resistant polythene, 1mm thickness. To cover a perimeter of 22.5m with 250mm width per shelter. To protect walls from water capillarity.	SqM	5.63		0.00	0.00

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	Floor. Plain in situ sandcrete floor 50mm thick (ratio 1:4 - batching is 1 cement bag for 2 wheelbarrows of sand) cast over backfilled and compacted soil.	CuM	1.34		0.00	0.00
	Floor finish: cement grout covering a surface of 26.7sqm for the internal rooms and veranda	SqM	26.71		0.00	0.00
	Subtotal substructure				0.00	
	Superstructure (walls)					
	Walling: Construct walls with Locally hand-made Mudbricks (150mmx150mmx350mm), including preparation and screening of soil of agreed grain composition, mixing with water and vegetable fibres, laid with mud mortar. Where possible, bricks to be moulded on site by local workers, including direct shelter beneficiaries.	SqM	52.38		0.00	0.00
	Apply earth-based plaster, 15mm thickness, mixture of mud, boiled bitumen and used engine oil (or water-based bitumen), to be applied in at least two coats. Inclusive of all required materials for the mixture, water and labour costs. For all external mudbrick walls, and only 300mm height from floor level for the internal rooms.	SqM	51.48		0.00	0.00
	Subtotal walls				0.00	
	Timbers for roof structure and door frame					
	Provide and install Obeche Timber poles, 2x6 inches - full length min. 3m, pre-treated with antitermite/engine oil solution. For wall plates (4pcs), door frames (4pcs) and lintel of front windows (1pc cut into two). To be secured with langalanga to the brick walls.	Pcs	9.00		0.00	0.00
	Provide and install Obeche Timber poles, 2x6 inches - full length min. 3m for studded poles at front veranda, pre-treated with antitermite/engine oil solution and fully termite treated at base (soaked in metal drum min 900mm from base). To be cast in sand-cement footing.	Pcs	5.00		0.00	0.00

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Provide and install Obeche Timber poles, 2x4 inches - full length min. 3m, pre-treated with antitermite/engine oil solution. For ridge beam (2.5 pcs); 7.5pcs front rafters (330cm); 5pcs back rafters (230cm); 2pcs for wall plate for front veranda; 2pcs for tie beams at trusses no. 2 and 4. 3x tie collar at trusses 1-3-5 (100 cm length) and 2 king posts of (80cm length) at trusses no. 2 and 4, to be obtained from rafters offcuts.	Pcs	19.00		0.00	0.00
Provide and install Obeche Timber poles, 2x3 inches - full length min. 3m, pre-treated with antitermite/engine oil solution, for 10 lines of purlins, to be nailed to rafters and secured with langalanga.	Pcs	25.00		0.00	0.00
Provide and install Fascia board, 1x5 inches timber plank - full length min. 3m - along the whole perimeter of the roof, pre-treated with antitermite/engine oil solution.	Pcs	9.00		0.00	0.00
Roof cover					
Provide and install CGI Sheets (2.4m x 0.6m x 0.2mm thick) with 75mm cap nails fixed at every corrugation at the edges of the roof, wit side overlap of 2 corrugations and min. 200mm end overlap between sheets. Folded and fixed over fascia board at gable ends. With Branded IOM logo in blue color on selected sheets as per design (logos may be applied on construction site).	SqM	41.18		0.00	0.00
Provide and install Aluzinc ridge cap, 0.35mm thick * 400mm wide, blue color, folded at the centre. Well secured with 4 cap nails over the fascia board at each gable end.	m	7.50		0.00	0.00
Subtotal timbers and roof cover				0.00	
Doors and windows					
Install purpose made doors of 2.1x0.7m with 2x3" timbers for door leaf, three 100mm hinges per door to fix leaf on frame, cladding with CGI sheet 0.2mm thick branded with IOM logo, internal and external latches 125mm, padlock of 0.25kg and keys.	Pcs	2.00		0.00	0.00
Install purpose made windows of 600mm height by 300mm width, with 2x3" timbers for frame and leaf, two 75mm hinges (one pair) and cladged with blue aluzinc, with internal 100mm tower bolts. Branded with white IOM logo.	Pcs	2.00		0.00	0.00

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	Install purpose made fly screen net for ventilation of 250mm height by 150mm width, with timber battens for frame nailed to the net to wall and wall plate.	Pcs	8.00		0.00	0.00
	Subtotal doors and windows				0.00	
	Fixings					
	Nails - 5 inch	Kg	2.00		0.00	0.00
	Nails - 4 inch	Kg	10.00		0.00	0.00
	Nails - 3 inch	Kg	10.00		0.00	0.00
	Nails - 1 1/2 inch	Kg	2.00		0.00	0.00
	Wind security (Langa langa) - 1.5m length each.	Pcs	56.00		0.00	0.00
	Subtotal fixings				0.00	
	Tree plantation on plot					
	Provision and planting of tree seedling on the shelter plot.	Pcs	1.00		0.00	0.00
	Supply and fix cylindrical plant protector (cage) made from palm stick size 1.2m x 0.45mm diameter.	Pcs	1.00		0.00	0.00
	Subtotal tree planting				0.00	
	Subtotal substructure				0.00	
	Subtotal walls				0.00	
	Subtotal timbers and roof cover				0.00	
	Subtotal doors and windows				0.00	
	Subtotal fixings				0.00	
	Subtotal tree planting				0.00	
	Subtotal Cost for 1 Shelter				0.00	

	Contingency (1% of subtotal cost)				0.00	
	Total Cost for 1 Shelter			NGN	0.00	USD

GBP

5m, 2.3m height), all inclusive

415.13

Cost (USD)	
Total Cost (USD)	Remarks
0.00	
0.00	
0.00	For semi-detached twin shelters, convert the foundation footing of the extra middle wall to dwarf wall for plot demarcation, for the same total SqM. Refer to last page on designs.
0.00	For semi-detached twin shelters, convert the foundation course of the extra middle wall to one course of foundation for a dwarf wall for plot demarcation, for the same total SqM.
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0.00	13 courses of bricks above the plinth to reach 2.49m above NGL, plus overhead course above wall plate on long sides. Including internal partition and gables. Provide 50mm ventilation gaps at the overhead course as per design. For semi-detached twin shelters, convert the middle wall to dwarf wall for plot demarcation, for the same total SqM.
0.00	For semi-detached twin shelters, convert the plastering of the middle wall to that of a dwarf wall for plot demarcation, for the same total SqM.
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0.00	Refer to design for location and size of ventilation holes.
0.00	
0.00	Fixing thicker wooden poles together (mainly rafters to ridge beam)
0.00	Fixing thicker wooden poles together
0.00	Fixing wooden poles together (mainly doors and window frames)
0.00	For fixing langalngas and battens
0.00	For key connections including tying of purlins and rafters to the superstructure, tying of wall plate to walls and secure connection of door and window frames to walls
0.00	
0.00	Tree species to be agreed based on location, including but not limited to: neem, papaya, guava, orange, cashew, huru, mango. Economic fruit trees to be prioritized, fast growing and high production
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0.00	Provisional sum to cover for any minor variation, unexpected events and improvements or upgrades for people with disability.
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