BILL OF QUANTITIES

ECOTOURISM PROJECT: CONSTRUCTION OF A BOARDWALK CONNECTING MANGROVE ECOSYSTEM AND EXISTING TENGEFU AT MUNJE VILLAGE IN RAMISI WARD

BILL NO. 1: PRELIMINARIES & GENERAL ITEMS

Item	Description	Unit	Qty	Unit Rate	Amount (Kshs.)
1.01	Fabricate and install public sign board to detail as per the drawing and directed on site	NO	1		
1.02	Allow for the implementation of the Environmental Social Management Plan (ESMP) cost from the Environmental and Social Impact Assessment Report	LS	1		
1.03	Allow for Kshs. 200,000 for Project team attendance expenses.	LS	1		
1.04	Extra over item 1.03 for Contractor's overheads and profits	%	200,000		
1.05	Mobilisation, demobilisation and establishment of contractor's marine works facilities, plant and equipment	LS	1		
1.06	Allow for Setting out of boardwalk including alignment, levels, column positions and benchmarks	LS	1		
1.07	Extra over item 1.06 for Contractor's overheads and profits	%	150,000		
1.08	Concept design review, preparation and submission of drawings, structural and electrical calculations and fabrication drawings for Recycled plastic structure	LS	1		
1.09	Extra over item 1.08 for Contractor's overheads and profits	%	200,000		
	Total for Bill No. 1 Carried forward to Summary Page				

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BILL NO. 2: BOARDWALK SUB-STRUCTURE

Item	Description	Unit	Qty	Unit Rate	Amount (Kshs.)
2.01	Drilling holes into the seabed for columns installation, remove all extractred material and cart away to a spoil area away from site.	m^3	70		
2.02	Installation of 150mm diameter Recycled plastic structural columns/piles, including handling, positioning, plumbing, driving/installation into seabed to minimum 4 m embedment and all necessary temporary bracing; Recycled plastic or approved equivalent	m	1950		
2.03	Column installation tolerance adjustment, cutting, trimming and sealing of Recycled plastic column tops	No.	300		
2.04	Permanent connection/brackets between columns and longitudinal beams, including marine-grade stainless-steel/approved corrosion-resistant bolts, nuts and washers	No.	300		
	Total for Bill No. 2 Carried forward to Summary Page				

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ECOTOURISM PROJECT: CONSTRUCTION OF A BOARDWALK CONNECTING MANGROVE ECOSYSTEM AND EXISTING TENGEFU AT MUNJE VILLAGE IN RAMISI WARD

BILL NO. 3: BOARDWALK SUPER-STRUCTURE

Item	Description	Unit	Qty	Unit Rate	Amount (Kshs.)
3.01	Longitudinal side beams, 200 × 125 mm Recycled plastic structural sections or approved equivalent, fixed continuously along both sides of boardwalk	m	900		
3.02	Transverse deck support beams/bearers, 200 × 125 mm Recycled plastic structural sections or approved equivalent securely connected to side columns	m	270		
3.03	Structural Recycled plastic brackets, cleats, gusset plates and connection fittings required for primary and secondary framing	kg	100		
3.04	Marine-grade stainless steel/approved corrosion-resistant bolts, nuts, washers and proprietary Recycled plastic fasteners for primary structural connections	kg	100		
3.05	Provide and install 150 × 50 mm Recycled plastic deck members or approved equivalent, with non-slip surface, UV-resistant and suitable for continuous marine exposure, including cutting and fixing transversely across 2.0 m boardwalk width with gaps not exceeding 2cm between adjacent members	m	3,177		
3.06	Marine-grade stainless-steel/approved corrosion-resistant mechanical fasteners for fixing deck members to supporting beams, including washers and locking nuts	No.	5,295		
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ECOTOURISM PROJECT: CONSTRUCTION OF A BOARDWALK CONNECTING MANGROVE ECOSYSTEM AND EXISTING TENGEFU AT MUNJE VILLAGE IN RAMISI WARD

BILL NO. 4: GUARDRAILS

Item	Description	Unit	Qty	Unit Rate	Amount (Kshs.)
4.01	Recycled plastic top guardrail/handrail of 4" diameter or approved equivalent, continuous along both sides, at 1.2 m above finished deck level	m	600		
4.02	Ditto for bottom guardrail member, or approved equivalent, continuous along both sides	m	600		
4.03	Ditto for additional vertica guardrail member, or approved equivalent, continuous along both sides	m	120.00		
4.04	Ditto for diagonal guardrail braces, approximately 1.92 m long, between each pair of guardrail posts, including connection fittings	No.	800		
4.05	Marine-grade stainless steel/approved corrosion-resistant bolts, nuts, washers, brackets and connection hardware for guardrails	kg	300		
	Total for Bill No. 4 Carried forward to Summary Page				

BILL OF QUANTITIES

ECOTOURISM PROJECT: CONSTRUCTION OF A BOARDWALK CONNECTING MANGROVE ECOSYSTEM AND EXISTING TENGEFU AT MUNJE VILLAGE IN RAMISI WARD

BILL NO. 5: MAKUTI RESTAURANT, RESTING BAYS AND RECEPTION AREA WORKS

Item	Description	Unit	Qty	Unit Rate	Amount (Kshs.)
	Resting bays				
5.01	Provide all materials and construct resting bays each of floor area approximately 21.65m^2 comprising of concrete piles to the SE's detail, recycled plastic flooring paired with timber superstructure and makuti roofing.	No.	3		
	Makuti Restaurant				
5.02	Provide all materials and construct restaurant of floor area approximately 120m^2 comprising of concrete piles to the SE's detail, recycled plastic flooring paired with timber superstructure and makuti roofing.	m^2	120		
	Reception area				
5.03	Provide all materials and construct reception structure and amenities totaling to approximately 60m^2 comprising of concrete piles to the SE's detail, recycled plastic flooring paired with timber superstructure and makuti roofing.	m^2	60		
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ECOTOURISM PROJECT: CONSTRUCTION OF A BOARDWALK CONNECTING MANGROVE ECOSYSTEM AND EXISTING TENGEFU AT MUNJE VILLAGE IN RAMISI WARD

BILL NO. 6: ELECTRICAL INSTALLATION

Item	Description	Unit	Qty	Unit Rate	Amount (Kshs.)
6.01	Provide for Supply, installion testing and commissioning of a complete solar PV system comprising approximately 4 kWp solar panels, 5 kW hybrid inverter, 10 kWh $LiFePO_4$ battery, mounting structures, protection devices, earthing, monitoring and main distribution board, including minimum 3-core, 6 mm^2 copper AC output cable, all accessories and connections. All equipment shall be suitable for coastal conditions and complete to the Engineer's approval.	LS	1		
6.02	Provide for Supply and installion of electrical cabling and approximately 50 IP66, 10–15 W LED luminaires at 6 m spacing along the 300 m boardwalk, including preliminary minimum 3-core, 10 mm^2 copper feeder cable, 3-core, 1.5 mm^2 lighting cables, 3-core, 2.5 mm^2 socket cables, protective conduits, junction boxes, dusk-to-dawn controls, and lighting and charging sockets for three resting bays. Include earthing, protection, corrosion-resistant fittings, testing and commissioning. Cable sizes and lighting layout are subject to approval by the Engineer.	LS	1		
6.03	Provide for Supply and installion of complete electrical wiring using preliminary minimum 3-core, 1.5 mm^2 copper lighting cables and 3-core, 2.5 mm^2 socket cables, distribution boards, circuit protection, earthing, switches, LED lights, socket outlets and dedicated connections for refrigerator, freezer, TVs, music system and light kitchen appliances. Include conduits, accessories, testing and commissioning. All installations shall be suitable for coastal conditions and approved by the Engineer.	LS	1		
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ECOTOURISM PROJECT: CONSTRUCTION OF A BOARDWALK CONNECTING MANGROVE ECOSYSTEM AND EXISTING TENGEFU AT MUNJE VILLAGE IN RAMISI WARD

BILL SUMMARY		
ITEM	**DESCRIPTION**	**AMOUNT KSHS.**
1	Preliminaries	
2	Boardwalk Sub-structure	
3	Boardwalk Super-structure	
4	Guardrails	
5	Makuti Restaurant and Resting bays and reception area works	
6	Electrical installation	
(A)	**Sub-total (1)**	
(B)	Add 2% CONTIGENCIES of sub total (1)	
(C)	Sub-total (2) = (A + B)	
(D)	Add …16% VAT of sub-total (2)	
(D)	Add 0.03% PROCUREMENT LEVY of sub-total (2)	
	GRAND TOTAL CARRIED FORWARD TO FORM OF TENDER	