



FLLCA
FINANCING LOCALLY-LED
CLIMATE ACTION



GOVERNMENT OF MAKUENI COUNTY

**DEPARTMENT OF LANDS, URBAN PLANNING & DEVELOPMENT,
ENVIRONMENT & CLIMATE CHANGE**

**NGAI NDETHYA SAND DAM ENHANCEMENT AND
LIVELIHOOD RESTORATION PROJECT**

IN

MTITO ANDEI WARD

BILL OF QUANTITIES

BILL OF QUANTITIES FOR NGAI NDETHYA SAND DAM ENHANCEMENT AND LIVELIHOOD RESTORATION PROJECT

Preamble: The rates entered shall include, third party fees, levies, input costs, labour and contractor's overheads and profits.

Item	Item Description	Unit	Quantity	Unit Rate	Amount
Bill 1:	Preliminary & General Items				
1.1	Publicity Sign Board				
1.1	Construct a sign post to detail as provided in the drawing and as instructed by the project manager.	No	1		
1.2	Mobilization and Demobilization				
1.21	Maintain Contractor's camps, facilities, plants, insurance, etc, include mobilization to site, and demobilization on completion of contract	Item	1		
1.3	Testing				
1.31	Allow for concrete strength test 150×150×150 mm cubes by approved government facility to the satisfaction of the project manager. Test for 7 and 28 days	Cubes	4		
1.32	Allow undertaking slump test on site for concrete (2 No occasions) and provide report by an external certified materials expert. Submit report and indicate the standard followed.	NO	2		
	<i>Total carried from Bill 1 to Main summary</i>				
Bill 2	Rising of Sand Dam Wall and Wing Walls				
2.1	Excavation for foundations and wing walls				
2.11	Excavation of dam wall wing walls foundation. Remove the loose rocks and weathered rock debris and cart away as directed by the project manager	m ³	52		
2.12	Allow provisional sum for extra over excavation in rock as instructed by the supervising engineer.	m ³	10.4		
2.13	Allow for silhouiting in presence of the supervising engineer	l/s	1		
2.2	Vibrated reinforced concrete class 25 (1:2:4) with additives and 20mm thick maximum aggregate size				

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Item	Item Description	Unit	Quantity	Unit Rate	Amount
2.21	Use properly vibrated reinforced boulder concrete (60 concrete:40 hardcore) using approved hardcore for construction of sub structure and super structure of the sand dam as per the drawings provided and instructed by the supervising engineer	m ³	115		
2.3	Reinforcement Bars				
	Provided handle, cut, bend and fix the following reinforcement bars as stated in the bending schedule or as directed by the Engineer				
2.31	10mm mild steel bars	Kg	735		
2.32	12mm mild steel bars	Kg	485		
2.4	Form Work				
	Sawn formwork approved by the project manager to walls	m ²	110		
	<i>Total carried from Bill 2 to Main summary</i>				
BILL 3	PIPE WORKS				
3.01	Site clear and excavate to pipe invert level 600 mm n.e 1m below existing ground level and backfill/ reinstate to original ground level after testing pipeline, all to the approval of the engineer	m	8,000		
3.02	Supply, fit and test 75mm (2½") dia. HDPE PN 10, PE 100; ISO 4427	m	3,000		
3.03	Supply, fit and test 63mm (2") dia. HDPE PN 10, PE 100; ISO 4427	m	5,000		
3.04	Allow for pipeline setting out in presence of supervising engineer	ls			
3.05	<i>Supply and fit the following fittings into the pipeline with their respective connectors</i>				
3.06	Supply and install DN40mm anti-shock/ anti-surge single - orifice Air Valves as per the attached technical specifications with threaded or flanged base , c/w isolating valve Pegler or equivalent approved	nr	5		
3.07	Supply, install and test KLORMAN inline chlorinator or equivalent approved with by-pass	Item	1		

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Item	Item Description	Unit	Quantity	Unit Rate	Amount
	and cartridges on the rising main pipeline as shall be directed. Rate inclusive of chamber				
3.08	OD75x63mm reducing coupling	nr	1		
3.09	Supply and install DN50mm sectional valves as shall be instructed	nr	2		
3.1	Supply and install DN63mm wash out as per the provided drawing	No.	3		
3.11	Construct 1000mm x 1000mm internal dimension standard masonry stone walling chambers with steel frames, reinforced concrete cover and locking devices as per the provided drawing for airvalves, washouts, Sectional Valves; complete with mark posts	No.	8		
3.12	Marker Posts				
3.13	<i>Construct concrete marker posts and install along the water supply pipeline. all in accordance with details shown on drawings. (Reinforced concrete 1:2:4(class 20/20, bars D12), as per details on drawing</i>				
3.14	Pipeline marker post inscribed WL	nr	25		
3.15	Air valve marker post Inscribed AV	nr	5		
3.16	Washout marker post inscribed WO	nr	3		
3.17	Sluice Valve marker post inscribed SV	nr	1		
-	<u>Amount carried for collection</u>	-	-		
BILL 4	COMMUNAL WATER POINT				
	2.5M x 2M STD Ministry Water Kiosk				
	SUB - STRUCTURE				
4.11	Site clearing & topsoil stripping	m ²	21.00		
4.12	Excavate for footings, strip & columns to 1.0m depth (normal soil)	m ³	8.00		
4.13	Return & backfill excavated material around foundations	m ³	4.00		
4.14	Load and cart away surplus excavated material	m ³	4.00		
4.15	50mm thick 1:2:4 mix foundation blinding	m ²	6.50		
4.16	C25/30 reinforced concrete in strip foundations, stub footings 1000x1000mm	m ³	1.80		
4.17	300mm thick hardcore filling	m ²	6.25		
4.18	50mm thick murrum blinding to hardcores	m ²	12.00		

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Item	Item Description	Unit	Quantity	Unit Rate	Amount
4.19	Anti-termite treatment	m ²	12.00		
4.2	50mm thick 1:2:4 concrete blinding	m ²	6.25		
4.21	C25/30 reinforced concrete floor slab 100mm thick	m ²	6.25		
4.22	Fabric mesh reinforcement to B.S. 4483 ref: A98 including laps tyingwire and spacer blocks complete(measured nett-allow for laps)	m ²	6.25		
4.23	D12 reinforcement to column footing (pad) 150mm c/c both sides with 250mm hook	kg	70.00		
4.24	4No. T16 reinforcement to Column starter bars and R8 @ 150 mm	kg	130.00		
4.25	Assorted reinforcement to foundation strip 3No. T10mm and T8mm ties with hooks at 100mm c/c	kg	45.00		
4.26	200mm x 25mm softwood sawn formwork to side of slab	m	10.00		
4.27	200mm thick quarry stone foundation walling laid in cement/ sand mortar 1:2 with alternate courses of hoop iron	m ²	6.00		
4.28					
4.29	WALLING				
4.3	C25/30 mix reinforced beams 300x200mm, columns and 150mm thick roof slab	m ³	2.70		
4.31	200mm thick quarry stone foundation walling laid in cement/ sand mortar 1:2 with alternate courses of hoop iron	m ²	23.00		
4.32	200 x 25mm soft wood sawn timber formwork to sides of lintol	m ²	6.00		
4.33	D16mm diameter reinforcement bars to beams cw R8mm diameter bars rings 150mm c/c	kg	100.00		
4.34					
4.35	ROOFING				
4.36	200 x 25mm soft wood sawn timber formwork for roof slab.	m ²	7.00		
4.37	150 x 25mm soft wood sawn timber formwork to sides of roof slab	m	10.00		
4.38	C25/30 reinforced concrete to roof slab - 150mm T.H.L c/w water proofing	m ³	1.00		

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Item	Item Description	Unit	Quantity	Unit Rate	Amount
4.39	D12 reinforcement steel bars @150mm c/c for bottom steel and T10mm reinforcement steel bars at 200 c/c to top steel double reinforcement to 125mm thick roof slab. Add Y12 @ 150 mm c/c within tank base area extended 300 mm beyond tank perimeter.	Kg	150.00		
4.4					
4.41	DOORS				
4.42	Fix standard steel purpose made door size 1000 x 2100mm as per the drawings	nr	1.00		
4.43					
4.44	WINDOWS & VENTILATION				
4.45	Fix standard steel casement purpose made window size 950 x 1000mm	nr	1.00		
4.46	50mm thick precast concrete window sill all sides 1000 x 300mm throated/weartherd on the outside	Item	1.00		
4.47					
4.48	FINISHES				
4.49	12mm thick internal plaster	m ²	19.00		
4.5	12mm thick external plaster	m ²	22.00		
4.51	25mm thick cement/ sand screed	m ²	12.00		
4.52	Allow for G30 box profile roofing with steel section columns and bracings and shall be instructed	l/s	1.00		
4.53	PAINTING				
4.54	Prepare and apply 3 coats of exterior water-based paint (acrylic/ Weather Guard emulsion) to wall surfaces externally as shall be instructed	m ²	22.00		
4.55	Ditto but water-based emulsion paint internally including skimming	m ²	19.00		
4.56	Ditto Oil based to metal and wood surfaces	m ²	4.00		
4.57	Branding; including logos with stensils or engraved plaque as shall be directed	l/s	1.00		
4.58					
4.59	PLUMBING				
4.6	PPR 1½" tank inlet	m	6		
4.61	PPR 50mm (1½") class B tank outlet and overflow	m	4		
4.62	50x38mm reducer	nr	1		

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Item	Item Description	Unit	Quantity	Unit Rate	Amount
4.63	40mm (1¼) dia GI pipe class B	m	12		
4.64	20mm dia GI pipe	m	2		
4.65	38mm dia Bend	nr	5		
4.66	38mm dia Nipples	nr	4		
4.67	38mm dia Union	nr	4		
4.68	38mm dia Socket	nr	3		
4.69	38x20mm dia reducing tee	nr	1		
4.7	38x20mm dia reducer	nr	1		
4.71	38mm dia water meter	nr	1		
4.72	38mm diameter Gate Valve (Peglar)	nr	1		
4.73	20mm dia Bend	nr	4		
4.74	20mm dia stop cock	nr	4		
4.75	Supply and Install 10m ³ double layer UPVC tank; on the roof slab of the water kiosk.	nr	1		
	Sub Total 1 No. Water Kiosk				
-	<u>Amount carried for 3 No. Water Points carried for collection</u>	nr	3		
BILL 5	AGRICULTURE AND LIVESTOCK				
5.2	Agriculture				
5.21	Supply and Deliver Large Conical bags (120 seedlings capacity) of 6 polythene layers sheets of gauge 1mm, Bottom one with 4.71M diameter and the last apex layer/sheet of 30cm, All Sheets of 20cm Width/height pinned and screwed with 2inch long screws as shall be instructed by the agriculture officer	No.	106		
	Supply and deliver seed of spinach and kale and kale 25grams each	No.	2		
5.1	Livestock				
5.11	Supply Galla breeding bucks with the following specifications: Age 1.5 to 3 years old for optimal breeding, but not older than 4 years. Health Status: Must be free from diseases and parasites, with up-to-date vaccinations. Genetic Purity: Purebred or of good breeding line to maintain desirable traits. Body Conformation: Well-balanced, with a strong, muscular build. Height: Good height and body length. Medium to large size, reflecting good growth potential. Weight: up to 25kg LBW, Color	No.	52		

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Item	Item Description	Unit	Quantity	Unit Rate	Amount
	: White, Skin Black, <i>Horns</i> : Usually present, but hornless (polled) animals will also be considered.				
	Amount for Bill 5 Carried for Collection				
BILL 6	INSTALLATION OF A SOLAR POWERED CCTV AT SOLAR STRUCTURE				
6.1	Supply and install an outdoor solar-powered PTZ smart CCTV camera with integrated solar panel and rechargeable battery for continuous surveillance and remote monitoring. <i>Specifications:</i> HD (1080p or higher) multi-lens panoramic camera Solar panel with built-in rechargeable battery Pan-Tilt-Zoom (PTZ) remote control viewing Infrared & LED night vision Motion detection with real-time mobile alerts Wi-Fi / 4G connectivity for remote access Two-way audio communication MicroSD & cloud storage support Weatherproof outdoor design (IP65 or higher) Complete with mounting accessories, Sim card with 1 year internet subscription. As directed by the supervising engineer	No.	2		
	Amount for Bill 6 Carried for Collection				

GRAND SUMMARY PAGE

BILL	BILL DESCRIPTION
BILL 1	PRELIMINARIES AND GENERAL ITEMS
BILL 2	RISING OF SAND DAM WALL AND WING WALLS
BILL 3	PIPE WORKS
BILL 4	COMMUNAL WATER POINTS
BILL 5	AGRICULTURE AND LIVESTOCK

