

BILL OF QUANTITIES FOR MAKAI BOREHOLE WATER DISTRIBUTION 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 1.0	PRELIMINARY AND GENERAL ITEMS				
	Publicity Sign Board				
1.1	Fabricate erect and maintain public sign post 1200x1200x1.5mm metal sheet, 1500mm above ground level. It should be anchored 600mm deep motorised in mass concrete and well supported with 50x25mm RHS frame to detail as provided in the drawing and as instructed by the project manager.	No	1		
	Total carried from Bill 1 to Main summary				
BILL 2.0	BOREHOLE PUMPING SYTEM REHABILITATION WORKS				
2.1	Borehole camera inspection before and after flushing	UNIT	1		
2.2	Borehole Flushing (Use compressor)	UNIT	1		
2.3	Supply , Install and test submersible pump DS 17-27 KW Pump end.	Nr	1		
2.4	Supply , Install and test tail (lead) cable pedrollo 6PD 18.5KW -37KW 4M and Motor diagnosis	nr	1		
2.5	Supply , Install and test cable Joint (4-16MM) ST16	PC	1		
2.6	Borehole pump lowering	UNIT	1		
	Total carried from Bill 2.0 to Main summary				
BILL 3.0	BOREHOLE SITE FENCING, INSTALLATION OF STANDALONE FLOODLIGHTS AND CCTV CAMERAS				
	FENCING SOLAR STRUCTURES				
	<i>Procure, deliver and install the following items for perimeter fencing (Approximately 100M) as approved by the Project Engineer</i>				
3.01	Excavate in hard soil/murrum 300mmx300mmx450mm deep thick holes	Nr.	55.00		
3.02	Supply and install 125X125X3000mm long precast concrete fencing posts with 450mm long crank and reinforced with 4 no 8mm diameter deformed steel bars, 6mm diameter mild steel stirrups at 200mm centres. The concrete shall be class 20 (1:2:4 mix), finishing fair faced and have 9 number holes for attaching	Nr.	55.00		
3.03	gauge 12.5 galvanised steel barbed wire (500m roll) or other equal and approved tied to existing precast concrete posts	Rolls	2.00		
3.04	7ft high gauge 12.5, 2.5mm 18M long (80mm by 80mm mesh holes) galvanised steel chainlink steel mesh stretched and tightly tied to barbed wire with and including galvanised steel binding wire. The bottom side to have 200mm depth of benching into the mass concrete	Rolls	6.00		
3.05	Binding Wire	KG	25.00		
3.06	Mass concrete class 15 (1:3:6 mix) benching to concrete posts well vibrated.	CM	2.50		
3.07	Ditto mass concrete to chianlink bottom side haunching as shall be directed on site	CM	2.50		
	Entrance Gate				

BILL OF QUANTITIES FOR MAKAIWA BOREHOLE WATER DISTRIBUTION 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
3.08	Provide and install double gate of 4m wide X 2.4m high fabricated from dia. 50mm hollow section black pipes (gauge 16) .and 25mm x 25mm Square tubes cut and welded to form a mesh 150mm X 150mm Rate to include for 2No. 75mm x 75mm gauge 16 rectangular hollow section M.S. Gate posts and also to include for painting the gate with oxide primer and two coats of blue gloss paint	Nr.	1		
3.09	Supply, install and test CCTV Camera with the following specifications; Camera resolution (6MP) dual lens, supports both 4G connection, supports cloud storage and local storage of 128gb, tilting angle (Horizontally 360°)	Nr	2		
3.10	Supply, install and test 400watts standalone floodlights	Nr	3		
Total carried from Bill 3.0 to Main summary					
BILL 4.0 PIPELINE EXTENSION TO SOFIA, KYANG'ONDU, KITANDI VTC.					
<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>					
<i>The rate quoted is for site clearance and demolition along construction wayleave. Rate shall be deemed to include removal of the material, natural and artificial articles, objects and obstructions which are above the original surface and carting away to tips, identified by the contractor in liaison with the Local Authority</i>					
4.1	<u>General clearance</u>				
4.1.1	Site clear and excavate to pipe invert level 750 mm n.e 1m below existing ground level and backfill/ reinstatement to original ground level after testing pipeline, all to the approval of the engineer	m	6,550		
4.2	<u>PIPEWORK - PIPES</u>				
<i>The rate quoted is for supply, deliver the following items, trench, lay, fix and pressure test the pipeline</i>					
4.2.1	Supply , install and test HDPE pipes OD 75 mm HDPE PN 8 SDR 21 PE 100	m	780		
4.2.2	Supply , install and test HDPE pipes OD 75 mm HDPE PN 10 SDR 17 PE 100	m	1020		
4.2.3	Supply , install and test HDPE pipes OD 75 mm HDPE PN 12.5 SDR 13.6 PE 100	m	4050		
4.2.4	Supply , install and test HDPE pipes OD 75 mm HDPE PN 16 SDR 11 PE 100	m	700		
4.2.5	Provide for joints butt fusion to engineer's approval (Inclusive of offtake fittings to water kiosks and schools along the pipeline-use pegler gate valves at offtakes and kiosk fittings)	ls	1		
4.3	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES</u>				
<i>The rate quoted is for provision and fixing</i>					
Washouts					

BILL OF QUANTITIES FOR MAKAIWA BOREHOLE WATER DISTRIBUTION 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
4.3.1	Supply , install and install DN50 mm washout Inclusive of HDPE 2.0 inch Tee, GI elbow, pegler gate valve and HDPE 2 inch male adapter and any other assorted fittings.	Nr	5		
	Airvalves				
4.3.2	Supply , install and install flanged DN 50mm single orifice airvalve type * Genfield* or equivalent approved by clients representative inclusive of HDPE 2.0 inch Tee, GI nipple, gasket and any other assorted fittings.	Nr	6		
4.4	CLASS K: PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	<i>The rate quoted is for chambers, culverts, crossings and reinstatements and other ancilleries as specified.</i>				
	Air Valve/Washout/gate valve Chambers				
4.4.1	Construct 900mm by 900mm (Internal dimensions) masonry valve chamber. Depth not exceeding 1m, Include for provision and fixing of cast iron step irons and heavy duty rectangular mild steel frame, a lockable steel Cover and a padlock to house all appliances with locking devices	nr	10		
4.5	Marker Posts				
	<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 guided by the clients representatives</i>				
4.5.1	Pipeline marker post inscribed WL @ 250m	nr	27		
4.5.2	Air valve marker post Inscribed WO	nr	5		
4.5.3	Air valve marker post Inscribed AV	nr	6		
4.6	Class L; PIPEWORK - SUPPORTS AND PROTECTION, ANCILLIARIES TO LAYING AND EXCAVATION				
4.6.1	Excavate for and construct reinforced concrete anchor blocks at designated points as directed by clients representatives. Use T8	nr	8		
4.6.2	Provide fifty thousand shillings for materials and on-site geometric positioning of all pipelines and fittings by the client's representative	ls	1		
4.6.3	Provide sleeve and Place vibrated reinforced concrete surround class 15. Use T8	m	80		
4.7	Sofia line offtake fittings				
4.7.1	Allow for sofia water kiosk offtake fittings (Inclusive of OD 75mm and OD 63 pegler gate valves)	Ls	1		
4.8	Break pressure tank				

BILL OF QUANTITIES FOR MAKAI BOREHOLE WATER DISTRIBUTION 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
4.8.1	Allow for excavate for and construct a break pressure tank of capacity 5m ³ , Including excavation , masonry walling, reinforced floor slab and roof slab and a lockable vent cover), Supply and installation of inlet/ outlet pipes (HDPE OD 75), Scour pipe and overflow pipe fixtures and and a 2.5 inch PN 25 ball valve c/w installation sundries as instructed by the supervising engineer inclusive of tightness test. (use class 20 concrete and apply bonding water proof primer as undercoat and cementitious water proofing membrane as the second coat at the internal surfaces)	Ls	1.00		
Amount for Bill 4.0 carried to Summary					
BILL 5.0 PIPELINE EXTENSION TO KING,ATHUNI PRIMARY SCHOOL					
	<i>The rate quoted is for site clearance and demolition along construction wayleave. Rate shall be deemed to include removal of the material, natural and artificial articles, objects and obstructions which are above the original surface and carting away to tips, identified by the contractor in liaison with the Local Authority</i>				
	General clearance				
5.01	Site clear and excavate to pipe invert level 750 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	1,000		
5.1	PIPEWORK - PIPES				
	<i>The rate quoted is for supply, deliver the following items, trench, lay, fix and pressure test the pipeline</i>				
5.1.1	Supply , install and test HDPE pipes OD 63 mm HDPE PN 10 SDR 17 PE 100	m	1000		
5.1.2	Allow for assorted connectors and adaptors as shall be approved (inclusive of pegler gate valve and all assorted fittings)	ls	1		
5.2	King'athuni line offtake fittings				
5.2.1	Allow for King'athuni offtake fittings (inclusive of OD 75mm* 63mm reducing tee, 2.0 inch pegler gate valve, 2.5 pegler gate valve, inch and all other assorted fittings as directed by client representative	LS	1		
5.3	CLASS J: PIPEWORK - FITTINGS AND VALVES				
	<i>The rate quoted is for provision and fixing</i>				
	Airvalves				
5.3.1	Supply , install and install flanged DN 50mm single orifice airvalve type * Genfil* or equivalent approved by clients representative inclusive of HDPE 2.0 inch Tee, GI nipple, gasket and any other assorted fittings.	Nr	1		
5.4	CLASS K: PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				

BILL OF QUANTITIES FOR MAKAI BOREHOLE WATER DISTRIBUTION 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
	<i>The rate quoted is for chambers, culverts, crossings and reinstatements and other ancilleries as specified.</i>				
	Air Valve/Washout/gate Valve Chambers				
5.4.1	Construct 900mm by 900mm ((Internal dimensions) masonry valve chamber. Depth not exceeding 1m, Include for provision and fixing of cast iron step irons and heavy duty rectangular mild steel frame, a lockable steel Cover and a padlock to house all appliances with locking devices	nr	4		
5.5	Marker Posts				
	<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 guided by the clients representatives</i>				
5.5.1	Pipeline marker post inscribed WL	nr	4		
5.5.6	Allow for construction of IM high tank platform and a standard water point with all assorted fittings, supply and installation of 10m3 double layer plastic layer and interconnection of the tank to the water point -(use pegler gate valves and kent water meters class C)	LS	1		
	Amount for Bill 5.0 carried to Summary				
BILL 6.0	STANDARD WATER KIOSKS AND BRANDING AT SOFIA AND STANDARD WATER POINT AT KITANDI				
	ITEM DESCRIPTION	UNIT	QTY	RATE KShs.	AMOUNT KShs.
6.1	<i>Supply, deliver all necessary materials as below and construct A 2.5 M×2.5M kiosk at Sofia Shopping centre as directed by client representative.</i>				
6.1.1	FOUNDATION				
6.1.1.1	Cut to spoil top soil n.e. 150mm below g.l. over Kiosks and fetching bay areas into a permanent heap	m2	9.12		
6.1.1.2	Cut to spoil a strip foundation trench n.e. 600mm below g.l.	CM	2.50		
6.1.1.3	300mm thick hardcore filling well watered and compacted in layers of 150mm maximum thickness to make up levels	CM	2.1		
6.1.1.4	50mm thick quarry dust/Murram blinding to surfaces of hardcore	SM	9.12		
6.1.1.5	Chemical anti-termite treatment (as gladiator or equally approved) executed complete by an approved specialist under ten (10) year guarantee to surfaces of blinded hardcore	SM	9.12		
6.1.1.6	1000 gauge polythene or any other equally approved Damp proof membrane laid under surface bed with 300mm side and end laps(measured nett - allow for laps)	SM	10		
6.1.1.7	Natural stone walling, roughly chisel dressed on both sides and jointed in cement and sand (1:3) mortar 200mm foundation walling	LM	10.4		
6.1.1.8	Mass concrete class 15 (1:4:8) in 50mm thick surface blinding under strip footings	CM	0.46		

BILL OF QUANTITIES FOR MAKAIWA BOREHOLE WATER DISTRIBUTION 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
6.1.1.9	Mesh fabric reinforcement A98 to B.S 4483 (measured nett-allow for laps)	m2	9.12		
6.1.1.10	100mm thick 1:2:4 (C20/20) vibrated RC floor slab over Kiosks and fetching bay areas	m2	9.12		
6.1.1.11	25mm thick Cement sand screed (1:3) finished with steel float.	LM	6.8		
6.1.2	WALLING				
6.1.2.1	Hessian based bituminous felt DPC 225mm wide horizontally placed below masonry walling	LM	11.09		
6.1.2.2	Dressed Natural stone / Block walling: 200mm thick, bedded and jointed with cement and sand mortar (1:3), reinforced with 20SWG hoop iron in alternate courses to external wall including gable ends	m2	30		
6.1.2.3	Vibrated reinforced concrete 1:2:4 (class 20 (20/20mm) in Ringbeams	CM	0.42		
6.1.2.4	High yield square twisted steel reinforcement bars to BS 4461 including for cutting, bending to shape, tying, hooking and spacer blocks as described in:				
6.1.2.5	8mm diameter ditto	KG	21		
6.1.2.6	12mm diameter ditto	KG	40		
6.1.2.7	Sawn formwork to Sides of ringbeam	m2	4.2		
6.1.2.8	Horizontal key pointing in masonry joints in external wall surfaces	m2	25		
6.1.2.9	15mm thick Cement sand plaster to walls surfaces (1:3) finished to walls to receive paint internally	m2	30		
6.1.3	ROOFING:				
6.1.3.1	Wrought Cypress Timber 4x2	LM	12		
6.1.3.2	Wrought Cypress Timber 3" x 2"	LM	12		
6.1.3.3	Wrought Cypress Timber 2" x 2"	LM	21		
6.1.3.4	G30 2m Corrugated Iron Sheets.	SM	10.89		
6.1.3.5	Roofing Nails	Kg	2		
6.1.3.6	Assorted Ordinary Wire Nails	Kg	2		
6.1.3.7	2.1M x 1M Standard steel door complete with frame, hinges latch bolts and padlock.	SM	1		
6.1.3.8	950MM X 1M Standard steel window complete with frame hinges and latch bolts.	m2	1		
6.1.4	FINISHES:				
6.1.4.1	ROOF: 8" x 1" planed timber fascia board	LM	14		
6.1.4.2	METAL SURFACES: Prepare and apply three coats plastic enamel paint to General metal surfaces (both sides).- (Red oxide primer glossy)	SM	9.14		
6.1.4.3	INTERNAL PLASTERED WALLS: Prepare and apply three coats plastic silk emulsion paint to Plastered wall surfaces internally	SM	30		
6.1.4.4	EXTERNAL WALLS: Prepare and apply three coats permaplast external wall paint to Rendered sides of beam and walls externally	SM	6.88		
6.1.4.5	Allow provisional sum for branding inclusive of logos as directed by client representative	Item	1		
6.2	TANK PLUMBING WORKS (Tank Inlet pipe fittings,, Tank Outlet pipe fittings and Tank Overflow fittings)				

BILL OF QUANTITIES FOR MAKAIWA BOREHOLE WATER DISTRIBUTION 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
6.2.1	Tank Inlet pipe fittings.				
6.2.1.1	Supply, install and test 2.5 inch Hdpe male adaptor .	Nr	1		
6.2.1.2	Supply, install and test 2.5 inch 90' galvanized GI Elbow.	Nr	2		
6.2.1.3	Supply, install and test 2.5 inch galvanized Gi pipe Class B as directed by client representative.	m	6		
6.2.1.4	Supply, install and test 2.5 inch galvanized Gi nipple	Nr	1		
6.2.1.5	Supply, install and test 2.5 inch galvanized Gi union.	Nr	1		
6.2.1.6	Supply, install and test 2.5 inch galvanized GI Tank adaptor	Nr	1		
6.2.2	Tank Outlet pipe fittings.				
6.2.2.1	Supply, install and test 1.25 inch galvanized GI Tank adaptor	Nr	1		
6.2.2.2	Supply, install and test 1.25 inch GI 90' bend	Nr	2		
6.2.2.3	Supply, install and test 1.25 inch galvanized Gi hollow pipe (the rate is inclusive of cutting into different lengths, threading for the outlet pipe network).	m	3		
6.2.2.4	Supply, install and test 1.25 inch galvanized Gi union.	Nr	1		
6.2.2.5	Supply, install and test 1.25*0.75 reducing bush	Nr	1		
6.2.2.6	Supply, install and test 0.75inch galvanized Gi hollow pipe (the rate is inclusive of cutting into different lengths, threading for the outlet pipe network).	m	6		
6.2.2.7	Supply, install and test 0.75 inch 90' galvanized GI Elbow.	Nr	5		
6.2.2.8	Supply, install and test 0.75 inch 90' galvanized GI Tee.	Nr	1		
6.2.2.9	Supply, install and test 0.75 inch stop cock with all all assorted fittings.	Nr	2		
6.2.2.10	Supply, install and test 0.75 inch pegler gate valve with all all assorted fittings.	Nr	1		
6.2.2.11	Supply, install and test 0.75 inch galvanized Gi union.	Nr	3		
6.2.2.12	Supply, install and test 0.75 cold water smart water meter or equivalent approved by engineers representative. The rate is inclusive of all assorted fittings.	Nr	1		
6.2.3	Tank Overflow fittings.				
6.2.3.1	Supply, install and test 1.0 inch galvanized GI Tank adaptor	Nr	1		
6.2.3.2	Supply , Install and test 1.0 inch HDPE female adapter	Nr	1		
	<i>Sub-total for sofia water kiosk</i>				
6.3	Allow for construction standard communal water point at Kitandi With all assorted fittings and interconnection to the 10,000L tank as directed by client representative. (use pegler gate valves and kent water meter class C)	ls	1		
	<i>Sub-total for standard water point at Kitandi</i>				
	<i>Amount for Bill 6 carried to Summary</i>				

BILL OF QUANTITIES FOR MAKAI BOREHOLE WATER DISTRIBUTION 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 7.0	CONSTRUCTION OF IM HIGH TANK PLATFORM AND INSTALLATION OF 10,000L PLASTIC TANK				
	DESCRIPTION	UNIT	QTY	RATE KShs.	AMOUNT KShs.
7.1	Supply materials and provide personnel to construct a tank base platform 1 m high to hoist a 10 m ³ plastic water tank .				
7.1.1	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	CM	1.5		
7.1.2	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep 300 mm wide and dispose soil as directed	CM	6.6		
7.1.3	Mass concrete mix 1:4:8: in 50mm thick blinding to hardcore	CM	0.47		
7.1.4	225mm thick dressed quarry stone walling	SM	24		
7.1.5	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	25		
7.1.6	Damp proof course	LM	11.8		
7.1.7	Provide, pack and compact hardcore in 300 mm layers to fill the tank platform	CM	9		
7.1.8	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab @ 200 spacing	Kgs	28		
7.1.9	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	CM	0.7		
7.1.10	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	SM	10		
7.1.11	Supply and Install 10m ³ double layer UPVC tank Kentank or equivalent approved with all assorted fittings	nr	1		
	<i>Total amount for 1 M platform and 10m3 plastic tank at Sofia shopping Centre</i>				
	<i>Add 1 MORE 1 M platform and 10m3 plastic tank at Kitandi</i>	Nr	1		
	<i>Amount for Bill 7 carried to Summary (2no. 1 M platform and 10m3 plastic tank)</i>				
BILL 8.0	WATER CONNECTION TO KILUNGU PRIMARY SCHOOL AND KITANDI VOCATIONAL TRAINING COLEGE.				
	<i>The rate quoted is for site clearance and demolition along construction wayleave. Rate shall be deemed to include removal of the material, natural and artificial articles, objects and obstructions which are above the original surface and carting away to tips, identified by the contractor in liaison with the Local Authority</i>				
	General clearance				
8.1	Site clear and excavate to pipe invert level 750 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	80		
8.2	PIPEWORK - PIPES				
	<i>The rate quoted is for supply, deliver the following items, trench, lay, fix and pressure test the pipeline</i>				

BILL OF QUANTITIES FOR MAKAIWA BOREHOLE WATER DISTRIBUTION 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
8.2.1	Supply , install and test HDPE pipes OD 63 mm HDPE PN 10 SDR 17 PE 100	m	80		
8.2.2	Allow for assorted connectors and adaptors as shall be approved (Inclusive of pegler gate valve and all assorted fittings)	ls	1		
8.3	CLASS K: PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	<i>The rate quoted is for chambers, culverts, crossings and reinstatements and other ancillaries as specified.</i>				
	Air Valve/Washout/ gate Valve Chambers				
8.4.1	Construct 900mm by 900mm(Internal dimensions) masonry valve chamber. Depth not exceeding 1m, Include for provision and fixing of cast iron step irons and heavy duty rectangular mild steel frame, pegler gate valves ,a lockable steel Cover and a padlock to house all appliances with locking devices	nr	2		
8.5	Marker Posts				
	<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 guided by the clients representatives</i>				
8.5.1	Pipeline marker post inscribed WL	nr	1		
	Total amount for Kilungu primary school				
	Add more for Kitandi VTC and Kyang' Ondu primary	Nr	1		
	Total for bill 8.0				
BILL 9.0	REHABILITATION OF KYANG' ONDU WATER KIOSK AND BRANDING				
9.1	Allow for resurfacing walls surfaces and branding as directed by client representative	LS	1		
9.2	Allow for plumbing works -(use pegler gate valves and kent water meters class C)	LS	1		
9.3	2.1M x 1M Standard steel door complete with frame, hinges latch bolts and padlock.	SM	1		
9.4	950MM X 1M Standard steel window complete with frame hinges and latch bolts.	m2	1		
9.5	CONSTRUCTION OF IM HIGH TANK PLATFORM AND INSTALLATION OF 10,000L PLASTIC				
	<i>Supply materials and provide personnel to construct a tank base platform 1 m high to hoist a 10 m3 plastic water tank .</i>				
9.5.01	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	CM	1.5		
9.5.02	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep 300 mm wide and dispose soil as directed	CM	6.62		
9.5.03	Mass concrete mix 1:4:8: in 50mm thick blinding to hardcore	CM	0.47		
9.5.04	225mm thick dressed quarry stone walling	SM	24		

BILL OF QUANTITIES FOR MAKAI BOREHOLE WATER DISTRIBUTION 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
9.5.05	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	25		
9.5.06	Damp proof course	LM	12		
9.5.07	Provide, pack and compact hardcore in 300 mm layers to fill the tank platform	CM	9		
9.5.08	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab @ 200 spacing	Kgs	28		
9.5.09	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	CM	0.7		
9.5.10	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	SM	10		
9.5.11	Supply and Install 10m ³ double layer UPVC tank Kentank or equivalent approved with all assorted fittings	nr	1	90000.00	
	Sub-total for Kyang'onde water kiosk				
BILL 10.0 CHLORINE DOSING SYSTEM FOR SAKAI AND THANGU RESERVOIR TANK					
10.01	Mixtron MX 1.300,P022.00 Dosing pump	Nr	1		
10.02	Flowmeter LZS-32 0.6-6m3/hr	Nr	1		
10.03	170Litre Chemical Tank	Nr	1		
10.04	PVC Pipe 32mm diameter	Nr	2		
10.05	PVC Female Adapter 1 inch (32mm) PN 16	Nr	10		
10.06	PVC Ball valve 1 inch (32mm) PN 16-Union type	Nr	4		
10.07	PVC Female Adapter 3/4 inch (25mm) PN 16	Nr	2		
10.08	PVC Male Adapter 3/4*40mm*1 inch PN 16	Nr	4		
10.09	PVC Reducing Bush 1 1/4* 1 inch (40*32mm) PN 16	Nr	2		
10.1	PVC Reducing Bush 1* 3/4 inch (32*25mm) PN 16	Nr	2		
10.11	PVC Union 1 inch (32mm) PN 16	Nr	2		
10.12	Dayliff Chlorine 65-20kgs	Nr	2		
10.13	Installation sundries	LS	1		
10.14	House structure with a roof slab for the chlorination system (2m *2m*2m) inclusive of a standard window and door and padlock)	LS	1		
	Sub-total				
	<i>Add one more for Thangu reservoir tank</i>				-
	Total For bill 10.0				-
BIL 11.0 CONICAL BAGS ESTABLISHMENT					
Item	Description	Unit	Qty	Rate (Ksh)	Amount (Kshs)

BILL OF QUANTITIES FOR MAKAI BOREHOLE WATER DISTRIBUTION 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
11.1 CSA	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.	100		
11.1 CSA	Suppy and deliver 50 grams of Kales seeds(hybrid) and Spinach (local)each	No.	4		
Amount for Bill 11 .0 carried to Summary					

BILL 12.0 JUNCAO FODDER ESTABLISHMENT AND LANGSTROTH HIVES APIARY

12.10 WATER COMPONENT FOR JUNCAO FODDER ESTABLISHMENT

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Kshs)
12.1.1	Drip irrigation System (inclusive of tank interconnection)	LS	1.00		
12.1.2	10,000 L Water tank	nr	1.00		
12.1.3	Tank Elevation Stand	LS	1.00		
Sub-Total					

12.2 APICULTURE COMPONENT

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Kshs)
12.2.1	Bee House Construction				
12.2.121	Excavation for post holes (600mm deep)	No	12		
12.2.1A2	Concrete for post footings (1:3:6)	m3	0.6		
12.2.1B1	Treated timber posts 100x100mm	No	12		
12.2.1B2	Treated timber beams 75x100mm	m	30		
12.2.1B3	Treated timber rafters 50x75mm	m	40		
12.2.1B4	Timber wall rails and bracing	m	25		
12.2.1C1	Mabati roofing sheets (Gauge 28, 3m)	No	10		
12.2.1C2	Ridge cap	No	2		
12.2.1C3	Roofing nails & accessories	Sum	1		
12.2.1D1	Timber hive stands (5 hives per stand)	No	4		
12.2.1D2	Ant-proof metal / grease cups	No	16		
12.2.1E1	Chicken wire / welded mesh	m2	20		
12.2.1E2	Timber framed door	No	1		
12.2.1E3	Hinges & padlock	Set	1		
12.2.1F1	Wood preservative / paint	Ltr	10		
12.2.1F2	Termite control treatment	Sum	1		
12.2.1G1	Skilled labour (carpenter)	Day	5		
12.2.1G2	Unskilled labour	Day	6		
Sub Total					

12.3 Bee Equipment and Installation Budget (Apiary installation)

12.3.1	Supply and delivery of Material: Kiln-dried softwood or hardwood (e.g. cypress, pine, or traditional trees).	nr	15		
Hive body dimensions (approx.):					
12.3.1a	Brood chamber: 50 cm (L) × 43 cm (W) × 24 cm (H)				
12.3.1b	Super chamber: 50 cm (L) × 43 cm (W) × 17 cm (H)				
12.3.1c	Frame size: 48.3 cm (top bar) × 44.8 cm (side bar) × 23.2 cm (height for brood)				
12.3.1d	Frame type: Movable, wired, with foundation wax support.				
12.3.1e	Top cover: Weatherproof, galvanized iron sheet cover.				

BILL OF QUANTITIES FOR MAKAI A BOREHOLE WATER DISTRIBUTION 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
12.3.1f	Bottom board: Ventilated, detachable for cleaning.				
12.3.1g	Entrance size: 1.2 cm (H) × 22 cm (W), adjustable.				
12.3.1h	Coating: Non-toxic paint or varnish (exterior only).				
12.4	Supply and delivery of complete Protective wear with gloves(Soft leather) and gumboots (Rubber or PVC).The suit should be made from heavy cotton, poly-cotton, or ventilated mesh fabric, in light colors (white, beige, or khaki) to reduce bee aggression. Designed as a loose-fitting, one-piece suit with a front zipper, elastic cuffs at wrists and ankles, and a detachable round or fencing-style veil with fine mesh for clear visibility. Reinforced with double stitching at stress points for durability and sting prevention.	Pcs	2		
12.5	Supply and delivery of wide, flat bee brush made with a wooden or high-impact plastic handle, fitted with soft natural (horsehair) or nylon bristles. It measures 35–45 cm in overall length, with 5–7 cm bristles designed for gentle sweeping of bees.	Pcs	2		
12.6	Supply and delivery of a bee smoker made of stainless steel or galvanized iron, 25–28 cm high and 10–12 cm in diameter. It has a leather or synthetic bellows with metal hinges, a conical heat-resistant nozzle, and a protective heat shield. The removable fuel chamber, with air holes, uses fuels like dried grass, sawdust, corn cobs, or cardboard.	Pcs	2		
12.7	Supply and delivery of a hive tool made of tempered stainless or carbon steel, measuring 20–25 cm long and 3–4 mm thick. It features a flat beveled end for prying frames, a curved or hooked end for lifting frames, and a scraper edge for removing propolis and wax. The tool has a polished, corrosion-resistant finish, with an optional plastic or rubber handle for improved comfort.	Pcs	2	5000	10000
12.8	Supply, delivery and install durable hive stands made of metal (preferably galvanized steel), 60 cm high, and sized to fit the hive—typically 40–50 cm wide and 50–60 cm long for a standard Langstroth hive.	Nos	20		
12.9	Supply and delivery of manual metallic honey extractor made of stainless or food-grade galvanized steel, holding 2–4 frames. It features a hand-crank gear mechanism, removable frame basket for standard frames, a honey tap for controlled flow, a polished corrosion-resistant finish, and a stable base with a protective cover.	Unit	1		
	Sub Total				
	TOTAL FOR APICULTURE I & II				
	Amount for Bill 11 .0 carried to Summary				
	Amount for Bill 12 .0 carried to Summary				
Bill 13.0	Establishment of Pasture (Cenhrus Ciliaris- African Foxtail grass and Eragrostis Superba)				
Item	Description	Unit	Qty	Rate (Ksh)	Amount (Kshs)
13.1	Pasture seeds (half of the prescribed quantity each)	Kgs	740		
13.12	Trainings	No	3		
Subtotal	Amount of Bill 13.0 carried to Summary				
Bill 14.0	PROVISIONAL SUM				

BILL OF QUANTITIES FOR MAKAI BOREHOLE WATER DISTRIBUTION 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
	Allow a provisional sum of hundrend and thirty five thousand kenya shillings for Contingency to be expended on exclusive direction of the project manager upon evident project need.	LS	1		
	Amount for Bill 12 .0 carried to Summary				

BILL	BILL DESCRIPTION	AMOUNT
BILL 1	PRELIMINARY AND GENERAL ITEMS	
BILL 2	BOREHOLE PUMPING SYTEM REHABILITATION WORKS	
BILL 3	BOREHOLE SITE FENCING, INSTALLATION OF STANDALONE FLOODLIGHTS AND CCTV CAMERAS	
BILL 4	PIPELINE EXTENSION TO SOFIA, KYANG'ONDU, KITANDI VTC.	
BILL5	PIPELINE EXTENSION TO KING,ATHUNI PRIMARY SCHOOL	
BILL 6	STANDARD WATER KIOSKS AND BRANDING AT SOFIA AND STANDARD WATER POINT AT KITANDI	
BILL 7.0	CONSTRUCTION OF IM HIGH TANK PLATFORM AND INSTALLATION OF 10,000L PLASTIC	
BILL 8	WATER CONNECTION TO KILUNGU PRIMARY SCHOOL AND KITANDI VOCATIONAL TRAINING COLEGE.	
BILL 9	REHABILITATION OF KYANG'ONDU WATER KIOSK AND BRANDING	
BILL 10.0	CHLORINE DOSING SYSTEM FOR SAKAI AND THANGU RESERVOIR TANK	
BILL 11.0	CONICAL BAGS ESTABLISHMENT	
BILL 12.0	JUNCAO FODDER ESTABLISHMENT AND LANGSTROTH HIVES APIARY	
Bill 13.0	ESTABLISHMENT OF PASTURE (Cenhrus Ciliaris- African Foxtail grass)	
	<u>SUB TOTAL I</u>	
	Contigencies Allow a provisional sum of Kshs. 135,000 for contingencies	
	SUB TOTAL II	

BILL OF QUANTITIES FOR MAKAI A BOREHOLE WATER DISTRIBUTION 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
	ADD Public Procurement Capacity Building Levy (0.03%)				
	<u>SUB TOTAL III</u>				
	ADD VAT (16%)				
	<u>GRAND TOTAL FOR BUILDER'S WORK</u>				
	TOTAL TAKEN TO TENDER FORM				