BILL OF QUANTITIES					
NGANDANI WATER DISTRIBUTION & LIVELIHOOD PROJECT					
BILL 1.0	**PRELIMINARIES AND GENERAL ITEMS**				
S/No	**Item description**	**Unit**	**QTY**	**RATE**	**Amount Ksh**
	Publicity Sign Board				
1.01	Allow for a project signboard to be installed at a convenient site to be maintained through out the project period, as directed by the Project Manager.	No	1		
	Butt fusion (Rate per Joint)				
1.02	Butt fusion of HDPE Pipelines	LS	1		
	Mark Post				
1.03	Supply and Install Assorted Mark Posts as shall be instructed by the Engineer	No	25		
	TOTAL FOR PRELIMINARY AND GENERAL ITEMS				
BILL 2.0	**CONSTRUCTION OF MASALANI PIPELINE EXTENSION**				
S/No	**Item description**	**Unit**	**QTY**	**RATE**	**Amount Ksh**
2.01	Bush clear and excavate to pipe invert level 800 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	3700		
2.02	Excavate for 450mm wide x 800mm deep channel at road crossings and stockpile soil material for reuse. Prepare channel bed for pipe laying	M	24		
2.03	75mm dia. GS pipe class B (with sockets on one end). Provide for connection with the HDPE pipe	M	24		
2.04	Supply, deliver, fit and test 110mm (4") diameter HDPE pipe PN 10 manufactured under ISO 4427 standards using virgin PE90 material (Smooth Wall), fully printed with technical details.	m	200		
2.05	Supply, deliver, fit and test 90mm (3") diameter HDPE pipe PN 10 manufactured under ISO 4427 standards using virgin PE90 material (Smooth Wall), fully printed with technical details.	m	2000		
2.06	Supply, deliver, fit and test 75mm (2.5") diameter HDPE pipe PN 10 manufactured under ISO 4427 standards using virgin PE90 material (Smooth Wall), fully printed with technical details.	m	800		
2.07	Supply, deliver, fit and test 63mm (2") diameter HDPE pipe PN 10 manufactured under ISO 4427 standards using virgin PE90 material (Smooth Wall), fully printed with technical details.	m	700		
2.08	Allow for geophysical positioning of pipeline and structures in the presence of clients appointed personel	Item	1	50000	50,000.00
	Supply and fit the following pipe fittings into the pipeline as directed				

2.09	HDPE Gate Valve 2.5''diameter	No	2		
2.09	Supply, deliver and install pressure relief valves 2'' diameter fitted into 2.5" pipeline with all accessories	No	2		
2.09	Supply, deliver and install Double orifice air valve 2'' diameter fitted into 2.5" pipeline with all accessories	No	6		
2.09	Construct 1.0m x 1.0m x 0.75m (deep internal dimensions) brick walled chambers with RC Cover and locking devices in specified areas by the supervising engineer as per the provided drawing	No	7		
	Masalani Communal Point				
	Supply materials and provide personnel to construct a tank base platform 1.2 m high to hold a 10 m^3 plastic water tank at Masalani (as in the attached drawing)				
4.0.1	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	M^3	1.5		
4.0.2	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep 300 mm wide and dispose soil as directed	M^2	10		
4.0.3	Mass concrete mix 1:4:8: in 50mm thick blinding to hardcore	M^3	0.4		
4.0.4	225mm thick dressed quarry stone walling	M^2	26		
4.0.5	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	28		
4.0.6	Damp proof course	m	9.5		
4.0.7	Provide, pack and compact hardcore in 250 mm layers to fill the tank platform	M^3	9		
4.0.8	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab	Kgs	18.96		
4.0.9	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	M^3	1		
4.0.10	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	m^2	10		
4.0.11	Supply, Deliver & Install a 10 m^3 Double Laminated Plastic Water Tank, c/w G.I 1.5" dia. Inlet, Outlet & Overflow Pipes. To be mounted on 1.2 m high masonry tank platform	No.	1		
4.0.12	Allow for construction of standard water point c/w gI fittings, water meter, gate valves, lockable 0.75m x 0.75m Massonry Chamber and 2 No. Water Taps 3/4" as instructed by supervising engineer	Item	1		
	Border Communal Point				
	Supply materials and provide personnel to construct a tank base platform 1.2 m high to hold a 10 m^3 plastic water tank at Ward Border (as in the attached drawing)				
4.0.1	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	M^3	1.5		
4.0.2	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep 300 mm wide and dispose soil as directed	M^2	10		
4.0.3	Mass concrete mix 1:4:8: in 50mm thick blinding to hardcore	M^3	0.4		
4.0.4	225mm thick dressed quarry stone walling	M^2	26		
4.0.5	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	28		
4.0.6	Damp proof course	m	9.5		

4.0.7	Provide, pack and compact hardcore in 250 mm layers to fill the tank platform	M^3	9		
4.0.8	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab	Kgs	18.96		
4.0.9	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	M^3	1		
4.0.10	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	m^2	10		
4.0.11	Supply, Deliver & Install a 10 m^3 Double Laminated Plastic Water Tank, c/w G.I 1.5" dia. Inlet, Outlet & Overflow Pipes. To be mounted on 1.2 m high masonry tank platform	No.	1		
4.0.12	Allow for construction of standard water point c/w gI fittings, water meter, gate valves, lockable 0.75m x 0.75m Massonry Chamber and 2 No. Water Taps 3/4" as instructed by supervising engineer	Item	1		
	SUB TOTAL				
BILL 3.0	**CONSTRUCTION OF KASEMEINI-IVUISYA-KWA KAMOTA PIPELINE EXTENSION**				
S/No	**Item description**	**Unit**	**QTY**	**RATE**	**Amount Ksh**
3.01	Bush clear and excavate to pipe invert level 800 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	3200		
3.02	Excavate for 450mm wide x 800mm deep channel at road crossings and stockpile soil material for reuse. Prepare channel bed for pipe laying	M	24		
3.03	75mm dia. GS pipe class B (with sockets on one end). Provide for connection with the HDPE pipe	M	24		
3.04	Supply, deliver, fit and test 90mm (3") diameter HDPE pipe PN 10 manufactured under ISO 4427 standards using virgin PE90 material (Smooth Wall), fully printed with technical details. Cost includes adapters and connectors	m	2800		
3.05	Supply, deliver, fit and test 63mm (2") diameter HDPE pipe PN 10 manufactured under ISO 4427 standards using virgin PE90 material (Smooth Wall), fully printed with technical details. Cost includes adapters and	m	400		
	Supply and fit the following pipe fittings into the pipeline as directed				
3.06	HDPE Gate Valve 4''diameter	No	2		
3.07	HDPE Gate Valve 3''diameter	No	2		
3.08	HDPE Gate Valve 2''diameter	No	2		
3.09	Supply, deliver and install pressure relief valves 2'' diameter fitted into 2.5" pipeline with all accessories	No	2		
3.1	Supply, deliver and install Double orifice air valve 2'' diameter fitted into 2.5" pipeline with all accessories	No	6		
3.11	Construct 1.0m x 1.0m x 0.75m (deep internal dimensions) brick walled chambers with RC Cover and locking devices in specified areas by the supervising engineer as per the provided drawing	No	7		

	Ivuisya Communal Point				
	Supply materials and provide personnel to construct a tank base platform 1.2 m high to hold a 10 m^3 plastic water tank at Ivuisya Water Point (as in the attached drawing)				
4.0.1	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	M^3	1.5		
4.0.2	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep 300 mm wide and dispose soil as directed	M^2	10		
4.0.3	Mass concrete mix 1:4:8: in 50mm thick blinding to hardcore	M^3	0.4		
4.0.4	225mm thick dressed quarry stone walling	M^2	26		
4.0.5	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	28		
4.0.6	Damp proof course	m	9.5		
4.0.7	Provide, pack and compact hardcore in 250 mm layers to fill the tank platform	M^3	9		
4.0.8	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab	Kgs	18.96		
4.0.9	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	M^3	1		
4.0.10	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	m^2	10		
4.0.11	Supply, Deliver & Install a 10 m^3 Double Laminated Plastic Water Tank, c/w G.I 1.5" dia. Inlet, Outlet & Overflow Pipes. To be mounted on 1.2 m high masonry tank platform	No.	1		
4.0.12	Allow for construction of standard water point c/w gI fittings, water meter, gate valves, lockable 0.75m x 0.75m Massonry Chamber and 2 No. Water Taps 3/4" as instructed by supervising engineer	Item	1		
	SUB TOTAL				
BILL 4.0	**CONSTRUCTION OF KEVANDA RETURN LINE**				
S/No	**Item description**	**Unit**	**QTY**	**RATE**	**Amount Ksh**
4.01	Bush clear and excavate to pipe invert level 800 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	2000		
4.02	Excavate for 450mm wide x 800mm deep channel at road crossings and stockpile soil material for reuse. Prepare channel bed for pipe laying	M	24		
4.03	50mm dia. GS pipe class B (with sockets on one end). Provide for connection with the HDPE pipe	M	24		
4.04	Supply, deliver, fit and test 63mm (2") diameter HDPE pipe PN 10 manufactured under ISO 4427 standards using virgin PE90 material (Smooth Wall), fully printed with technical details.	m	2000		
	Supply and fit the following pipe fittings into the pipeline as directed				
4.05	HDPE Gate Valve 2''diameter	No	2		

4.06	Supply, deliver and install pressure relief valves 2'' diameter fitted into 2.5" pipeline with all accessories	No	2		
4.07	Supply, deliver and install Double orifice air valve 2'' diameter fitted into 2.5" pipeline with all accessories	No	6		
4.08	Construct 1.0m x 1.0m x 0.75m (deep internal dimensions) brick walled chambers with RC Cover and locking devices in specified areas by the supervising engineer as per the provided drawing	No	7		
	School Connection				
4.09	Allow a Provisional Sum of Kshs. 50000 for a 1" HDPE metered connection for Kevanda Primary School C/W all plumbing sundries and concrete anchored stand-pipe cum concrete platform	Item	LS	50000	50,000.00
	Kasemeini Dispensary Connection				
4.1	Allow a Provisional Sum of Kshs. 50000 for a 1" HDPE metered connection for Kevanda Primary School C/W all plumbing sundries and concrete anchored stand-pipe cum concrete platform	Item	LS	50000	50,000.00
	Kevanda Communal Point				
	Supply materials and provide personnel to construct a tank base platform 1.2 m high to hold a 10 m^3 plastic water tank at Kevanda Water Point (as in the attached drawing)				
4.0.1	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	M^3	1.5		
4.0.2	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep 300 mm wide and dispose soil as directed	M^2	10		
4.0.3	Mass concrete mix 1:4:8: in 50mm thick blinding to hardcore	M^3	0.4		
4.0.4	225mm thick dressed quarry stone walling	M^2	26		
4.0.5	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	28		
4.0.6	Damp proof course	m	9.5		
4.0.7	Provide, pack and compact hardcore in 250 mm layers to fill the tank platform	M^3	9		
4.0.8	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab	Kgs	18.96		
4.0.9	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	M^3	1		
4.0.10	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	m^2	10		
4.0.11	Supply, Deliver & Install a 10 m^3 Double Laminated Plastic Water Tank, c/w G.I 1.5" dia. Inlet, Outlet & Overflow Pipes. To be mounted on 1.2 m high masonry tank platform	No.	1		
4.0.12	Allow for construction of standard water point c/w gI fittings, water meter, gate valves, lockable 0.75m x 0.75m Massonry Chamber and 2 No. Water Taps 3/4" as instructed by supervising engineer	Item	1		
	SUB TOTAL				

BILL 5.0	**Construction of 2No. Water Kiosks (Kasemeini and Kwa Kamota)**				
	Construct 1 No Water Kiosk and brand as directed by the Engineer				
5.1	Supply, deliver all necessary materials as below and construct a internal dimensions 2M×2.5M kiosks as per the drawing				
	FOUNDATION				
5.1.1	Cut to spoil top soil n.e. 150mm below g.l. over Kiosks and fetching bay areas into a permanent heap	SM	15		
5.1.2	Cut to spoil a strip foundation trench n.e. 600mm below g.l.	CM	1.5		
5.1.3	300mm thick hardcore filling well watered and compacted in layers of 150mm maximum thickness to make up levels	CM	2		
5.1.4	50mm thick quarry dust/Murram blinding to surfaces of hardcore	SM	15		
5.1.5	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	15		
5.1.6	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	15		
5.1.7	Natural stone walling, roughly chisel dressed on both sides and jointed in cement and sand (1:3) mortar 200mm foundation walling	LM	9		
5.1.8	Mass concrete class 15 (1:4:8) in 50mm thick surface blinding under strip footings	CM	0.35		
5.1.9	Mesh fabric reinforcement A98 to B.S 4483 (measured nett-allow for laps)	SM	15		
5.1.10	125 mm thick 1:2:4 (C20/20) vibrated RC floor slab over Kiosks and fetching bay areas	CM	1		
5.1.11	25mm thick Cement sand screed (1:3) finished with steel float.	SM	15		
BILL 5.2	**WALLING**				
5.2.1	Hessian based bituminous felt DPC 225mm wide horizontally placed below masonry walling	LM	10		
5.2.2	Setting out plan for the structures in presence of water engineer	Item	1		
5.2.3	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	SM	30		
5.2.4	Vibrated reinforced concrete 1:2:4 (class 20 (20/20mm) in Ringbeams	CM	0.4		
5.2.5	High yield square twisted steel reinforcement bars to BS 4461 including for cutting, bending to shape, tying, hooking and spacer blocks as described in:				
5.2.6	8mm diameter ditto	KG	10		

5.2.7	12mm diameter ditto	KG	50		
5.2.8	Sawn formwork to Sides of ringbeam	SM	2.7		
5.2.9	Horizontal key pointing in masonry joints in external wall surfaces	SM	27		
5.2.10	15mm thick Cement sand plaster to walls surfaces (1:3) finished to walls to receive paint internally	SM	30		
ITEM 5.3	**ROOFING:**				
5.3.1	50 x 50 mm purlins	LM	10		
5.3.2	75 x 50 mm rafters and wall plate	LM	10		
5.3.3	200 x 25 mm fascia board	LM	10		
5.3.4	Box profile 30G Sky Blue Smooth Roofing Sheet; Effective Cover Width (mm) is 1015 and Thickness (mm) is 0.25	LM	6.2		
5.3.5	Roofing Nails	KG	1		
5.3.6	Assorted Ordinary Wire Nails	Kg	5		
5.3.7	2.1M x 1M Standard steel door complete with frame, hinges latch bolts and padlock.	SM	1		
5.3.8	1M X 1M Standard steel window complete with frame hinges and latch bolts.	SM	1		
ITEM 5.4	**FINISHES:**				
5.4.1	METAL SURFACES: Prepare and apply three coats plastic enamel paint to General metal surfaces (both sides).- (Red oxide primer glossy)	SM	4		
5.4.2	INTERNAL PLASTERED WALLS: Prepare and apply three coats plastic silk emulsion paint to Plastered wall surfaces internally	SM	30		
5.4.3	EXTERNAL WALLS: Prepare and apply three coats permaplast external wall paint to Rendered sides of beam and walls externally	SM	7		
5.4.4	75 mm high mortar skirting	LM	9		
5.4.5	Provide materials and labour for branding as directed by the Project Manager. Inclusive County Logo and National Logo	No	1		
ITEM					
5.5	**PLUMBING:**				
5.5.1	Supply, Deliver, joint and test 1.5 ”dia. G.I. Pipes, Class ’B’, 6m Long, for outlet of tanks to inside the kiosk	No.	2		
5.5.2	1.5” diameter GI elbow	No	3		
5.5.3	1.5” diameter GI union sockets	No.	4		
5.5.4	1.5” diameter Gate valve	No.	1		
5.5.5	Water meter 1.5” dia.	No.	1		
5.5.6	1.5" by 3/4" reducing socket G.I	No.	1		
5.5.7	3/4” diameter assorted length G.I nipples	No	5		
5.5.8	3/4” diameter GI Pipe class B	No.	1		
5.5.9	3/4” diameter Gate valve-peglar type	No.	2		
5.5.10	3/4” diameter valve sockets	No	2		
5.5.11	3/4” diameter GI union.	No.	4		
5.5.12	3/4” diameter GI Elbow	No	4		

5.6	**Pipe joining material:**				
5.6.1	Boss white for G.I Pipes	Kg	1		
5.6.2	Solvent Cement	Kg	1		
5.6.3	Coolant	Lts	1		
5.6.4	Sealing thread	Pcs	2		
5.7	**Tank and platform**				
5.7.1	Allow a provisional sum for 1½" Ø GI supply pipe from tank into kiosk, 1" Ø PPR plumbing works inclusive of Tees in water kiosk	Item	1		
5.7.2	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	M^3	1.5		
5.7.3	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep 300 mm wide and dispose soil as directed	M^2	10		
5.7.4	Mass concrete mix 1:4:8: in 50mm thick blinding to hardcore	M^3	0.4		
5.7.5	225mm thick dressed quarry stone walling	M^2	26		
5.7.6	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	28		
5.7.7	Damp proof course	m	9.5		
5.7.8	Provide, pack and compact hardcore in 250 mm layers to fill the tank platform	M^3	9		
5.7.9	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab	Kgs	18.96		
5.7.10	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	M^3	1		
5.7.11	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	m²	10		
5.7.12	Supply, Deliver & Install a 10 m^3 Double Laminated Plastic Water Tank, c/w G.I 1.5" dia. Inlet, Outlet & Overflow Pipes. To be mounted on 1.2 m high masonry tank platform	No.	1		
	Amount (For 1No. Water Kiosk)				
	TOTAL FOR 2No. Water Kiosks				

BILL 6.0 AGRICULTURE COMPONENT - KIKUMBULYU SOUTH

Item	Description	Unit	Qty	Rate (Ksh)	Amount (Kshs)
6.0.1	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.	25		
	Goats Upgrading Project				
6.0.2	Supply and delivery of Galla breeding bucks of the following desirable specifications;				
	Age: Typically, 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: Pure breed or of good breeding line to maintain desirable traits.				
	Body Conformation: Well-balanced, with a strong, muscular build, Good height and body length, Well-formed udder (if applicable to breeding goals).				
	Size: Medium to large size, reflecting good growth potential				
	Weight: Up to 25kg LBW				
	Color: White				
	Skin: Black				
	Horns: Usually present, but hornless (polled) animals can also be considered.	Nos	24		
	GRAND TOTAL				

	GRAND SUMMARY				
Bill 1.0	Preliminaries and General Items				
Bill 2.0	Construction of Masalani Pipeline Extension				
Bill 3.0	Construction of Kasemeini-Ivuisya-Kwa Kamota Pipeline Extension				
Bill 4.0	Construction of Kevanda Return Line				
Bill 5.0	Construction of 2No. Water Kiosks (Kasemeini and Kwa Kamota)				
Bill 6.0	Agriculture Component - Kikumbulyu South				
	SUB TOTAL				
	Contingencies				
Bill 7.0	Allow a provisional sum of Kshs. 75,000 for contingencies to be expended at the discretion of the project manager				75,000.00
	SUB TOTAL I				
	Add 0.03% PPRA Levy before Tax				
	SUB TOTAL II				
	Add 16% VAT				
	GRAND TOTAL (CONTRACTUAL)				