| BILL OF QUANTITIES | | | | | |
|---|---|---|---|---|---|
| KILISA & ATHI TUNGUNI WATER DISTRIBUTION & LIVELIHOOD PROJECT | | | | | |
| | | | | | |
| **BILL 1.0** | **PRELIMINARIES AND GENERAL ITEMS** | | | | |
| **S/No** | **Item description** | **Unit** | **QTY** | **RATE** | **Amount Ksh** |
| | **Publicity Sign Board** | | | | |
| 1.0.1 | 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** | | | | |
| 1.0.2 | Butt fusion of HDPE Pipelines | LS | 1 | | |
| | **Mark Post** | | | | |
| 1.0.3 | Supply and Install Assorted Mark Posts as shall be instructed by the Engineer | No | 35 | | |
| | **TOTAL FOR PRELIMINARY AND GENERAL ITEMS** | | | | |
| | | | | | |
| | | | | | |
| **BILL 2.0** | **CONSTRUCTION OF MUKONONI KILISA LINK PIPELINE** | | | | |
| **S/No** | **Item description** | **Unit** | **QTY** | **RATE** | **Amount Ksh** |
| 2.0.1 | 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 | | |
| 2.0.2 | Excavate for 450mm wide x 800mm deep channel at road crossings and stockpile soil material for reuse. Prepare channel bed for pipe laying | M | 42 | | |
| 2.0.3 | 75mm dia. GS pipe class B (with sockets on one end). Provide for connection with the HDPE pipe | M | 42 | | |
| 2.0.5 | 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 | 2400 | | |
| 2.0.6 | Supply, deliver, fit and test 75m (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 | | |
| 2.0.7 | Allow for geophysical positioning of pipeline and structures in the presence of clients appointed personel | Item | 1 | 50,000 | 50,000.00 |
| | **Supply and fit the following pipe fittings into the pipeline as directed** | | | | |
| 2.0.8 | Non Return Valve 3''diameter | No | 2 | | |
| 2.0.9 | HDPE Gate Valve 3''diameter | No | 2 | | |
| 2.0.10 | Supply, deliver and install pressure relief valves 2'' diameter fitted into 2.5" pipeline with all accessories | No | 3 | | |
| 2.0.11 | Supply, deliver and install Double orifice air valve 2'' diameter fitted into 2.5" pipeline with all accessories | No | 3 | | |

| | | | | | |
|---|---|---|---|---|---|
| 2.0.12 | 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 | 6 | | |
| | **SUB TOTAL** | | | | |
| | | | | | |
| **BILL 3.0** | **CONSTRUCTION OF KILISA - KINGUUTHENI - KWA SANGA PIPELINE** | | | | |
| **S/No** | **Item description** | **Unit** | **QTY** | **RATE** | **Amount Ksh** |
| 3.0.1 | 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 | 6200 | | |
| 3.0.2 | Excavate for 450mm wide x 800mm deep channel at road crossings and stockpile soil material for reuse. Prepare channel bed for pipe laying | M | 42 | | |
| 3.0.3 | 75mm dia. GS pipe class B (with sockets on one end). Provide for connection with the HDPE pipe | M | 42 | | |
| 3.0.4 | 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 | 4200 | | |
| 3.0.5 | Supply, deliver, fit and test 75m (2.5) 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** | | | | |
| 3.0.6 | Non Return Valve 3''diameter | No | 2 | | |
| 3.0.7 | HDPE Gate Valve 3''diameter | No | 2 | | |
| 3.0.8 | Supply, deliver and install pressure relief valves 2'' diameter fitted into 2.5" pipeline with all accessories | No | 4 | | |
| 3.0.9 | Supply, deliver and install Double orifice air valve 2'' diameter fitted into 2.5" pipeline with all accessories | No | 6 | | |
| 3.0.10 | 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 | 10 | | |
| | **SUB TOTAL** | | | | |

**BILL 4.0 Refurbishment of 1No. Water Kiosk (Kilisa)**

| **S/No** | **Item description** | **Unit** | **QTY** | **RATE** | **Amount Ksh** |
|---|---|---|---|---|---|
| 4.0.1 | Allow a provisional sum of Ksh.30000 for re-painting, Emulsion paints – white, blue and black. Install painted 6" x 1" fascia board | l/sum | 1 | 30,000 | 30,000.00 |
| 4.0.2 | Branding of Water Kiosk | Item | 1 | | |
| | **Sub Total (for 1No. Water Kiosk)** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **BILL 5.0** | **Construction of 2No. Water Kiosks (King'uutheni and Kwa Sanga)** | | | | |
| | **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 NORTH WARD**

| 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. | 30 | | |
| | **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 | 12 | | |
| | | | | | |
| | **II APICULTURE PROJECT - 1No. Apiary Unit** | | | | |
| | **A Bee House Construction** | | | | |
| 6.0.2 | Excavation for post holes (600mm deep) | No | 12 | | |
| 6.0.3 | Concrete for post footings (1:3:6) | m3 | 0.5 | | |
| 6.0.4 | Treated timber posts 100x100mm | No | 12 | | |
| 6.0.5 | Treated timber beams 75x100mm | m | 30 | | |
| 6.0.6 | Treated timber rafters 50x75mm | m | 40 | | |
| 6.0.7 | Timber wall rails and bracing | m | 25 | | |
| 6.0.8 | Mabati roofing sheets (Gauge 28, 3m) | No | 10 | | |
| 6.0.9 | Ridge cap | No | 2 | | |
| 6.0.10 | Roofing nails & accessories | Sum | 1 | | |
| 6.0.11 | Timber hive stands (6 hives per stand) | No | 4 | | |
| 6.0.12 | Ant-proof metal / grease cups | No | 16 | | |
| 6.0.13 | Chicken wire / welded mesh | m2 | 20 | | |
| 6.0.14 | Timber framed door | No | 1 | | |
| 6.0.15 | Hinges & padlock | Set | 1 | | |
| 6.0.16 | Wood preservative / paint | Ltr | 10 | | |
| 6.0.17 | Termite control treatment | Sum | 1 | | |
| 6.0.18 | Skilled labour (carpenter) | Day | 5 | | |
| 6.0.19 | Unskilled labour | Day | 5 | | |
| | | | | | |
| | **II BEE EQUIPMENT AND INSTALLATION BUDGET (Apiary Installation)** | | | | |
| 6.0.20 | Supply and delivery of Material: Kiln-dried softwood or hardwood (e.g. cypress, pine, or traditional trees). | Nos | 12 | | |
| | Hive body dimensions (approx.): | | | | |
| | - Brood chamber: 50 cm (L) × 43 cm (W) × 24 cm (H) | | | | |
| | - Super chamber: 50 cm (L) × 43 cm (W) × 17 cm (H) | | | | |
| | Frame size: 48.3 cm (top bar) × 44.8 cm (side bar) × 23.2 cm (height for brood) | | | | |
| | Frame type: Movable, wired, with foundation wax support. | | | | |
| | Top cover: Weatherproof, galvanized iron sheet cover. | | | | |
| | Bottom board: Ventilated, detachable for cleaning. | | | | |
| | Entrance size: 1.2 cm (H) × 22 cm (W), adjustable. | | | | |
| | Coating: Non-toxic paint or varnish (exterior only). | | | | |

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|---|---|---|---|---|---|
| 6.0.21 | 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 | | |
| 6.0.22 | 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 | | |
| 6.0.23 | 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 | | |
| 6.0.24 | 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 | | |
| 6.0.25 | 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 | 15 | | |
| 6.0.26 | 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 | | |
| | | | | | |
| | **GRAND TOTAL** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | **GRAND SUMMARY** | | | | |
| BILL 1.0 | Preliminaries and General Items | | | | |
| BILL 2.0 | Construction of Mukononi Kilisa Link Pipeline | | | | |
| BILL 3.0 | Construction of Kilisa - Kinguutheni - Kwa Sanga Pipeline | | | | |
| BILL 4.0 | Refurbishment of 1No. Water Kiosk (Kilisa) | | | | |
| BILL 5.0 | Construction of 2No. Water Kiosks (King'uutheni and Kwa Sanga) | | | | |
| BILL 6.0 | Agriculture Component - Kikumbulyu North | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | **SUB TOTAL** | | | | |
| | | | | | |
| | **Add: Contingencies** | | | | |
| BILL 7.0 | Allow a provisional sum of Kshs. 70,000 for contingencies to be expended at the discretion of the project manager | | | | 70,000.00 |
| | **SUB TOTAL I** | | | | |
| | | | | | |
| | Add: 0.03% PPRA Levy before Tax | | | | |
| | | | | | |
| | **SUB TOTAL II** | | | | |
| | | | | | |
| | Add 16% VAT | | | | |
| | | | | | |
| | **GRAND PROJECT COST ESTIMATE (CONTRACTUAL)** | | | | |