



The Republic of Uganda

MINISTRY OF WATER AND ENVIRONMENT

CIVIL WORKS FOR OFF-FARM IRRIGATION INFRASTRUCTURE AND FACILITIES

Volume 3: Bills of Quantities

Proc. Ref. No.: MWE/WRKS/24-25/...../3

LOT 3 EASTERN PROVINCE AREA

Issued on:January 2025

| Bill/ Scheme ID. | Description | | | Amount (UGx.) |
|----------------------|------------------------------------|-----------|-------------|---------------|
| | GENERAL | | | |
| PG | Preliminaries and General Ite | ems | | |
| GI.1 | Method Related Charges | | | |
| DW | Dayworks | | | |
| | SUB TOTA | L 1 | | |
| | WORK ITEMS | | | |
| Cluster No. | Scheme Name | Туре | District | |
| 1.1 | Kapsarur | GFS | Bukwo | |
| 1.2 | Kululu / Sityo | GFS | Bukwo | |
| 1.3 | Lwongon | GFS | Bukwo | |
| 1.4 | Kongta Tulwo | GFS | Bukwo | |
| 1.5 | Weere/ Bosha | GFS | Kapchorwa | |
| 1.6 | Tuikat | GFS | Kween | |
| 1.7 | Mutufu | SPIS | Sironko | |
| 2.1 | Luwambi | GFS | Budaka | |
| 2.2 | Nalwanza | GFS | Bududa | |
| 2.3 | Iyolwa/ Geno SIS | SPIS | Tororo | |
| 2.4 | Mukuju | SPIS | Tororo | |
| 2.5 | Nankusi | GFS | Mbale | |
| 2.6 | Buwerebe | SPIS | Manafwa | |
| 3.1 | Obajai | SPIS | Kaberamaido | |
| 3.2 | Ajulon/ Abirabira | SPIS | Kaberamaido | |
| 3.3 | Totolim / Eden Farm | SPIS | Kumi | |
| 3.4 | Kagologolo | SPIS | Serere | |
| 3.5 | Kitukilo/ Minani | SPIS | Bugweri | |
| 3.6 | Luwanula/ Imanyiro | SPIS | Mayuge | |
| 4.1 | Bumooli | SPIS | Manayingo | |
| 4.2 | Namaboni | SPIS | Namayingo | |
| 4.3 | Namadope | SPIS | Luuka | |
| 4.4 | Bunamulungi (Lirima) | GFS | Namisindwa | |
| 4.5 | Nawampiti | SPIS | Kaliro | |
| | SUB TOTA | L 2 | - | |
| | SUB TOTAL | 1 + 2 | | |
| | Add 10% Conti | gencies | | |
| | SUB TOTA | L 3 | | |
| | Add 18% V | /AT | | |
| | GRAND TOTAL Carri | ed to Bid | Form | |
| GFS - Gravity Flow S | cheme. SPIS - Solar Powered Scheme | | | |

GRAND SUMMARY

BILL No. PG : PRELIMINARIES AND GENERAL ITEMS

| TEM NO. | DESCRIPTION | UNIT | QTY | RATE (UGX) | AMOUNT (UGX) |
|---------|---|-------|-----|------------|-----------------|
| 1.0 | Contractual Requirement | | | | |
| 1.1 | Performance Security PCC 49.1 | Sum | 1 | | |
| 1.2 | Advance Payment Guarantee - PCC 48.1 | Sum | 1 | | |
| 1.3 | Insurance of the Works - GCC 13 | Sum | 1 | | |
| 2.0 | Testing of Materials and Works | | | | |
| 2.1 | Concrete cube tests as ordered by the Engineer; 4 No. per Scheme . | Nr | 96 | | |
| 2.2 | Pressure testing & sterilisation of main lines | km | 24 | | |
| 2.3 | Witness testing for Solar power systems | P.S | 1 | 90,000,000 | |
| 2.4 | Contractor's handling charge on all provisional sums under 2.3 above. | % | 10 | | |
| 3.0 | Temporary works | | | | |
| 3.1 | Provide, erect and maintain during the construction period 2No. sign boards per scheme at locations shown by the Engineer and in accordance with the Drawings and Specifications. | Nr | 48 | | |
| 3.2 | De-watering; Allow for work in water affected areas, including all temporary works, pumping, protection, access, etc to ensure the works are completed as specified; include removal of facilities. | Sum | 1 | | |
| 3.3 | Control and diversion of water from site and work areas to ensure the works are completed as specified. Rate to include removal of all temporary facilities and construction. | Sum | 1 | | |
| 3.4 | Set up container converted to temprary office (20ft long by 8ft wide by 8ft 6 inch high) and with windows and doors, well maintained communication systems i.e. mobile, wireless internet etc. as directed and to the satisfaction of the Engineer. | Sum | 1 | | |
| 4.0 | Provisional Sums | | | | |
| 4.1 | Provision Sum for Client's administration and Supervision expenses | month | 24 | 8,500,000 | |
| 4.2 | Allow for Site Handover / Project Launch. | P.S | 24 | 2,100,000 | |
| 4.3 | Allow for Technical Commissioningat Completion. | P.S | 24 | 2,100,000 | |
| 4.4 | Resident Supervision vehicle running costs | P.S | 24 | 4,200,000 | |
| 4.5 | Contractor's handling charge on all provisional sums under 4.1a, 4.1b, 4.2, 4.3, 4.4a, & 4.4b above | % | 10 | | |
| | ried to Collection | | | <u> </u> | |
| | No. PG Carried to Summary | | | I | |

BILL No. GI.2 : METHOD RELATED CHARGES

| ITEM NO. | DESCRIPTION | UNIT | QTY | RATE (UGX) | AMOUNT (UGX) |
|----------|--|-------|-----|------------|--------------|
| | Method-Related Charges Other applicable Method-related Charges, if any, may be inserted by the Bidder. | | | | |
| | Fixed charge items | | | | |
| 1.1 | Mobilisation on site | sum | 1 | | |
| 1.2 | Demobilise on completion of the Works | sum | 1 | | |
| 1.3 | Supply and/or erect Contractor's site offices. | sum | 1 | | |
| 1.4 | Remove Contractor's site offices on completion of the Works | sum | 1 | | |
| | Time related charge items | | | | |
| | Other applicable Time-Related Charges, if any, may be inserted by the Bidder. | | | | |
| 2.1 | Maintain Contractor's site offices, including all services | month | 24 | | |
| 2.2 | Contractors Superintendance of Works | month | 24 | | |
| | | | | | |
| | Total Bill No. Gl. 1 Carried to Summary | | | | |
| | i otal Bill No. Gl. 1 Carrieu to Summary | | | | |

BILL No. DW : DAY WORKS

| ITEM NO. | DESCRIPTION | UNIT | QTY | RATE (UGX) | AMOUNT (UGX) |
|----------|---|----------------|-------|---------------|-----------------|
| | Personnel | | | <u> </u> | <u> </u> |
| DW1 | Working ganger | hr | 10 | | |
| DW2 | Artisan | hr | 10 | | |
| DW3 | Semi-skilled | hr | 10 | | |
| DW4 | Unskilled | hr | 100 | | |
| DW5 | Driver for light vehicle | hr | 7 | | |
| DW6 | Driver for heavy vehicle | hr | 10 | | |
| DW7 | Operator for heavy equipment | hr | 10 | | |
| | Materials | | | | |
| DW8 | Ordinary Portland Cement in 50 kg bags | t | 1 | | |
| DW9 | Coarse aggregate for concrete. | m³ | 1 | | |
| DW10 | Fine aggregate for concrete. | m³ | 0.5 | | |
| DW11 | Water for concrete | litres | 10 | | |
| DW12 | Sand for building | m³ | 0.5 | | |
| DW13 | Sand for plaster | m³ | 0.5 | | |
| DW14 | Fired Clay bricks for building. | nr | 5,000 | | |
| DW15 | Concrete blocks for building, 225mm for building,150mm thick | m² | 0.5 | | |
| DW16 | Concrete blocks for building, 225mm for building, 200 mm thick. | m² | 0.5 | | |
| DW17 | Hydrated lime for building 150 mm thick. | kg | 1 | | |
| DW18 | Timber, sawn. | m³ | 0.5 | | |
| DW19 | Timber wrot. | m³ | 0.5 | | |
| DW20 | High yield steel reinforcement:- 8-10 mm dia | ka | 2,000 | | |
| DW20 | 12-16 mm dia. | kg ka | 1,000 | | |
| DW21 | Steel reinforcement fabric reference: A252 | kg m² | 5 | | |
| DW22 | Hardcore filling | m ³ | 10 | | |
| DW23 | Topsoil delivered to site and spread | m ³ | 50 | | |
| DVV24 | Topson derivered to site and spread | III | 50 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

BILL No. DW : DAY WORKS

| ITEM NO. | DESCRIPTION | UNIT | QTY | RATE (UGX) | AMOUNT (UGX) |
|-----------|---|------|-----|---------------|-----------------|
| | CONTRACTOR'S EQUIPMENT | | | | × / |
| DW25 | Road vehicles:Pick-up,1 1/2t. | hr | 5 | 100,000 | 500,000 |
| | Road vehicles: Lorries: | | | | |
| DW26 | Flat-5t capacity | hr | 4 | | |
| DW27 | Flat-10t capacity | hr | 4 | | |
| | Tipping : | | | | |
| G-1.21.28 | 5t capacity | hr | 5 | | |
| G-1.21.29 | 10t capacity | hr | 5 | | |
| | Water tankers with pump and hoses: | | | | |
| DW30 | 5,000 Litre capacity. | hr | 10 | | |
| | Excavator, face shovel or dragline: | | | | |
| DW31 | 0.25 m ³ bucket. | hr | 10 | | |
| DW32 | 0.5m ³ bucket. | hr | 10 | | |
| DW33 | 1.0m ³ bucket. | hr | 10 | | |
| | Super long reach boom Excavator: | | | | |
| DW34 | 0.25 m ³ bucket. | hr | 10 | | |
| DW35 | 0.5m ³ bucket. | hr | 10 | | |
| DW36 | 1.0m ³ bucket. | hr | 10 | | |
| | Tractors: | | | | |
| DW37 | Rubber tyred with trailer, 75 kw. | hr | 10 | | |
| | Tracked including bull and angle dozer with ripper: | | | | |
| | (i) 150 kw. | hr | 10 | | |
| | (ii) 200 kw | hr | 10 | | |
| | (iii) 250 kw. | hr | 10 | | |
| | Rollers: | | | | |
| DW38 | Manual, 250 kg | hr | 10 | | |
| DW39 | vibratory, self, propelled, 1500 kg. Total Carried to Collection | hr | 10 | | |

BILL No. DW : DAY WORKS

| ITEM NO. | DESCRIPTION | UNIT | QTY | RATE (UGX) | AMOUNT (UGX) |
|----------|--|------|-----|---------------|-----------------|
| | Concrete mixers with weigh batchers and loading hoppers: | | | () | () |
| DW40 | 300 litre capacity. | hr | 20 | | |
| DW41 | 400 litre capacity. | hr | 20 | | |
| | Concrete vibrator, pneumatic with hoses: | | | | |
| DW42 | poker type, 50 mm | hr | 10 | | |
| | Air compressor, mobile with 5m of hose and steels with: | | | | |
| DW43 | 1 breaker. | hr | 10 | | |
| DW44 | 2 breakers. | hr | 10 | | |
| | Mobile electricity generating sets, 240v, 1 ph, 50 Hz: | | | | |
| DW45 | 5 kvA | hr | 2 | | |
| DW46 | 10 kvA | hr | 2 | | |
| | Dewatering Pumps with motor and 5m suction, 3m delivery hose | | | | |
| DW47 | Norminal size 50mm. | hr | 20 | | |
| DW48 | Nominal size 100mm. | hr | 20 | | |
| | Mobile Cranes: including slings chains, dogs and nips | | | | |
| DW49 | 5t capacity | hr | 5 | | |
| | Total Carried to Collection | | | | |
| | COLLECTION | | | | |
| | Page 1 | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Grand Summary | | | | |

| SCHEME ID 1.1: KAPSARUR IN BUKWO DISTRICT |
|---|
| BILL SUMMARY |

| Bill No. | Description | | Amount (UGx.) |
|-------------|--------------------------------|-----|---------------|
| | WORK ITEMS | | |
| 1 | Abstraction Works | | |
| 2 | Transmission Mains | | |
| 3 | Storage Reservoir Works | N/A | |
| 4 | Distribution Network | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Carried to Grand Summary | | |

SCHEME ID 1.1: KAPSARUR IN BUKWO DISTRICT BILL No. 1 : ABSTRACTION WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|-----------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | Item | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m ³ | 4 | | |
| | Filling | | | | |
| | Structures | | | | |
| | Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - | | | | |
| 3.1 | Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m ³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m³ | 44 | | |
| 3.3 | Imported murram. | m ³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m² | Rate Only | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. | m² | 840 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| 5.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, of the following thickness | m ³ | 1 | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | m ³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m ³ | 41 | | |
| 6.6 | 200mm thick top slab. | m ³ | 1 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| | Fair Finish Plane Horizontal | | | | |
| 7.1 | Plane fair finish horizontal formwork to the tops slab including charmfering and / or filleting of all exposed concrete corners. | m² | 5 | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including charmfering and / or filleting of all exposed concrete corners. | m² | 145 | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m² | 20 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 3.1 | Nominal size, 12mm | t | 2 | | |
| 0.1 | Total Carried to Collection | ι | 2 | | |

| BILL No. 1 : A | ABSTRACTION WORKS |
|----------------|-------------------|
|----------------|-------------------|

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | Inserts | | | | |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers | | | | |
| | <u>Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10,</u> cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|------|-------------|------------------|
| | MISCELLANEOUS METAL WORK | | | | |
| 10.1 | Ladders External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 10.2 | Access Manhole Cover 600 x 600mm clear opening painted mild steel cover and frame include fixing | No. | 1 | | |
| | and locking arrangement. | | | | |
| | Valve Surface Boxes | | | | |
| 10.3 | Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | 0 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| | Training of Operator's staff | | | | |
| X2 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X3 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | | | |
| | Io. 1 : ABSTRACTION WORKS | | 1 | | A |
| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | <u> </u> | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|--------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| 1 | General Site Clearance General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| I | route, including felling trees, grabbing tree stumps and disposal of | Item | 1 | | |
| | arising materials. | | | | |
| | | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include_ | | | | |
| | unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 0.4 | | | 2 | | |
| 2.1 2.2 | DN125mm, not in trenches; DN125mm, in trenches; depth not exceeding 1.5m. | m m | 3 | | |
| 2.2 | DN 125mm, in trenches, deptit not exceeding 1.5m. | 111 | 5 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD140mm HDPE PN16 | m | Rate Only | | |
| 4 | uPVC Pipes | | | | |
| • | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with integral | | | | |
| | rubber ring socket joints laid in trenches to depths not exceeding 1.5m | | | | |
| | | | | | |
| 4.1 | OD140 to PN 16 | m | 2,220 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| _ | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | | | | |
| 5.1 | DN125mm | No. | 4 | | |
| | | | | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped couplings as Maxistep | | | | |
| 5.2 | DN100 x OD100 | No. | Rate Only | | |
| 5.3 | DN150 x OD100 | No. | Rate Only | | |
| | | | | | |
| | | | | | |

| 5.4.1 DN50 5.4.2 DN65 5.4.3 DN75 5.4.4 DN10 5.4.5 DN12 5.4.6 DN12 5.4.6 DN112 5.4.6 DN112 6.1 DN112 6.2 DN112 6.3 DN112 6.4 DN112 6.2 DN112 6.3 DN112 6.4 DN112 6.3 DN112 6.4 DN112 7 Bulk Valve Specc 7.1 DN112 7.1 DN112 7.1 DN112 8 Equal 8.1 OD9 8.2 OD111 9 Valve Flance Flance | | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--|---|------|-----------|-------------|------------------|
| 5.4.2 DN68 5.4.3 DN75 5.4.4 DN10 5.4.5 DN12 5.4.6 DN12 5.4.6 DN12 6.1 DN11 6.1 DN11 6.2 DN11 6.1 DN11 6.2 DN11 6.3 DN11 6.4 DN11 6.4 DN11 7 Bulk valve spec main T 7.1 DN11 7.2 DN11 7.1 DN11 7.2 DN11 7.1 DN11 7.2 DN11 7.3 DN11 7.4 DN11 7.5 DN11 7.6 QU11 9 Valv 9 Valv Valv Flange | king Johnson Flanged adaptors as Aquafast to PN16 | | | | |
| .4.3 DN75 .4.4 DN10 .4.5 DN12 .4.6 DN12 .6.1 DN11 .6.2 DN11 .6.3 DN11 .6.4 DN11 .6.3 DN11 .6.4 DN11 .6.3 DN11 .6.4 DN11 .6.7 Bulk valve spec main N11 7.1 DN11 7.2 DN11 8 Equal 3.1 OD9 3.2 OD11 9 Valve Air V Flance | N50 | No. | 6 | | |
| .4.4 DN10 .4.5 DN12 .4.6 DN15 6 Junc 6 Junc 6.1 DN11 6.2 DN11 6.3 DN11 6.4 DN11 6.3 DN11 6.4 DN11 7 Bulk valve spec main main 7.1 DN11 7.2 DN11 7.1 DN11 7.2 DN11 8 Equa 8.1 OD9 8.2 OD11 9 Valve | N65 | No. | 1 | | |
| .4.5 DN12 .4.6 DN15 6 Junc All fli follow 6.1 DN12 6.2 DN13 6.3 DN12 6.4 DN12 6.3 DN12 6.4 DN12 7 Bulk valve spec 7.1 DN12 7.2 DN12 7.1 DN12 7.2 DN12 8.1 OD9 8.2 OD11 9 Valve | N75 | No. | 1 | | |
| .4.6 DN15 6 Junc All fl: follow 6.1 DN11 6.2 DN11 6.3 DN11 6.4 DN11 6.3 DN11 6.4 DN11 7 Bulk valve spec 7 Bulk 7 DN11 7 Bulk valve spec 7.1 DN11 7.2 DN11 7.2 DN11 8 Equa 8.1 OD9 8.2 OD11 9 Valve | N100 | No. | Rate Only | | |
| Cast Junc 6 Junc All fl: follow 6.1 DN1: 6.2 DN1: 6.3 DN1: 6.4 DN1: 6.4 DN1: 6.4 DN1: 7 Bulk Valve spec main 7.1 DN1: 7.2 DN1: 7.2 DN1: 8.1 OD9 8.2 OD1: 9 Valve Flance | N125 | No. | 16 | | |
| 6 Junc All fl: follow All fl: follow 6.1 DN1: 6.2 DN1: 6.3 DN1: 6.4 DN1: 6.3 DN1: 6.4 DN1: 6.4 DN1: 6.4 DN1: 7 Bulk valve spec main 7.1 7.1 DN1: 7.2 DN1: 8 Equation in the second | N150 | No. | Rate Only | | |
| All fl: follov 6.1 DN1: 6.2 DN1: 6.2 DN1: 7 DN1: 6.3 DN1: 6.4 DN1: 7 Bulk 8.1 DN1: 7.2 DN1: 7.2 DN1: 7.2 DN1: 8 Equa 8.1 OD9 8.2 OD1: 9 <u>Valv:</u> <u>Flanc</u> | ast or Spun Iron Pipe Fittings | | | | |
| follov 6.1 DN1: 6.2 DN1: 6.2 DN1: 7 Fape All fl: ceme 6.3 DN1: 6.4 DN1: 7 Bulk valve spec main 7.1 DN1: 7.2 DN1: 8 Equa 8.1 OD9 8.2 OD1: 9 <u>Valve</u> Flance | unctions and Branches | | | | |
| follov 6.1 DN1: 6.2 DN1: 7 DN1: 6.2 DN1: 7 Bulk 7 Bulk 7 Bulk 7 Bulk 7 Bulk 7 Bulk 7 DN1: 7.1 DN1: 7.2 DN1: 7.2 DN1: 8 Equa 8.1 OD9 8.2 OD1: 9 Valv Flanc | I flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | |
| 6.2 DN13 <i>Tape</i> All fl: ceme 6.3 DN12 6.4 DN12 7 <i>Bulk</i> <u>Bulk</u> valve <u>spec</u> main 7.1 DN12 7.2 DN13 PN11 8 Equa 8.1 OD9 8.2 OD11 9 <u>Valv</u> <u>Flanc</u> | llowing sizes; | | | | |
| Tape All fl: ceme 6.3 DN1: 6.4 DN1: 7 Bulk 8 Bulk 7.1 DN1: 7.2 DN1: 7.1 DN1: 7.2 DN1: 8 Equa 8.1 OD9 8.2 OD1: 9 Valv: Flance | N125mm | No. | 5 | | |
| All fl: cema 6.3 DN1: 6.4 DN1: 7 Bulk 8 <u>Bulk</u> valve spec main 7.1 DN1: 7.2 DN1: 7.2 DN1: 7.2 DN1: 8 Equa 8.1 OD9 8.2 OD1: 9 <u>Valv</u> Flanc | N150mm | No. | Rate Only | | |
| ceme 6.3 DN1: 6.4 DN1: 7 Bulk Bulk valve spec main 7.1 DN1: 7.2 DN1: 8 Equa 8.1 OD9 8.2 OD1: 9 Valve Flance | apers | | | | |
| 6.3 DN1: 6.4 DN1: 7 Bulk Valve spec main 7.1 DN1: 7.2 DN1: 8 Equa 8.1 OD9 8.2 OD1: 9 Valve Flance | I flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| 6.4 DN1: 7 Bulk <u>Bulk</u> <u>Valve</u> <u>spec</u> <u>main</u> 7.1 DN1: 7.2 DN1: 9 PN1: 9 Valve <u>Flanc</u> | ement mortar lined, and of the following sizes; | | | | |
| 7 Bulk Bulk valve spec main 7.1 DN1: 7.2 DN1: 7.2 DN1: 8 Equa 0D9 8.1 OD9 8.2 OD1: 9 Valve Flance | N125 x 50mm | No. | 5 | | |
| Bulk valve spec main 7.1 DN1: 7.2 DN1: 7.2 DN1: 8 Equa 0D9 8.2 OD1 9 Valve Flance | N125 x 65mm | No. | 1 | | |
| valve spec main 7.1 DN1: 7.2 DN1: PN10 8 Equal 8.1 OD9 8.2 OD1: 9 Valve Flance | ulk Flow Meters | | | | |
| spec main 7.1 DN1: 7.2 DN1: 7.2 DN1: 8 Equal 8.1 OD9 8.2 OD1: 9 Valv: Flance | ulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| main 7.1 DN1: 7.2 DN1: 7.2 DN1: PN1: PN1: 8 Equa 8.1 OD9 8.2 OD1: 9 Valv: Flance | lves, etc and all other fittings to make the installation complete, as | | | | |
| 7.1 DN1: 7.2 DN1: 9 PN10 8.2 OD1: 9 Valv: Flance | pecified, all fittings, including a masonry chamber, and on the following | | | | |
| 7.2 DN1: <u>PN10</u> 8 Equa 8.1 OD9 8.2 OD1 9 <u>Valv</u> <u>Flanc</u> | ain pipe sizes | | | | |
| PN10 8 Equal 8.1 OD9 8.2 OD1 9 Valv Air V Flang | N125mm PN16 | No. | 1 | | |
| 8 Equa 8.1 OD9 8.2 OD1 9 <u>Valv</u> <u>Air V</u> Flanc | N150mm PN16 | No. | Rate Only | | |
| 8.1 OD9 8.2 OD1 9 <u>Valv</u> <u>Air V</u> | N16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 8.2 OD1 9 <u>Valv</u> <u>Air V</u> Flang | qual Adapters | | | | |
| 9 <u>Valv</u> <u>Air V</u> Flang | D90 female adapter | No. | Rate Only | | |
| Air V Flang | D100 female adapter | No. | Rate Only | | |
| Flang | alves and Penstocks | | | | |
| | i <u>r Valves</u> | | | | |
| 2441 | anged CI double orifice air relief valve, DN50mm, as specified ,flanges to ISO | | | | |
| | 41, complete with isolating gate valve to ISO 7259, flange adaptors, distance eces, and all fittings necessary to make the installation on pipes of the | 1 | | | |
| | lowing sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 DN1 | N125mm | No. | 3 | | |
| 9.2 DN1 | | No. | Rate Only | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic compression pipe | | | | |
| | fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall | | | | |
| | structure and all other fittings necessary to make the complete installation on | | | | |
| | pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 0.1 | DN75mm | No. | 1 | | |
| 0.2 | DN100mm | No. | Rate Only | | |
| 10.2 | DN125mm | No. | 4 | | |
| 10.3 | DN150mm | No. | Rate Only | | |
| 10.4 | DN ISONITI | INU. | Tate only | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 3 | | |
| 11 | Valve Surface Boxes | | | | |
| •• | Valve surface box for DN100 - DN300 valves, with lockable cover_ | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 4 | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.1 | Not exceeding DN200mm | m | 250 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.2 | Not exceeding DN200mm | m | 60 | | |
| | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13 | Diameter not exceeding DN200mm | No. | Rate Only | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 20 | | |
| | Total Carried to Collection | | • | · | |

| em Io. | Io. 2 : TRANSMISSION MAINS Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|------|-------------|------------------|
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | . , |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN16 | m | 265 | | |
| 2.2 | OD75mm PN16 | m | 255 | | |
| 2.3 | OD90mm PN16 | m | 701 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 8.1 | OD63mm | No. | 2 | | |
| 3.2 | OD90mm | No. | 1 | | |
| | <u>Unequal tees</u> | | | | |
| 3.1 | OD75 x 63mm | No. | 7 | | |
| 3.2 | OD90 x 63mm | No. | 5 | | |
| 3.3 | OD90 x 75mm | No. | 3 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| | End caps | | | | |
| 4 | OD63mm | No. | 28 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN | | | | |
| F | 10, and of the following sizes | N | _ | | |
| 5 | DN125mm | No. | 2 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped couplings as Maxistep | | | | |
| 6.1 | DN150 x 100 | No. | Rate Only | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Viking Johnson Flanged adaptors as Aquafast. | | | | |
| 6.2 | DN50 | No. | 1 | | |
| 6.3 | DN65 | No. | 1 | | |
| 6.4 | DN75 | No. | 1 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 7.1 | DN125mm | No. | Rate Only | | |
| 7.2 | DN125 x 50mm | No. | 5 | | |
| 7.3 | DN125 x 65mm | No. | 1 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 7.4 | DN125 x 50mm | No. | 2 | | |
| 7.5 | DN125 x 65mm | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| | Reducing Couplers/ Unions | | | | |
| 8.1 | OD75 x 63mm | No. | 4 | | |
| 8.2 | OD90 x 63mm | No. | 1 | | |
| 8.3 | OD90 x 75mm | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | <u>Air Valve</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to ISO | | | | |
| | 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance | | | | |
| | pieces, and all fittings necessary to make the installation on pipes of the | | | | |
| | following sizes, all to PN10, include chamber as specified. | | | | |
| 9 | OD125mm | No. | 3 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

| | E ID 1.1: KAPSARUR IN BUKWO DISTRICT o. 4 : DISTRIBUTION NETWORK | | | | |
|------|--|------------|----------------|-------------|------------------|
| Itom | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Washouts Washout as specified in the drawings, complete with plastic_ compression pipe fittings; tee, drainage pipes, PVC union ball valve, flap valve and all other fittings necessary to make the complete_ installation on pipes of the following sizes; all to PN10 including valve_ surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| | DN50mm DN125mm | No. No. | Rate Only 4 | | |
| | Farm Gate Connections Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - | | | | |
| 11 | DN50mm | No. | 26 | | |
| 12 | <u>Other Pipework Ancillaries</u> <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts | nr | 52 | | |
| | Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for | | | | |
| | the following pipe sizes | | | | |
| 13 | Not exceeding DN300mm | m | 36 | | |
| | Total Carried to Collection o. 4 : DISTRIBUTION NETWORK | | | | |
| ltem | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | Total Bill No. 4 Carried to Bill Summary | | | | |
| | | | | | |

SCHEME ID. 1.2: KULULU BUKWO DISTRICT

BILL SUMMARY

| Bill No. | Description | | Amount (UGx.) |
|-------------|--------------------------------|-----|---------------|
| - | WORK ITEMS | | |
| 1 | Abstraction Works | | |
| 2 | Transmission Mains | | |
| 3 | Storage Reservoir Works | N/A | |
| 4 | Distribution Network | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Carried to Grand Summary | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|----------------|------|-------------|------------------|
| | General Site Clearance | | | | / |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m ³ | 4 | | |
| | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - | | | | |
| 3.1 | Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m ³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 44 | | |
| 3.3 | Imported murram. | m ³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m² | 0 | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated | m² | 840 | | |
| | topsoil and the preparation of surfaces at Intake Site. | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 1.2: KULULU BUKWO DISTRICT BILL No. 1 · ABSTRACTION WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | 1 | (- 5.0) |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| 6.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, of the following thickness | m³ | 1 | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m ³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | m ³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m ³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m ³ | 41 | | |
| | | | | | |
| 6.6 | 200mm thick top slab. | m³ | 1 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering and / or filleting of all exposed concrete corners. | m² | 5 | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including charmfering and / or filleting of all exposed concrete corners. | m² | 145 | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m² | 20 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | |
| | Total Carried to Collection Io. 1 : ABSTRACTION WORKS | | | | |
| ltem | Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | Inserts | - | | / | (UGx.) |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |

| SCHE | ME ID. 1.2: KULULU BUKWO DISTRICT | | | | _ |
|------|---|-----|---|---|---|
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers | | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, | | | | |
| | cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, | | | | |
| | and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as | | | | |
| | specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | | | | | |
| | Total Carried to Collection | | 1 | 1 | |
| | | | | | • |

Scheme ID. 1.2 Pg. 22 of 336

SCHEME ID. 1.2: KULULU BUKWO DISTRICT BILL No. 1 : ABSTRACTION WORKS

| | IE ID. 1.2: KULULU BUKWO DISTRICT Io. 1 : ABSTRACTION WORKS | | | | |
|-------------|--|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | MISCELLANEOUS METAL WORK | | | | . , |
| | Ladders | | | | |
| 10.1 | External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| | Access Manhole Cover | | | | |
| 10.2 | 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| 10.3 | Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | 0 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| | Training of Operator's staff | | | | |
| X2 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X3 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | | | |
| | lo. 1 : ABSTRACTION WORKS | 1 | | 1 | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|--------|-----------|---|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of arising materials. | Item | 1 | | |
| 2 | <u>PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 2.1 2.20 | DN150mm, not in trenches; DN150mm, in trenches; depth not exceeding 1.5m. | m m | 3 3 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD100mm HDPE PN10 | m | Rate Only | | |
| 4 4.1 | <u>uPVC Pipes</u> uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with integral rubber ring socket joints laid in trenches to depths not OD100 to PN 10 | m | 1,845 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 5 | <u>Cast or Spun Iron Pipe Fittings</u> Bends | | | | |
| 5.1 | <u>Galvanized iron threaded socket</u> 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes DN150mm | No. | 4 | | |
| | Steel pipe fittings; flanges to PN 10; in trenches not exceeding 1.5 m | | | | |
| 5.2 | <u>Viking Johnson stepped couplings as Maxistep</u> DN150 x 100 | No. | Rate Only | | |
| | Total Carried to Collection | | <u> </u> | <u> </u> | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | Viking Johnson Flanged adaptors as Aquafast to PN10 | | | | |
| 5.3 | DN50 | No. | 3 | | |
| 5.4 | DN65 | No. | 1 | | |
| 5.5 | DN100 | No. | 7 | | |
| 5.6 | DN150 | No. | 3 | | |
| 0 | Cast or Spun Iron Pipe Fittings | | | | |
| 6 | <i>Junctions and Branches</i> All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 6.1 | DN100mm | No. | 3 | | |
| 6.2 | DN150mm | No. | 3 | | |
| | <i>Tapers</i> All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, cement mortar lined, and of the following sizes; | | | | |
| 6.3 | DN125 x 50mm | No. | 5 | | |
| 6.4 | DN125 x 65mm | No. | 1 | | |
| | Tapers Cont'd | | | | |
| 6.5 | DN150 x 65mm | No. | 1 | | |
| 7 | Bulk Flow Meters Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc and all other fittings to make the installation complete, as specified, all fittings, including a masonry chamber, and on the following main pipe sizes | | | | |
| 7.1 | DN150mm PN10 | No. | 1 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 8 | Equal Adapters | | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | | |
| 8.2 | OD100 female adapter | No. | Rate Only | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | <u>I</u> | 1 | |

SCHEME ID. 1.2: KULULU BUKWO DISTRICT BILL No. 2 · TRANSMISSION MAINS

| No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|-----------|-------------|------------------|
| 9 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | DN125mm | No. | 2 | | |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic compression pipe | | | | |
| | fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall | | | | |
| | structure and all other fittings necessary to make the complete installation on | | | | |
| | pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 0.1 | DN125mm | No. | 2 | | |
| | | | | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 2 | | |
| 11 | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 1.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 1.2 | Not exceeding DN300mm | m | 12 | | |
| | Total Carried to Collection | | | | |
| | Io. 2 : TRANSMISSION MAINS | | 1 | т г | |
| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 12 | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 2.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |

| ÷ | | 1 | | 1 | l | | |
|--------|--|------|-----------|-------------|--------|--|--|
| 12.2 | Not exceeding DN200mm | m | 60 | | | | |
| | | | | | | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | | | |
| | | | _ | | | | |
| 12.3 | Not exceeding DN200mm | m | 50 | | | | |
| | | | | | | | |
| 13 | Concrete Stools and Thrust Blocks | | | | | | |
| | Three Dissis | | | | | | |
| | Thrust Blocks | | | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | | | |
| | | | | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | Rate Only | | | | |
| | | | | | | | |
| | Other Pipework Ancillaries | | | | | | |
| | Marker Posts | | | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 92 | | | | |
| | Total Carried to Collection | | | | | | |
| BILL N | Io. 2 : TRANSMISSION MAINS | | | | | | |
| ltem | Description | Unit | Qty. | Rate (UGx.) | Amount | | |
| No. | Description | Unit | હાપુ. | | (UGx.) | | |
| | | | | | | | |
| | Bill No. 2 Collection | | | | | | |
| | | | | | | | |
| | Page 6 | | | | | | |
| | | | | | | | |
| | Page 7 | | | | | | |
| | | | | | | | |
| | Page 8 | | | | | | |
| | | | | | | | |
| | Page 9 | | | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | | | | | |
| • | | | | | | | |

| DEMOLITION AND SITE CLEARANCE General Site Clearance Image: Clearance 1 General Site Clearance Item 2 Plastic Pressure Pipes Distribution m HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in m 1 trench to the following depths not exceeding 1.5m m 2.1 OD63mm PN10 m 650 2.2 OD110mm PN10, uPVC m 375 PIPEWORK - FITTINGS AND VALVES Mo. Rate Only 3.1 OD75mm No. Rate Only 3.2 OD110mm No. 6 < | ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--|-------------|--|------|-----------|-------------|------------------|
| General Site ClearanceItem1General Site Clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials.Item1PIPEWORK-PIPES Plastic Pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5mm2400D03mm PN10DDB3mm PN10, uPVCm65020OD75mm PN10m6502.1OD05mm PN10, uPVCm375PIPEWORK - FITTINGS AND VALVESm375PIPEWORK - FITTINGS AND VALVESNo.Rate Only2.1OD75mmNo.Rate Only2.2OD75mmNo.Rate Only3.3OD75 x 63mmNo.63.4OD110 x 63mmNo.33.5OD110 x 75mmNo.33.4OD101 x 75mmNo.33.5OD110 x 75mmNo.34.1OD63mmNo.34.2Cash and | | DEMOLITION AND SITE CLEARANCE | | | | (0011) |
| route, including felling trees, grabing tree stumps and disposal of arising materials. Image: stress of the st | | General Site Clearance | | | | |
| 2Plastic Pressure Pipes Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5mm2402.1OD63mm PN10 OD5mm PN10 2.2OD75mm PN10 OD10mm PN10, uPVCm6503PIPEWORK - FITTINGS AND VALVES Plastic Pipe Fittings Equal teesm3753.1OD75mm OD75mm OD110mmNo.Rate Only Rate Only3.2OD75mm OD110mmNo.613.3OD75 x 63mm OD110 x 75mmNo.63.4OD110 x 63mm OD110 x 75mmNo.63.50OD110 x 75mm OD110 x 75mmNo.84Plastic Pipe Fittings End caps OD110 mmNo.64Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only5Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only | 1 | route, including felling trees, grabing tree stumps and disposal of | ltem | 1 | | |
| 2.1 OD63mm PN10 m 240 2.2 OD75mm PN10 m 650 2.2 OD110mm PN10, uPVC m 375 PIPEWORK - FITTINGS AND VALVES m 375 PIPEWORK - FITTINGS AND VALVES No. Rate Only 3.3 Equal tees No. Rate Only 3.1 OD75mm No. Rate Only 3.2 OD110mm No. 63 3.4 OD75mm No. 63 3.50 OD110 x 63mm No. 3 3.50 OD110 x 75mm No. 3 4.1 OD63mm No. 3 5 Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes No. Rate Only | 2 | Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| 2.2 2.2 OD75mm PN10 OD110mm PN10, uPVCm650 m3PIPEWORK - FITTINGS AND VALVESm3754PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings Equal teesNo.Rate Only Rate Only3.1 0OD75mm OD110mmNo.Rate Only Rate Only3.2 0OD75 x 63mm OD110 x 63mmNo.6 | 2.1 | | m | 240 | | |
| PIPEWORK - FITTINGS AND VALVESNo.Rate Only3PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings Equal teesNo.Rate Only3.1OD75mm OD110mmNo.Rate Only3.2OD75mm OD110mmNo.Rate Only3.3OD75 x 63mm OD110 x 63mm OD110 x 75mmNo.6 3 34PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings End caps OD110 x 75mmNo.35Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only | | | m | | | |
| PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings Equal teesNo.Rate Only3.1OD75mmNo.No.Rate Only3.2OD110mmNo.No.Rate OnlyUnequal teesNo.No.63.3OD75 x 63mmNo.63.4OD110 x 63mmNo.3OD110 x 63mmNo.3OD110 x 75mmNo.3PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings End capsNo.34End caps OD63mmNo.Rate Only4.1OD63mm OD63mmNo.Rate Only5Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo. | 2.2 | OD110mm PN10, uPVC | m | | | |
| Plastic Pipe Fittings Equal teesNo.Rate Only3.1 3.2OD75mm OD110mmNo.Rate Only3.3 3.4 OD110 x 63mm OD110 x 75mmNo.63.4 OD110 x 75mmNo.63.50 OD110 x 75mmNo.34 4.1 OD63mm OD63mm OD110mm PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings End caps OD110mmNo.Rate Only5 Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only | | PIPEWORK - FITTINGS AND VALVES | | | | |
| 3 Equal tees 3.1 OD75mm 3.2 OD110mm 3.2 OD110mm Unequal tees No. 3.3 OD75 x 63mm 3.4 OD110 x 63mm 3.50 OD110 x 75mm VINC Rate Only Rate Only No. 8 PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings No. 4 End caps 4.1 OD63mm 4.2 OD110mm Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10. and of the following sizes | | | | | | |
| 3.2OD110mmNo.Rate OnlyUnequal teesNo.Rate Only3.3OD75 x 63mmNo.63.4OD110 x 63mmNo.30D110 x 75mmNo.30D110 x 75mmNo.3PN10 HDPE Compression fitting to DIN 8074/BS 5114No.3PN10 HDPE Compression fitting to DIN 8074/BS 5114No.3PN10 HDPE Compression fitting to DIN 8074/BS 5114No.3P010 HDPE Compression fitting to DIN 8074/BS 5114No.8P10 GrapsOD63mmNo.Rate OnlyA1OD63mmNo.Rate OnlyA2OD110mmNo.Rate Only5Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo. | 3 | | | | | |
| Unequal teesNo.63.3OD75 x 63mmNo.63.4OD110 x 63mmNo.33.50OD110 x 75mmNo.30D110 x 75mmNo.34PN10 HDPE Compression fitting to DIN 8074/BS 5114No.3PN10 HDPE Compression fitting to DIN 8074/BS 5114No.3Plastic Pipe FittingsNo.84.1OD63mmNo.Rate Only0.003mmOD110mmNo.Rate Only5Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo | 3.1 | OD75mm | No. | Rate Only | | |
| 3.3 3.4OD75 x 63mm OD110 x 63mm OD110 x 75mmNo.6 No.3.50OD110 x 75mmNo.3 PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings End caps OD63mm OD110mmNo.Rate Only No.4 Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only | 3.2 | OD110mm | No. | Rate Only | | |
| 3.4OD110 x 63mm OD110 x 75mmNo.33.50PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings End caps OD63mm OD110mmNo.Rate Only Rate Only4.1Cass OD63mm OD110mmNo.Rate Only Rate Only5Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only | | Unequal tees | | | | |
| 3.50OD110 x 75mmNo.3PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings End caps 0D63mm 0D110mmNo.Rate Only Rate Only Rate Only4.1OD63mm OD10mmNo.Rate Only Rate Only5Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only | 3.3 | OD75 x 63mm | No. | 6 | | |
| APN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings End caps 0D63mm 0D110mmNo.Rate Only Rate Only Rate Only4.1OD63mm OD110mmNo.Rate Only Rate Only Rate Only5Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizesNo.Rate Only Rate Only | 3.4 | OD110 x 63mm | No. | 3 | | |
| 4 End caps 4.1 OD63mm 0.063mm No. 0.110mm No. 8 End caps 0.110mm No. 8 End caps 0.110mm No. 8 End caps 9 Cast or Spun Iron Pipe Fittings 8 Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | 3.50 | OD110 x 75mm | No. | 3 | | |
| 4.1 OD63mm 4.2 OD110mm Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | | | | | | |
| 4.2 OD110mm No. Rate Only 5 Cast or Spun Iron Pipe Fittings 6 Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | 4 | End caps | | | | |
| 5 Cast or Spun Iron Pipe Fittings 5 Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | | | - | - | | |
| 5 Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | 4.2 | OD110mm | No. | Rate Only | | |
| Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | | | | | | |
| 10, and of the following sizes | 5 | | | | | |
| | | | | | | |
| | 5.1 | - | No. | 2 | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | Steel pipe fittings; flanges to PN 10; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped adaptors as Maxistep | | | | |
| 6.1 | DN100 x 63 | No. | Rate Only | | |
| 6.2 | DN100 x 75 | No. | Rate Only | | |
| | Viking Johnson Florand adapters on Asusfast | | | | |
| ~ ~ | Viking Johnson Flanged adaptors as Aquafast. | | <u> </u> | | |
| 6.3 | DN50 | No. | 3 | | |
| 6.4 | DN65 | No. | 1 | | |
| 6.5 | DN100 | No. | 7 | | |
| 6.60 | DN150 | No. | 3 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 7 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | |
| | following sizes; | | | | |
| 7.1 | DN125mm | No. | 2 | | |
| 7.2 | DN150mm | No. | 3 | | |
| 1.2 | | 140. | | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 7.3 | DN150 x 65mm | No. | 2 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 8 | Reducing Couplers/ Unions | | | | |
| 8.1 | OD90 x 63mm | No. | 1 | | |
| 8.2 | OD90 x 75mm | No. | 1 | | |
| 8.3 | OD110 x 63mm | No. | 1 | | |
| | Valves and Penstocks | | | | |
| 0 | | | | | |
| 9 | <u>Air Valve</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | OD160mm | No. | 1 | | |
| | Total Carried to Collection Io. 4 : DISTRIBUTION NETWORK | | | | |
| tem | | | | Г | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | · · · · · · · · · · · · · · · · · · · | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | 1 | | |

| SCHEN | IE ID. 1.2: KULULU BUKWO DISTRICT | | | | |
|-------------|--|------|------|-------------|------------------|
| 10.1 | DN150mm | No. | 2 | | |
| 11 | Farm Gate Connections Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - | | | | |
| 11 | DN50mm | No. | 22 | | |
| 12 | <u>Other Pipework Ancillaries</u> <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts | nr | 34 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 13 | Not exceeding DN300mm | m | 24 | | |
| | Total Carried to Collection | | | | |
| BILL N | o. 4 : DISTRIBUTION NETWORK | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 11 | | | | |
| | Page 13 | | | | |
| | Page 14 | | | | |
| | Total Bill No. 4.4 Carried to Bill Summary | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT BILL SUMMARY

| Bill No. | Description | | Amount (UGx.) |
|-------------|--------------------------------|-----|-------------------|
| | WORK ITEMS | | |
| 1 | Abstraction Works | | |
| 2 | Transmission Mains | | |
| 3 | Storage Reservoir Works | N/A | |
| 4 | Distribution Network | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Carried to Grand Summary | | |
| | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the | m ³ | 35 | | |
| <u>_</u> | Engineer and preparation of excavated surfeces to receive hardcore fill. | 3 | 45 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m³ | 4 | | |
| | Filling | | | | |
| | Structures | | | | |
| | Filling to precast concrete sump structure by methods specified and to depths | | | | |
| 3.1 | Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m ³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m³ | 44 | | |
| 3.3 | Imported murram. | m³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m² | 0 | | |
| | Landscaping | | | | |
| 5 | Turfing for lawns inside fenced off compound, including filling with excavated | m ² | 840 | | |
| U | topsoil and the preparation of surfaces at Intake Site. | 111 | 010 | | |
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT BILL No. 1 : ABSTRACTION WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|----------------|------|-------------|------------------|
| 6.1 | Grade C15/10 Blinding 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, of the following thickness | m ³ | 1 | | |
| | Grade C25/10 | | | | |
| 6.2 | Reinforced Concrete Base Slabs, Toe, Key and Heel 200mm thick key and toe. | m³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | m³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m³ | 41 | | |
| | 200mm thick top slab. | m³ | 1 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | <i>Fair Finish Plane Horizontal</i> Plane fair finish horizontal formwork to the tops slab including charmfering and / or filleting of all exposed concrete corners. | m² | 5 | | |
| 7.2 | <i>Fair Finish Plane Vertical</i> Plane fair finish vertical and / or slightly slping formwork to walls including charmfering and / or filleting of all exposed concrete corners. | m² | 145 | | |
| 7.3 | <i>Finishing of top surfaces</i> Steel trowel finishing of top surfaces. | m² | 20 | | |
| 8.1 | Reinforcement Deformed High Yield Steel High yield square twisted bars to BS 4449 and of the following sizes Nominal size, 12mm | t | 2 | | |
| 8.2 | Inserts DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | PIPEWORK - FITTINGS AND VALVES | | | | . , |
| | Cast or Spum Iron Pipe Fittings. Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| 9.4 | End Caps DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | MISCELLANEOUS METAL WORK Ladders | | | | |
| 10.1 | External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 10.2 | Access Manhole Cover 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT BILL No. 1 · ABSTRACTION WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 10.3 | Valve Surface Boxes Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | Rate Only | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| | Training of Operator's staff | | | | |
| X2 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X3 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | | | |
| | Io. 1 : ABSTRACTION WORKS | | 1 | I I | Amount |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabbing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 2.9 | DN150mm, not in trenches; | m | 3 | | |
| 2.10 | DN150mm, in trenches; depth not exceeding 1.5m. | m | 3 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.7 | OD160mm HDPE PN10 | m | Rate Only | | |
| 4 | uPVC Pipes | | | | |
| | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches to depths not | | | | |
| 4.4 | OD160 to PN 10 | m | 3,640 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | |
| 5.6 | DN150mm | No. | 4 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped couplings as Maxistep | | | | |
| 5.7.4 | DN150 x 00 | No. | | | |
| | Viking Johnson Flanged adaptors as Aquafast to PN16 | | | | |
| 5.7.8 | DN100 | No. | 3 | | |
| 5.7.10 | DN150 | No. | 4 | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Cast or Spun Iron Pipe Fittings | | | | |
| 6 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | |
| | following sizes; | | | | |
| 6.1 | DN100mm | No. | 3 | | |
| 6.2 | DN150mm | No. | 3 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 6.3 | DN125 x 50mm | No. | 5 | | |
| 6.4 | DN125 x 65mm | No. | 1 | | |
| | Tapers Cont'd | | | | |
| 6.8 | DN150 x 65mm | No. | 1 | | |
| 6.10 | DN150 x 100mm | No. | 2 | | |
| 7 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings, including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| 7.6 | DN150mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 8 | Equal Adapters | | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | | |
| 8.2 | OD100 female adapter | No. | Rate Only | | |
| 9 | Valves and Penstocks | | | | |
| | <u>Air Valves</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.7 | DN150mm | No. | 8 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------------|---|------|-----------|-------------|------------------|
| 10 | Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall structure and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.7 | DN150mm | No. | 5 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 8 | | |
| 11 | Valve Surface Boxes Valve surface box for DN100 - DN300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11.2 | Not exceeding DN300mm | m | 12 | | |
| 12 | Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| | Total Carried to Collection | | | | |
| BILL N Item No. | No. 2 : TRANSMISSION MAINS Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 12.2 | Not exceeding DN200mm | m | 220 | | (007.) |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT

| | Not exceeding DN200mm | m | 450 | | |
|-------------|--|------|------|-------------|------------------|
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 6 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 126 | | |
| | Total Carried to Collection | | | | |
| | Io. 2 : TRANSMISSION MAINS | 1 | 1 | · · · · · · | |
| Item No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|------------|------------------------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| 2 | PIPEWORK-PIPES Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN6 | m | 20 | | |
| 3 | PIPEWORK - FITTINGS AND VALVES <u>PN10 HDPE Compression fitting to DIN 8074/BS 5114</u> <u>Plastic Pipe Fittings</u> <u>Equal tees</u> | | | | |
| 3.1 3.2 | OD50mm OD63mm | No. No. | Rate Only Rate Only | | |
| | Unequal tees | | | | |
| 3.3 | OD110 x 63mm | No. | 1 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 4 4.1 | <u>End caps</u> OD63mm | No. | 3 | | |
| 5 | Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | | | | |
| 5.1 | DN125mm | No. | 2 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|----------------|--|------|-----------|-------------|------------------|
| | Viking Johnson stepped adaptors as Maxistep | | | | |
| 6.1 | DN100 x OD100 | No. | Rate Only | | |
| | Viking Johnson Flanged adaptors as Aquafast. | | | | |
| 6.2 | DN50 | No. | 3 | | |
| 6.3 | DN65 | No. | 1 | | |
| 6.4 | DN100 | No. | 7 | | |
| 6.5 | DN150 | No. | 3 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 7 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 7.1 | DN125mm | No. | 2 | | |
| 7.2 | DN150mm | No. | 3 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, cement mortar lined, and of the following sizes; | | | | |
| 7.3 | DN150 x 65mm | No. | 2 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| | | | | | |
| 8 | Reducing Couplers/ Unions | NL. | | | |
| 8.1 | OD90 x 63mm | No. | 1 | | |
| 8.2 | OD90 x 75mm | No. | | | |
| 8.3 | OD110 x 63mm | No. | 1 | | |
| 0 | Valves and Penstocks | | | | |
| 9 | Air Valve Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | OD63mm | No. | Rate Only | | |
| 9.2 | OD75mm | No. | Rate Only | | |
| 9.3 | OD90mm | No. | Rate Only | | |
| 9.4 | OD110mm | No. | Rate Only | | |
| | Total Carried to Collection | | <u> </u> | 1 | |
| BILL N Item | | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |

SCHEME ID. 1.3: LWONGON IN BUKWO DISTRICT

| SCHEM | E ID. 1.3: LWONGON IN BUKWO DISTRICT | | | | |
|-------|---|------|-----------|-------------|--------|
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| | | | | | |
| 10.1 | DN50mm | No. | Rate Only | | |
| | DN65mm | No. | Rate Only | | |
| | DN75mm | No. | Rate Only | | |
| | | | | | |
| 11 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connecor pipes and locakable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| | IU PINIU | | | | |
| 11.1 | DN50mm | No | 3 | | |
| 11.1 | | No. | 5 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 10 | | | 0 | | |
| 12 | Marker posts for pipes, gate valves, air valves, washouts | nr | 2 | | |
| | Deinstatement | | | | |
| | Reinstatement Roads | | | | |
| | Roads | | | | |
| | | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 40 | Net were die a DN200 were | | Rate Only | | |
| 13 | Not exceeding DN300mm | m | Rale Only | | |
| | Total Carried to Collection o. 4 : DISTRIBUTION NETWORK | | | | |
| | | | 1 | | A.m. c |
| Item | Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | | | - | | (UGx.) |
| | | | | | |
| | Bill No. 4 Collection | | | | |
| | | | | | |
| | Page 10 | | | | |
| | | | | | |
| | Page 11 | | | | |
| | | | | | |
| | Page 12 | | | | |
| | Total Bill No. 4.4 Carried to Bill Summary | | | | 0 |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

| D:11 | Description | Amount (UGx.) |
|------|--------------------------------|---------------|
| NO. | | |
| | WORK ITEMS | |
| 1 | Abstraction Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

BILL No. 1 : ABSTRACTION WORKS Item Amount Rate (UGx.) Description Unit Qty. No. (UGx.) **General Site Clearance** 1 General site clearance, felling trees, grabing tree stamps and stripping of 1 Item topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. Earthworks m^3 2.1 Excavation to form river/ stream diversion towards the intake / abstraction 35 structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. 2.2 Ditto but for the Intake Structure m³ 45 2.3 Ditto but for the River Weir Structure 4 m³ Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: -3.1 Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by m³ 55 the arm of an excavator. 3.2 Selected excavated material including topping with a 200mm thick layer of m³ 44 top/ vegetable soil. 3.3 Imported murram. m³ 18 m² 0 4 Single layer of geotextile laid to manufaturer's specifications Landscaping m² 840 5 Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. IN-SITU CONCRETE Provision and Placing of Concrete **Ordinary Design Mix Concrete** Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland cement to BS 12, aggregate to BS 882 for the following structures: -Total Carried to Collection

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

| | Io. 1 : ABSTRACTION WORKS | | | т т | Amourt |
|-------------|--|----------------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| 6.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, | m ³ | 1 | | |
| | of the following thickness | | | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m ³ | 5 | | |
| | | | | | |
| 6.3 | 200mm thick base and heel slabs. | m ³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m³ | 19 | | |
| | | | | | |
| 6.5 | 200mm thick sump wall. | m³ | 41 | | |
| 6.6 | 200mm thick top slab. | m ³ | 1 | | |
| 0.0 | | | | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering and | m ² | 5 | | |
| | / or filleting of all exposed concrete corners. | | | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including | m ² | 145 | | |
| | charmfering and / or filleting of all exposed concrete corners. | | - | | |
| | | | | | |
| | Finishing of top surfaces | 2 | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m² | 20 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | |
| | Inserts | | | | |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two | No. | 2 | | |
| | faces of the concrete wall and of the following sizes, excluding supply of pipe. | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT

BILL SUMMARY

| | Io. 1 : ABSTRACTION WORKS | 1 | [| <u>т</u> | A |
|-------------|---|------|------|----------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers | | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, | | | | |
| | cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, | | | | |
| | and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | MISCELLANEOUS METAL WORK | | | | |
| | Ladders | | | | |
| 10.1 | External galvanized mild steel ladder to BS 4211, galvernized to BS 729, | m | 8 | | |
| | complete andas shown in the drawings including fixing to precast concrete units | | | | |
| | Access Manhole Cover | | | | |
| 10.2 | 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| | Total Carried to Collection | 1 | I | | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

| | SUMMARY Io. 1 : ABSTRACTION WORKS | | | | |
|-------------|---|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 10.3 | Valve Surface Boxes Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | Rate Only | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| | Training of Operator's staff | | | | |
| X2 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X3 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | | | |
| - | No. 1 : ABSTRACTION WORKS | 1 | | [[| A |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 1 Carried to Bill Summary | I | I | <u> </u> | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT

| | SUMMARY Io. 2 : TRANSMISSION MAINS | | | | |
|-----------------|---|------------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | DEMOLITION AND SITE CLEARANCE | | | | . , |
| 1 | <u>General Site Clearance</u> General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of | Item | 1 | | |
| | arising materials. | | | | |
| 2 | <u>PIPEWORKS - PIPES</u> Steel Pipes | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| | DN150mm, not in trenches; | m | 3 | | |
| 2.10 | DN150mm, in trenches; depth not exceeding 1.5m. | m | 3 | | |
| 3 | <u>HDPE Pipes</u> HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.7 | OD160mm HDPE PN10 | m | Rate Only | | |
| 4 | <u>uPVC Pipes</u> uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches to depths not | | | | |
| 4.4 | OD160 to PN 10 | m | 5,040 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 5 | Cast or Spun Iron Pipe Fittings Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | | | | |
| 5.6 | DN150mm | No. | 4 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped couplings as Maxistep | | | | |
| 5.7.4 | DN150 | No. | 0 | | |
| - - - - | Viking Johnson Flanged adaptors as Aquafast to PN16 | | _ | | |
| 5.7.8 5 7 10 | DN100 DN150 | No. No. | 3 | | |
| 0.1.10 | Total Carried to Collection | NU. | Т | <u> </u> | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT

BILL SUMMARY

| ltem No. | lo. 2 : TRANSMISSION MAINS Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|--|------------------|
| NO. | Cast or Spun Iron Pipe Fittings | | | | (00.) |
| 6 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | |
| | following sizes; | | | | |
| 6.1 | DN100mm | No. | 3 | | |
| 6.2 | DN150mm | No. | 3 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, cement mortar lined, and of the following sizes; | | | | |
| 6.3 | DN125 x 50mm | No. | 5 | | |
| 6.4 | DN125 x 65mm | No. | 1 | | |
| | Tapers Cont'd | | | | |
| 6.8 | DN150 x 65mm | No. | 1 | | |
| 6.10 | DN150 x 100mm | No. | 2 | | |
| 7 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings, including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| 7.6 | DN150mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 8 | Equal Adapters | | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | | |
| 8.2 | OD100 female adapter | No. | Rate Only | | |
| 9 | Valves and Penstocks | | | | |
| | <u>Air Valves</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.7 | DN150mm | No. | 8 | | |
| | | | | | |
| | Total Carried to Collection | | | <u> </u> | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT

| ltem | IO. 2 : TRANSMISSION MAINS | | | | Amount |
|------|--|------|-----------|-------------|--------|
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic compression pipe | | | | |
| | fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall | | | | |
| | structure and all other fittings necessary to make the complete installation on | | | | |
| | pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.7 | DN150mm | No. | 5 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 8 | | |
| 11 | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 11.2 | Not exceeding DN300mm | m | 12 | | |
| 12 | <u>Surrounds</u> | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

| BILL N | Io. 2 : TRANSMISSION MAINS | | | | |
|-------------|--|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Not exceeding DN200mm | m | 220 | | <i>i</i> |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 450 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 6 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | 400 | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 126 | | |
| | Total Carried to Collection Io. 2 : TRANSMISSION MAINS | | | | |
| Item | | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | | | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| | | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | | | | | |
| 0 | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.2 | OD63mm PN10 | m | 120 | | |
| 2.3 | OD75mm PN10 | m | 374 | | |
| | | | | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 2 | | | | | |
| 3 | Equal tees | | | | |
| 3.2 | OD63mm | No. | Rate Only | | |
| 3.3 | OD75mm | No. | Rate Only | | |
| | Unequal tees | | | | |
| 3.9 | OD75 x 63mm | No. | 4 | | |
| 5.9 | | INU. | 4 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | End caps | | | | |
| | OD63mm | No. | Rate Only | | |
| 4.2 | OD75mm | No. | Rate Only | | |
| | | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN | | | | |
| | 10, and of the following sizes | | | | |
| 5.1 | DN50mm | No. | Rate Only | | |
| 5.2 | DN65mm | No. | Rate Only | | |
| 5.3 | DN75mm | No. | Rate Only | | |
| | Total Carried to Collection | | | | |
| ill r tem | Io. 4 : DISTRIBUTION NETWORK | | 1 | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | | | | | (000.) |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

| DILL J | UMMARY | | 1 | 1 | | |
|--------|---|-----|-----------|----------|----------|--|
| | Viking Johnson stepped adaptors as Maxistep | | | | | |
| 6.1 | DN100 x OD63 | No. | Rate Only | | | |
| 6.2 | DN100 x OD 75 | No. | Rate Only | | | |
| | | | | | | |
| 6.6 | <u>Viking Johnson Flanged adaptors as Aquafast.</u> DN65 | No. | 1 | | | |
| 6.9 | DN125 | No. | 2 | | | |
| | | | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | | |
| 7 | Junctions and Branches | | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | | |
| | | | | | | |
| 7.1 | DN125mm | No. | 1 | | | |
| | T | | | | | |
| | Tapers All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | | |
| | cement mortar lined, and of the following sizes; | | | | | |
| 7.8 | DN65 x 50mm | No. | Rate Only | | | |
| 7.11 | DN150 x 40mm | No. | Rate Only | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | | |
| | Plastic Pipe Fittings | | | | | |
| | | | | | | |
| 8 | Reducing Couplers/ Unions | NI- | 0 | | | |
| 8.1 | OD75 x 63mm | No. | 2 | | | |
| | Valves and Penstocks | | | | | |
| 9 | <u>Air Valve</u> | | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance pieces, and all fittings necessary to make the installation on pipes of | | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | | |
| | | | | | | |
| 9.1 | OD63mm | No. | Rate Only | | | |
| 9.2 | OD75mm | No. | Rate Only | | | |
| | Total Carried to Collection | | <u>I</u> | <u>I</u> | <u> </u> | |
| | | | | | 1 | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT

BILL SUMMARY BILL No. 4 : DISTRIBUTION NETWORK Item Amount Description Unit Rate (UGx.) Qty. (UGx.) No. 10 Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, PVC union ball valve, flap valve and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box and stone masonry outfall structure to detail as per 10.1 DN50mm No. Rate Only 10.2 DN65mm Rate Only No. Farm Gate Connections 11 Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: -11.1 DN50mm No. 9 STRUCTURAL METALWORK Fabrication and erection of rolled steel section pipe bridge complete as shown on drawings Rate Only 12.1 Span 3 - 5m at height not exceeding 2m. No. 1 12.2 Span 5.5 - 10m at height not exceeding 2m. No. Other Pipework Ancillaries Marker Posts Marker posts for pipes, gate valves, air valves, washouts 15 13 nr Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Rate Only 14 Not exceeding DN300mm m **Total Carried to Collection**

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|-----------------------|------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 1.4: KONGTA TULWO IN BUKWO DISTRICT BILL SUMMARY

SCHEME ID. 1.5: WERE IN KAPCHORWA DISTRICT BILL SUMMARY

| Bill No. | Description | | Amount (UGx.) |
|-------------|--------------------------------|-----|---------------|
| | WORK ITEMS | | |
| 1 | Abstraction Works | | |
| 2 | Transmission Mains | | |
| 3 | Storage Reservoir Works | N/A | |
| 4 | Distribution Network | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Carried to Grand Summary | | |

SCHEME ID. 1.5: WERE IN KAPCHORWA DISTRICT

BILL No. 1 - ABSTRACTION WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m ³ | 4 | | |
| 3.1 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 44 | | |
| 3.3 | Imported murram. | m ³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m² | 0 | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. | m² | 840 | | |
| | Total Carried to Collection | | | | |
| BILL N | No. 1 : ABSTRACTION WORKS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | IN-SITU CONCRETE Provision and Placing of Concrete | | | | (2011) |

| SCHEN | IE ID. 1.5: WERE IN KAPCHORWA DISTRICT | 1 | I | 1 1 | 1 | | |
|--------|--|---|------|-------------|-----|--|--|
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | | | |
| | Grade C15/10 | | | | | | |
| | Blinding | | | | | | |
| 6.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, | m ³ | 1 | | | | |
| | of the following thickness | - 111 | | | | | |
| | | | | | | | |
| | Grade C25/10 | | | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | | | |
| 6.2 | 200mm thick key and toe. | m ³ | 5 | | | | |
| | | | | | | | |
| 6.3 | 200mm thick base and heel slabs. | m ³ | 5 | | | | |
| | | | | | | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m ³ | 19 | | | | |
| | Č Č | | | | | | |
| 6.5 | 200mm thick sump wall. | m ³ | 41 | | | | |
| | | | | | | | |
| 6.6 | 200mm thick top slab. | m ³ | 1 | | | | |
| 0.0 | | 111 | | | | | |
| | Formwork | | | | | | |
| | Formwork-Fair Finish | | | | | | |
| | | | | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering | m ² | 5 | | | | |
| | and / or filleting of all exposed concrete corners. | | - | | | | |
| | · · · | | | | | | |
| | Fair Finish Plane Vertical | | | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including | m ² | 145 | | | | |
| | charmfering and / or filleting of all exposed concrete corners. | | | | | | |
| | | | | | | | |
| | Finishing of top surfaces | | | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m ² | 20 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Total Carried to Collection | 1 | | <u> </u> | | | |
| BILL N | lo. 1 : ABSTRACTION WORKS | | | | | | |
| Item | | stop slab. m³ 1 Fair Finish Image: Stab including charmfering ing of all exposed concrete corners. m² Plane Horizontal ish horizontal formwork to the tops slab including charmfering ing of all exposed concrete corners. m² Plane Vertical ish vertical and / or slightly slping formwork to walls including and / or filleting of all exposed concrete corners. m² Itap surfaces finishing of top surfaces. m² 145 Total Carried to Collection m² 20 | | | | | |
| No. | Description | Unit | Qty. | Rate (UGx.) | | | |
| | Reinforcement | | | | . , | | |
| | Deformed High Yield Steel | | | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | | | |
| | | | | | | | |
| | Inserts | | | | | | |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two | No. | 2 | | | | |
| | faces of the concrete wall and of the following sizes, excluding supply of pipe. | | | | | | |
| | | | | | | | |

| 1 | | I | | I I |
|-----|---|-----|---|-----|
| | PIPEWORK - FITTINGS AND VALVES | | | |
| | Cast or Spum Iron Pipe Fittings. | | | |
| | Cast of Spain non ripe rittings. | | | |
| | Flanged Reducers | | | |
| 9.1 | DN250 x 150mm | No. | 1 | |
| | Flange Adaptors | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, | No. | 1 | |
| | flanges to BS 4505, all to PN6. | | | |
| | Strainers | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, | | | |
| | cement mortar lined, and of the following sizes: - | | | |
| 9.3 | DN 250 mm | No. | 2 | |
| | End Caps | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | |
| | Valves and Penstocks | | | |
| | Gate Valves: Hand Operated | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, | | | |
| | and of the following sizes:- | | | |
| 9.5 | 150 mm ND | No. | 1 | |
| | Denote allow band are noted including band at all and distance and the | | | |
| | Penstocks; hand operated including head stock and distance spindle, as specified in drawings of the following size: - | | | |
| | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | |
| | Total Carried to Collection | | | |

| | IE ID. 1.5: WERE IN KAPCHORWA DISTRICT | - | | | |
|----------------|--|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | MISCELLANEOUS METAL WORK | | | | . , |
| 10.1 | Ladders External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| | Assess Markala Osum | | | | |
| 10.2 | Access Manhole Cover 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| 10.3 | Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | 0 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| X2 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| X3 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | | | |
| BILL N Item | Io. 1 : ABSTRACTION WORKS | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 1.5: WERE IN KAPCHORWA DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|--------|-----------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | <u> PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 2.7 2.8 | DN125mm, not in trenches; DN125mm, in trenches; depth not exceeding 1.5m. | m m | 3 3 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 3.6 | OD140mm HDPE PN16 | m | Rate Only | | |
| 4 4.3 | <u>uPVC Pipes</u> <u>uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with</u> <u>integral rubber ring socket joints laid in trenches to depths not</u> OD140 to PN 16 | m | 2,476 | | |
| 5 | PIPEWORK - FITTINGS AND VALVES Cast or Spun Iron Pipe Fittings Bends | | | | |
| 5.5 | <u>Galvanized iron threaded socket 45^o bends, toBS EN 10242:1995, all to PN 10, and of the following sizes</u> DN125mm | No. | 4 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| 5.7.2 | <u>Viking Johnson stepped couplings as Maxistep</u> DN100 x OD 75 | No. | Rate Only | | |

SCHEME ID. 1.5: WERE IN KAPCHORWA DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 5.7.9 | <u>Viking Johnson Flanged adaptors as Aquafast to PN16</u> DN125 | No. | 5 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 6 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 6.1 | DN100mm | No. | 3 | | |
| 6.2 | DN150mm | No. | 3 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, cement mortar lined, and of the following sizes; | | | | |
| 6.3 | DN125 x 50mm | No. | 4 | | |
| 6.4 | DN125 x 65mm | No. | 2 | | |
| 6.5 | DN125 x 100mm | No. | Rate Only | | |
| 7 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings, including a masonry chamber, and on the following main pipe sizes | | | | |
| 7.5 | DN125mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Equal Adapters | | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | | |
| 8.2 | OD100 female adapter | No. | Rate Only | | |
| 9 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.6 | DN125mm | No. | 4 | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 10 | Washouts Washout as specified in the drawings, complete with plastic compression pipe | | | | |
| | fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall structure and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.6 | DN125mm | No. | 4 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 4 | | |
| 11 | Valve Surface Boxes Valve surface box for DN100 - DN300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 4 | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11.2 | Not exceeding DN300mm | m | 12 | | |
| 12 | Surrounds Pipe surrounds, of selected excavated granular material, for the | | | | |
| 12.1 | <u>following pipe sizes</u> Not exceeding DN200mm | m | Rate Only | | |
| 12.2 | <u>Pipe surrounds, of imported granular material, for the following pipe</u> Not exceeding DN200mm | m | 60 | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | . , |
| 12.3 | Not exceeding DN200mm | m | 50 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | Rate Only | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 66 | | |
| | Total Carried to Collection Io. 2 : TRANSMISSION MAINS | | | | |
| Item No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 1.5: WERE IN KAPCHORWA DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | PIPEWORK-PIPES Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | | |
| 2.2 | OD63mm PN6 | m | 100 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 8.5 | OD110mm | No. | 1 | | |
| | Unequal tees | | | | |
| .13 | OD110 x 63mm | No. | 3 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 4 | End caps | Na | 5 | | |
| 1.1 | OD63mm | No. | 5 | | |
| 7 | Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 7.1 | DN50mm | No. | Rate Only | | |
| | Total Carried to Collection Io. 4 : DISTRIBUTION NETWORK | | | | |
| em | | 1 | 1 | г – т | Amount |

| 8 Farm Gate Connections Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connector pipes and locakable chamber as detailed on Drawing No. DIS/NUC/SD/008, for the following mains sizes and all to PH10:- No. 5 8.1 DN50mm No. 5 9 Marker Posts Marker Posts No. 3 9 Marker Posts Marker Posts No. 3 9 Marker Posts No. 3 12 Not exceeding DN300mm m Rate Only Total Carried to Collection Bitl No. 4 : DISTRIBUTION NETWORK Unit Qty. Rate (UGx.) Amount (UGx.) Total Carried to Collection No. 9 Bitl No. 4 Collection Init Qty. Rate (UGx.) Amount (UGx.) Total Carried to Bill Summary | SCHEN | IE ID. 1.5: WERE IN KAPCHORWA DISTRICT | | | | |
|--|--------|--|------|-----------|--------------|--------|
| distribution main, inclusive of PVC compressive ball valve and end cap complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - Image: Complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - 8.1 DNS0mm No. 5 9 Marker posts for pipes, gate valves, air valves, washouts No. 3 9 Marker posts for pipes, gate valves, air valves, washouts No. 3 12 Not exceeding DN300m m Rate Only 12 Not exceeding DN300m m Rate Only ElitL No. 4 : DISTRIBUTION NETWORK Item No. Bill No. 4 Collection 14 Page 10 Page 11 15 Page 11 Image: Page 10 Image: Page 10 16 Page 11 Image: Page 10 Image: Page 10 Image: Page 10 17 Page 11 Image: Page: Pag | 8 | Farm Gate Connections | | | | |
| distribution main, inclusive of PVC compressive ball valve and end cap complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - Image: Complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - 8.1 DNS0mm No. 5 9 Marker posts for pipes, gate valves, air valves, washouts No. 3 9 Marker posts for pipes, gate valves, air valves, washouts No. 3 12 Not exceeding DN300m m Rate Only 12 Not exceeding DN300m m Rate Only ElitL No. 4 : DISTRIBUTION NETWORK Item No. Bill No. 4 Collection 14 Page 10 Page 11 15 Page 11 Image: Page 10 Image: Page 10 16 Page 11 Image: Page 10 Image: Page 10 Image: Page 10 17 Page 11 Image: Page: Pag | | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - . <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | | |
| Brawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - No. 5 8.1 DN50mm No. 5 9 <u>Marker Posts</u> <u>Marker posts for pipes, gate valves, air valves, washouts</u> No. 3 9 <u>Marker posts for pipes, gate valves, air valves, washouts</u> No. 3 12 <u>Reinstatement</u> <u>Roads</u> | | | | | | |
| 8.1 DN50mm No. 5 9 Marker Posts for pipes, gate valves, air valves, washouts No. 3 9 Marker posts for pipes, gate valves, air valves, washouts No. 3 10 Marker posts for pipes, gate valves, air valves, washouts No. 3 11 Reinstatement Roads No. 3 12 Not exceeding DN300mm m Rate Only 12 Not exceeding DN300mm m Rate Only Item Description Unit Qty. BILL No. 4 : DISTRIBUTION NETWORK Item Description Unit Qty. Rate (UGx.) Amount (UGx.) No. BIIL No. 4 Collection Page 10 Page 10 Page 11 Integration of page 11 Integration of page 11 Integration of page 11 Integration of page 11 | | | | | | |
| 8.1 DN50mm No. 5 Image: state of the state o | | a | | | | |
| 9 Other Pigework Ancillaries Marker Posts Marker posts for pipes, gate valves, air valves, washouts No. 3 3 1 | | | | | | |
| 9 Marker Posts Marker posts for pipes, gate valves, air valves, washouts No. 3 9 Reinstatement Roads No. 3 10 Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes m Rate Only 12 Not exceeding DN300mm m Rate Only Marker Loads 12 Not exceeding DN300mm m Rate Only Marker Loads BILL Not exceeding DN300mm m Rate Only Marker Loads Bill No. 4: DISTRIBUTION NETWORK Unit Qty. Rate (UGx.) Amount (UGx.) Item No. Description Unit Qty. Rate (UGs.) Amount (UGs.) Page 10 Page 11 Page 11 Page 11 Integration of the page 11 I | 8.1 | DN50mm | No. | 5 | | |
| 9 Marker posts for pipes, gate valves, air valves, washouts No. 3 Image: Constraint of the constraint | | Other Pipework Ancillaries | | | | |
| Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes m Rate Only Image: Constraint of the following pipe sizes 12 Not exceeding DN300mm m Rate Only Image: Constraint of the following pipe sizes 12 Not exceeding DN300mm m Rate Only Image: Constraint of the following pipe sizes 12 Not exceeding DN300mm m Rate Only Image: Constraint of the following pipe sizes 12 Not exceeding DN300mm m Rate Only Image: Constraint of the following pipe sizes 12 Not exceeding DN300mm m Rate Only Image: Constraint of the following pipe sizes 12 Not exceeding DN300mm m Rate (UGx, Image: Constraint of the following pipe sizes Image: Constraint of the following pipe sizes 14 Image: Constraint of the following pipe sizes 15 Image: Constraint of the following pipe sizes 16 Image: Constraint of the following pipe sizes < | | Marker Posts | | | | |
| Roads Image: Seaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Image: Seaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Image: Seaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Image: Seaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes 12 Not exceeding DN300mm Image: Seaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Image: Seaking up, temporary and permanent reinstatement of gravel roads 12 Not exceeding DN300mm Image: Seaking up, temporary and permanent reinstatement of gravel roads Image: Seaking up, temporary and permanent reinstatement of gravel roads BILL Not exceeding DN300mm Image: Seaking up, temporary and permanent reinstatement of Collection Image: Seaking up, temporary and permanent reinstatement of Gravel roads Image: Seaking up, temporary and reinstatement of Gravel roads Item Description Image: Seaking up, temporary and reinstatement of Gravel roads Image: Seaking up, temporary and reinstatement of Gravel roads Image: Seaking up, temporary and reinstatement of Gravel roads Image: Seaking up, temporary and reinstatement of Gravel roads Image: Seaking up, temporary and reinstatement of Gravel roads Image: Seaking up, temporary and reinstatement of Gravel roads Image: Seaking up, temporary and reinstatement of Gravel roads Image: Seaking up, temporatement of Gravel roads Image: S | 9 | Marker posts for pipes, gate valves, air valves, washouts | No. | 3 | | |
| Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Image: State S | | | | | | |
| for the following pipe sizes in | | Roads | | | | |
| for the following pipe sizes in | | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| 12 Not exceeding DN300mm m Rate Only Image: Constraint of the constra | | | | | | |
| Item No. Description Unit Qty. Rate (UGx.) Amount (UGx.) Bill No. 4 Collection Page 10 Image 11 Image 11 Image 10 Image 10 Image 11 Image 10 Image 10 Image 11 Image 10 < | | | | | | |
| BILL No. 4 : DISTRIBUTION NETWORK Unit Qty. Rate (UGx.) Amount (UGx.) Item No. Description Unit Qty. Rate (UGx.) Amount (UGx.) Bill No. 4 Collection Page 10 Item Page 10 Item Page 11 Item Page 11 Item Page 10 Item Page 11 Item Page 10 I | 12 | Not exceeding DN300mm | m | Rate Only | | |
| Item No.DescriptionUnitQty.Rate (UGx.)Amount (UGx.)Bill No. 4 Collection Page 10 Page 11Page 10 Page 11Image 10 | | | | | | |
| No. Description Onit Qty. Rate (UGx.) (UGx.) Bill No. 4 Collection Page 10 Image 10 Image 11 I | | Total Carried to Collection | | | | |
| NO. Image No. | BILL N | | | <u>I</u> | | |
| Page 10 Page 11 | | Io. 4 : DISTRIBUTION NETWORK | Unit | Otv | Pate (IIGx) | Amount |
| Page 10 Page 11 | Item | Io. 4 : DISTRIBUTION NETWORK | Unit | Qty. | Rate (UGx.) | |
| Page 11 | Item | Io. 4 : DISTRIBUTION NETWORK Description | Unit | Qty. | Rate (UGx.) | |
| Page 11 | Item | Io. 4 : DISTRIBUTION NETWORK Description | Unit | Qty. | Rate (UGx.) | |
| | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| Total Bill No. 4.4 Carried to Bill Summary | Item | Io. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 | Unit | Qty. | Rate (UGx.) | |
| | Item | lo. 4 : DISTRIBUTION NETWORK Description Bill No. 4 Collection Page 10 Page 11 | Unit | Qty. | Rate (UGx.) | |

SCHEME ID. 1.6: TUIKAT IN KWEEN DISTRICT BILL SUMMARY

| Bill Description | | Amount (UGx.) |
|--------------------------------|-----|---------------|
| WORK ITEMS | | |
| 1 Abstraction Works | | |
| 2 Transmission Mains | | |
| 3 Storage Reservoir Works | N/A | |
| 4 Distribution Network | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Total Carried to Grand Summary | | |

SCHEME ID. 1.6: TUIKAT IN KWEEN DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m³ | 4 | | |
| | Filling | | | | |
| | Structures | | | | |
| | Filling to precast concrete sump structure by methods specified and to depths | | | | |
| 3.1 | as shown in the drawings with the following materials: - Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by | m ³ | 55 | | |
| | | 2 | | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 44 | | |
| 3.3 | Imported murram. | m³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m² | 0 | | |
| | Landscaping | | | | |
| 5 | Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. | m² | 840 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.6: TUIKAT IN KWEEN DISTRICT BILL No. 1 : ABSTRACTION WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | Grade C15/10 | | | | |
| 6.1 | Blinding 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, of the following thickness | m ³ | 1 | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m ³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | m ³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m ³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m ³ | 41 | | |
| | 200mm thick top slab. | m ³ | 1 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering and / or filleting of all exposed concrete corners. | m² | 5 | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including charmfering and / or filleting of all exposed concrete corners. | m² | 145 | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m² | 20 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | |
| | Total Carried to Collection | | | | |
| | Io. 1 : ABSTRACTION WORKS | | | <u> </u> | Am |
| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 8.2 | Inserts DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |

| SCHEN | IE ID. 1.6: TUIKAT IN KWEEN DISTRICT | _ | | | |
|-------|---|-----|---|---|--|
| | Cast or Spum Iron Pipe Fittings. | | | | |
| 9.1 | Flanged Reducers DN250 x 150mm | No. | 1 | | |
| 9.2 | Flange Adaptors DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| 9.4 | End Caps DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | | | | | |
| | Total Carried to Collection | I | | 1 | |

SCHEME ID. 1.6: TUIKAT IN KWEEN DISTRICT

| | IE ID. 1.6: TUIKAT IN KWEEN DISTRICT Io. 1 : ABSTRACTION WORKS | | | | |
|-------------|--|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | MISCELLANEOUS METAL WORK | | | | |
| 10.1 | Ladders External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| | Access Manhole Cover | | | | |
| 10.2 | 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| 10.3 | Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | 0 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| X2 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X3 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection Io. 1 : ABSTRACTION WORKS | | | | |
| Item | | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 1.6: TUIKAT IN KWEEN DISTRICT BILL No. 2 · TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | . / |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabbing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 2.9 | DN150mm, not in trenches; | m | 3 | | |
| 2.10 | DN150mm, in trenches; depth not exceeding 1.5m. | m | 3 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.4 | OD110mm HDPE PN10 | m | 1,166 | | |
| 4 | uPVC Pipes | | | | |
| | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches to depths not | | | | |
| 4.1 | OD110 to PN 10 | m | Rate Only | | |
| 4.2 | OD125 to PN 10 | m | Rate Only | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | |
| 5.4 | DN100mm | No. | 4 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped couplings as Maxistep | | | | |
| 5.7.1 | DN100 x OD63 | No. | Rate Only | | |
| 5.7.2 | DN100 x OD 75 | No. | Rate Only | | |
| | Total Carried to Collection | l | <u> </u> | | |
| tem | Io. 2 : TRANSMISSION MAINS | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| 5.7.7 | Viking Johnson Flanged adaptors as Aquafast to PN16 DN75 | No. | Rate Only | | |
| | | | | | |

| CONLIN | | 1 | Ì | 1 | 1 | |
|------------|---|------------|-----------|---|----------|--|
| 6 | Cast or Spun Iron Pipe Fittings <i>Junctions and Branches</i> All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | | |
| | following sizes; | | | | | |
| 6.1 | DN100mm | No. | Rate Only | | | |
| | Tapers | | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | | |
| <u> </u> | cement mortar lined, and of the following sizes; | NI- | Rate Only | | | |
| 6.3 6.4 | DN125 x 50mm DN125 x 65mm | No. No. | Rate Only | | | |
| 0.4 6.5 | DN125 x 75mm | No. | Rate Only | | | |
| 6.6 | DN125 x 100mm | No. | Rate Only | | | |
| 7 | Bulk Flow Meters | | - | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | | |
| | specified, all fittings, including a masonry chamber, and on the | | | | | |
| | following main pipe sizes | | | | | |
| 7.4 | DN100mm PN10 | No. | 1 | | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | | |
| 8 | Equal Adapters | | | | | |
| 8.2 | OD100 female adapter | No. | 2 | | | |
| 9 | Valves and Penstocks | | | | | |
| | Air Valves | | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of the following sizes, all to PN10, include chamber as specified. | | | | | |
| 9.5 | DN100mm | No. | 2 | | | |
| | Total Carried to Collection | | | | <u> </u> | |
| | | | | | | |

SCHEME ID. 1.6: TUIKAT IN KWEEN DISTRICT BILL No. 2 · TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 10 | Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall structure and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.5 | DN100mm | No. | 4 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 2 | | |
| 11 | Valve Surface Boxes Valve surface box for DN100 - DN300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 4 | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11.2 | Not exceeding DN300mm | m | 12 | | |
| 12 | Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 1.6: TUIKAT IN KWEEN DISTRICT BILL No. 2 · TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 240 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 150 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | <i>Thrust Blocks</i> <u>Mass concrete grade C15 thrust blocks for pipes and fittings, volume</u> 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 12 | | |
| | <u>Other Pipework Ancillaries</u> Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 56 | | |
| | Total Carried to Collection Io. 2 : TRANSMISSION MAINS | | | | |
| Item No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|--|------------|--------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | ltem | 1 | | |
| 2 2.1 | PIPEWORK-PIPES Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m OD63mm PN10 | m | 70 | | |
| 2.1 | OD03mm PN10, <u>uPVC</u> | m | 350 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD110mm | No. | 2 | | |
| | Unequal tees | | | | |
| 3.2 3.3 | OD75 x 63mm OD110 x 63mm | No. No. | 6 2 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 4 4.1 | <u>End caps</u> OD63mm | No. | 4 | | |
| 5 | Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN | | | | |
| 5.1 | 10, and of the following sizes DN75mm | No. | 1 | | |
| J. I | | INU. | | | |
| | Total Carried to Collection | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped adaptors as Maxistep | | | | |
| 6.1 | DN100 x OD63 | No. | Rate Only | | |
| | Viking Johnson Flanged adaptors as Aquafast. | | | | |
| 6.2 | DN50 | No. | Rate Only | | |
| 6.3 | DN65 | No. | Rate Only | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 7 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | |
| | following sizes; | | | | |
| 7.1 | DN125mm | No. | 2 | | |
| 7.2 | DN150mm | No. | 3 | | |
| | | | Ŭ | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 7.3 | DN125 x 50mm | No. | Rate Only | | |
| 7.4 | DN125 x 65mm | No. | Rate Only | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| | Reducing Couplers/ Unions | | | | |
| 8 | OD110 x 63mm | No. | 2 | | |
| | Valves and Penstocks | | | | |
| | Air Valve | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | OD63mm | No. | Rate Only | | |
| 9.2 | OD75mm | No. | Rate Only | | |
| | | | 1 | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|------|-------------|------------------|
| | Farm Gate Connections Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - | | | | . , |
| 10 | DN50mm | No. | 2 | | |
| 11 | <u>Other Pipework Ancillaries</u> <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts | nr | 2 | | |
| | <u>Reinstatement</u> Roads | | - | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 12 | Not exceeding DN300mm | m | 24 | | |
| | Total Carried to Collection | | | | |
| | Io. 4 : DISTRIBUTION NETWORK | | | 1 1 | A |
| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 1.7: MUTUFU IN SIRONKO DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 52 | | |
| 2.2 | Soft / decomposed rock soils | m³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 48 | | |
| 2.5 | Soft / decomposed rock soils | m ³ | 12 | | |
| 2.6 | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | 3 | 16 | | |
| | Marshy soils | m ³ | | | |
| 2.7 | Soft / decomposed rock soils | m³ | 8 | | |
| 3 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 10 | | |
| | Total Carried to Collection | | | | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|------|-------------|------------------|
| 4 | Landscaping Turfing for lawns inside fenced off compound; including filling with | m² | 40 | | |
| | excavated topsoil and preparation of surfaces. | | 70 | | |
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882, maximum aggregate size; 20mm for | | | | |
| | the following structures: - | | | | |
| _ | Insitu Concrete | 2 | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float. | | | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float and forming a 600 x 600mm opening for the inspection cover (MS). | | | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts on | | | | |
| | concrete base slab (MS) ; complete with water tight jointing and finishing works | | | | |
| 7 | to approval. | | 4 | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| 8 | the pipe and as shown in the drawings. | No | n | | |
| 0 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Total Carried to Collection | | | <u> </u> | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------------|--|------------|-----------|-------------|------------------|
| - | Adaptors Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin | - | 8 | | |
| 10 | and Pump Sump. | m | 0 | | |
| | Bellmouths | | | | |
| 11 | Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 6 | | | | |
| | 200 mm ND | No. | 1 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 40 | Gate Valves: Hand Operated | | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres | | | | |
| | long, and of the following sizes | | | | |
| | MISCELLANEOUS WORK | | | | |
| 13 | Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, | m | 8 | | |
| 10 | complete andas shown in the drawings including fixing to precast concrete units | | | | |
| | Steel grating | | | | |
| 14.1 14.2 | Galvanized iron Coarse Trash Screen as detailed in the drawings. Galvanized iron Fine Trash Screen as detailed in the drawings. | No. No. | 1 | | |
| 14.2 | | INO. | | | |
| | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab | Item | Rate Only | | |
| | (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 | | | | |
| 45 | gate valve. Branch height/ positioning to be determined on site. | | | | |
| 15 | Internal diameter ; 1200x200mm | | | | |
| 16 | Stone pitched Channel. | m | 5 | | |
| 10 | 3.0 x 1.5 top x bottom width x 1.5m deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | | |
| | Gabion boxes | | | | |
| 17 | PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | | |
| | Total Carried to Collection | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers | | | | |
| ME1 | to match rating of panel offered) 11.0kW submersible pump set, rated flow Q = 20 m ³ /hr., rated head H = 85m total head; set not to more than $5m$ below ground including Dry- run protection, 15kW Inverter, Controller with Data Module, Motor and Pump End. | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P6/12 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0022D. | No. | 1 | | |
| ME9 | 16mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 16mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 200 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| | Total Carried to Collection | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| /IE11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |
| | Earthing and Lightening Protection | | | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | ltem | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve structure to detail as per Drawing No. OIS/NUC/SD/010, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs | | | | |
| | <u>Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the</u> following alignment: - | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |

BILL No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS ltem Amount Description No. (UGx.) 75mm thick of 12 - 25mm size machine crushed aggregate cover under the 220 Х3 m² Solar Array laid onto a guage 500 polythene sheet. 2 X4 450mm diameter reinforced concrete pipe/ culvert m Pump House X5 Construct a 12.0m superficial area Pump House to detail as per Drawing Sum 1 No.OIS/NUC/PH/001. Fences Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of X6a 50 m barbed wire on top; height 2-2.5m at the Intake Site, including special erection methods in "marshy grounds" to the Engineer's approval. X6b Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of m 10 barbed wire on top; height 2-2.5m at the Pumping Station Site. Gates Χ7 Metal field gate to BS 3470; width 1.5m single leaf and height to match the No. 2 fence. Training of Operator's staff X8 Train Operator's staff in basic operation and maintenance procedures of all Sum 1 plant and equipment supplied as per the technical specifications and to the Project Manager's approval Operation and Maintenance Manuals Χ9 Provide Operation and Maintenance Manuals as specified and to the Project Sum 1 Manager's approval **Total Carried to Collection Bill No. 1 Collection** Page 2 Page 3 Page 4 Page 5 Page 6 Page 7 Total Bill No. 1 Carried to Bill Summary **BILL No. 2 : TRANSMISSION MAINS** Item Amount Unit Rate (UGx.) Description Qty. No. (UGx.) DEMOLITION AND SITE CLEARANCE **General Site Clearance**

| SCHEME ID. 1.7: MUTUFU IN SIRONKO DISTR | | | | |
|---|--------------------------------|------|-----------|--|
| General site clearance 1.5m wide working route, including felling trees, grabing tree arising materials. | 3 11 | ltem | 1 | |
| PIPEWORKS - PIPES 2 <u>Steel Pipes</u> | | | | |
| Galvanized iron pipes (Class B) with threa unions/sockets, all to ISO 2531 of the follo | | | | |
| 2.1 DN75mm, in trenches; depths not exceed | ing 1.5m | m | 12 | |
| 3 <u>HDPE Pipes</u> HDPE pressure pipes to BS 3505, include trenches to depths not exceeding 1.5m | e unions/sockets, laid in | | | |
| 3.1 OD75mm HDPE PN6 | | m | 740 | |
| 4 <u>uPVC Pipes</u> <u>uPVC pressure pipes to UNBS US 264: 2</u> integral rubber ring socket joints laid in tre | | | | |
| OD110 to PN 10 4.1 Depth not exceeding 1.5m | | m | Rate Only | |
| PIPEWORK - FITTINGS AND VALVES | | | | |
| Cast or Spun Iron Pipe Fittings 5 Bends Galvanized iron threaded socket 45° ben PN 10, and of the following sizes | ds, toBS EN 10242:1995, all to | | | |
| 5.1 DN65mm | | No. | 4 | |
| | | | | |
| Total C | Carried to Collection | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|------|-------------|------------------|
| 6 | Bulk Flow Meters | | | | // |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| 6.1 | DN65mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 7 | Equal Adapters | | | | |
| 7.1 | OD75 female adapter | No. | 2 | | |
| 8 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 8.1 | DN65mm | No. | 1 | | |
| 9 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| 9.1 | DN65mm | No. | 1 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | Valve Surface Boxes Valve surface box for DN100 - DN300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths | | | | (00x.) |
| 10.2 | Depth not exceeding 1.5m | No. | 1 | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | 36 | | |
| | Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | 20 | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 60 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 40 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | Rate Only | | |
| | Total Carried to Collection | | <u> </u> | <u> </u> | |

| | IE ID. 1.7: MUTUFU IN SIRONKO DISTRICT o. 2 : TRANSMISSION MAINS | | | | |
|-------------|--|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Other Pipework Ancillaries | | | | |
| 14 | <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts | No. | 20 | | |
| | STRUCTURAL METALWORK | | | | |
| | Fabrication and erection of rolled steel section pipe bridge complete as shown on drawings | | | | |
| 15.1 | Span 3 - 5m at height not exceeding 2m. | No. | Rate Only | | |
| 15.2 | Span 5.5 - 10m at height not exceeding 2m. | No. | Rate Only | | |
| | Total Carried to Collection | | | | |
| | o. 2 : TRANSMISSION MAINS | | | | A |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| - | DEMOLITION AND SITE CLEARANCE | | | | <u> </u> |
| | General Site Clearance | | | | |
| 1 | General site slearance including trees, stumps and disposal of arising materials. | Item | 1 | | |
| 2 | Reservoir | | | | |
| | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings , of the | | | | |
| | following height and reservior capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks | | | | |
| | Supply and install a vertical cylindrical Rotational Moulded Polyethylene | | | | |
| | Water Storage Tank to DUS 1560: 2013 as manufactured by Ms | | | | |
| | Gentex Ltd. / Crest Tanks or any other approved complete with a | | | | |
| | lockable access man ways, inlet/ riser, ball float valve, overflow with | | | | |
| | insect screen, float type water level indicator and outlet/ down pipe with | | | | |
| | a strainer, washout and overflow connection, including interconnecting | | | | |
| | pipe work and fittings, as detailed in the drawings, supply specifications | | | | |
| | and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, | | | | |
| | non corrosive, complete with all fittings, installation on the following GI | | | | |
| 4 | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| | element and seal ring :- | | | | |
| 4.1 | DN75mm, PN10 | No. | 1 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non | | | | |
| 5 | corrosive, complete with all fittings, installation on the following GI pipe | | | | |
| 5 | sizes, pressure ratings and supply of a pair of replacement disk element | | | | |
| | and seal ring :- | | | | |
| | [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 4 | | |

| | IE ID. 1.7: MUTUFU IN SIRONKO DISTRICT o. 3 : STORAGE RESERVOIR WORKS | | | | |
|-----------------|--|----------------|--------------|---|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 6 | Landscaping and Walkways | | | | |
| 6.1 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 150 | | |
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 7.1 | Fences Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| 8.2 | Grade C20 | m ³ | Rate Only | | |
| 8.3 | Grade C25 | m ³ | Rate Only | | |
| 8.4 | Grade C30 | m ³ | Rate Only | | |
| | Total Carried to Collection | | | <u> </u> | |
| BILL N | o. 3 : STORAGE RESERVOIR WORKS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 12 | | | | |
| | Page 13 | | | | |
| | Total Bill No. 3 Carried to Bill Summary | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | (000,) |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | ltem | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of arising materials. | | | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN10 | m | 240 | | |
| 2.2 | OD75mm PN10 | m | Rate Only | | |
| 2.3 | OD90mm PN6 | m | 740 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | 6 | | |
| | Un a must fa a a | | | | |
| 3.2 | <u>Unequal tees</u> OD90 x 63mm | No. | 30 | | |
| 3.2 | | INO. | 30 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | <u>Couplers</u> | | | | |
| 4.1 | OD90mm | No. | Rate Only | | |
| 4.2 | OD75mm | No. | Rate Only | | |
| 4.3 | OD63mm | No. | Rate Only | | |
| 5 | End caps | | | | |
| 5.1 | OD63mm | No. | 30 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| 6 | Valves and Penstocks | | | | // |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 6.1 | OD75mm | No. | 1 | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| 7.1 | DN75mm | No. | 3 | | |
| 7.2 | DN50mm | No. | 1 | | |
| 8 | Farm Gate Connections Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connector pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - | | | | |
| 8.1 | DN50mm | No. | 30 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 26 | | |
| | STRUCTURAL METALWORK | | | | |
| | Fabrication and erection of rolled steel section pipe bridge complete as | | | | |
| | shown on drawings | | | | |
| | onown on drawingo | | | | |
| | | | | | |

| ltem No. | o.4 : DISTRIBUTION NETWORK Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------------|---|------|-----------|-------------|------------------|
| 10.1 | Span 3 - 5m at height not exceeding 2m. | No. | Rate Only | | X 7 |
| 10.2 | Span 5.5 - 10m at height not exceeding 2m. | No. | Rate Only | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | 32 | | |
| | Total Carried to Collection | | | | |
| BILL N Item No. | o. 4 : DISTRIBUTION NETWORK Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | (0000) |
| | Page 14 | | | | |
| | Page 15 | | | | |
| | Page 16 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT

| BILL | . St | IMM | IAR | ľ |
|------|------|-----|-----|---|
| | | | | |

| Bill | Description | | Amount (UGx.) |
|------|--------------------------------|-----|---------------|
| No. | | | |
| | WORK ITEMS | | |
| 1 | Abstraction Works | | |
| 2 | Transmission Mains | | |
| 3 | Storage Reservoir Works | N/A | |
| 4 | Distribution Network | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Carried to Grand Summary | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|-----------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | Item | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m ³ | 4 | | |
| | Filling Structures Filling to precast concrete sump structure by methods specified and to depths | | | | |
| 3.1 | <u>as shown in the drawings with the following materials: -</u> Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m ³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 44 | | |
| 3.3 | Imported murram. | m ³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m ² | Rate Only | | |
| | Landscaping | | | | |
| 5 | Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. | m² | 840 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | <u> </u> | <u> </u> | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT BILL No. 1 : ABSTRACTION WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | . , |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| 6.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, of the following thickness | m ³ | 1 | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m ³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | m ³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m ³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m³ | 41 | | |
| 6.6 | 200mm thick top slab. | m ³ | 1 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering and | m ² | 5 | | |
| | / or filleting of all exposed concrete corners. | | | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including | m ² | 145 | | |
| | charmfering and / or filleting of all exposed concrete corners. | | | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m ² | 20 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | |
| | Total Carried to Collection | · | - | <u> </u> | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT BILL No. 1 · ABSTRACTION WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | Inserts | | | | |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers | | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as | | | | |
| | specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | Total Carried to Collection | | | | |
| ILL N | Io. 1 : ABSTRACTION WORKS | | | | |
| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | MISCELLANEOUS METAL WORK Ladders | | _ | | |
| 10.1 | External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete | m | 8 | | |
| | units | | | | |
| | | | | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT

| | IE ID. 2.1: LUWAMBI IN BUDUDA DISTRICT | i | i | | |
|-------------|--|------|-----------|-------------|------------------|
| 10.2 | 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| 10.3 | Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | Rate Only | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| X2 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | | | |
| | o. 1 : ABSTRACTION WORKS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | (0011) |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabbing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 2.1 | DN150mm, not in trenches; | m | 3 | | |
| 2.20 | DN150mm, in trenches; depth not exceeding 1.5m. | m | 3 | | |
| 3 | HDPE Pipes | | | | |
| 3 | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD160mm HDPE PN10 | m | Rate Only | | |
| 4 | uPVC Pipes | | | | |
| - | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches to depths not | | | | |
| 4.1 | OD160 to PN 10 | m | 1,472 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | |
| | to PN 10, and of the following sizes | | | | |
| 5.1 | DN150mm | No. | 4 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped couplings as Maxistep | | | | |
| 5.2 | DN100 x OD100 | No. | 1 | | |
| 5.3 | DN150 x OD63 | No. | 1 | | |
| | Total Carried to Collection | | | | |
| ILL N tem | Io. 2 : TRANSMISSION MAINS | [| | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| F O | Viking Johnson Flanged adaptors as Aquafast to PN16 | | | | |
| 5.3 | DN75 | No. | 2 | | |
| 5.4 | DN100 | No. | 1 | | |
| 5.5 | DN150 | No. | 7 | | |

| SCHEN | IE ID. 2.1: LUWAMBI IN BUDUDA DISTRICT | | | |
|-------|--|-----|-----------|--|
| | Cast or Spun Iron Pipe Fittings | | | |
| 6 | Junctions and Branches | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | |
| | following sizes; | | | |
| 6.1 | DN150mm | No. | 3 | |
| 6.2 | DN150 x 50mm | No. | 2 | |
| 6.3 | DN150 x 100mm | No. | 1 | |
| | Tapers | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | |
| | cement mortar lined, and of the following sizes; | | | |
| 6.4 | DN125 x 50mm | No. | Rate Only | |
| 6.5 | DN125 x 65mm | No. | Rate Only | |
| 6.6 | DN125 x 75mm | No. | Rate Only | |
| | DN150 x 50mm | No. | Rate Only | |
| 6.8 | DN150 x 65mm | No. | 1 | |
| 6.9 | DN150 x 75mm | No. | Rate Only | |
| 6.10 | DN150 x 100mm | No. | Rate Only | |
| 7 | Bulk Flow Meters | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | |
| | specified, all fittings, including a masonry chamber, and on the | | | |
| | following main pipe sizes | | | |
| 7.1 | DN150mm PN16 | No. | 1 | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | |
| 8 | Equal Adapters | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | |
| 8.2 | OD100 female adapter | No. | Rate Only | |
| | | | | |
| ļ | Total Carried to Collection | | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| 9 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | DN150mm | No. | 2 | | |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic compression pipe | | | | |
| | fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall | | | | |
| | structure and all other fittings necessary to make the complete installation on | | | | |
| | pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.1 | DN150mm | No. | 2 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 1 | | |
| 11 | Valve Surface Boxes | | | | |
| •• | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| | down pipe, complete as specified and to the following deptite | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 11.2 | Not exceeding DN300mm | m | 24 | | |
| | Total Carried to Collection | | | | |
| | IO. 2 : TRANSMISSION MAINS | | 1 | 1 | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 12 | <u>Surrounds</u> | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| | | | 1 | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT

| 12.2 | Not exceeding DN200mm | m | 40 | | |
|-----------------------------|--|------|------------------|-------------|------------------|
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 35 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blacks | | | | |
| | Thrust Blocks Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 4 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 47 | | |
| | Total Carried to Collection Io. 2 : TRANSMISSION MAINS | | | | |
| Item | | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | [| | |
| ltem | | Unit | Qty. | Rate (UGx.) | |
| tem | No. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| ltem No. | Ao. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE General Site Clearance | | | Rate (UGx.) | |
| tem | No. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE | Unit | Qty. 1 | Rate (UGx.) | |
| tem No. | Io. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of | | | Rate (UGx.) | |
| ltem No. | No. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | | | Rate (UGx.) | |
| 1 2 | Io. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. PIPEWORK-PIPES Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | 1 | Rate (UGx.) | |
| tem No. 1 2 2.1 | No. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. PIPEWORK-PIPES Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m OD75mm PN10 | ltem | 1 | Rate (UGx.) | |
| ltem No. 1 | Io. 4 : DISTRIBUTION NETWORK Description DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. PIPEWORK-PIPES Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | Item | 1 | Rate (UGx.) | Amount (UGx.) |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT

| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | |
|------|--|-----|----|--|
| 3 | Equal tees | | | |
| 3.1 | OD63mm | No. | 1 | |
| 3.2 | OD110mm | No. | 1 | |
| | Unequal tees | | | |
| 3.3 | OD75 x 63mm | No. | 6 | |
| 3.4 | OD90 x 63mm | No. | 5 | |
| 3.5 | OD110 x 63mm | No. | 2 | |
| 3.60 | OD110 x 75mm | No. | 3 | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | |
| | Plastic Pipe Fittings | | | |
| 4 | End caps | | | |
| 4.1 | OD63mm | No. | 13 | |
| | | | | |
| | Cast or Spun Iron Pipe Fittings | | | |
| 5 | Bends | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN | | | |
| | 10, and of the following sizes | | | |
| 5.1 | DN75mm | No. | 2 | |
| | Total Carried to Collection | | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped adaptors as Maxistep | | | | |
| 6.1 | DN100 x OD63 | No. | Rate Only | | |
| 6.2 | DN100 x OD 75 | No. | Rate Only | | |
| 6.3 | DN100 x OD100 | No. | Rate Only | | |
| 6.4 | DN150 x OD100 | No. | Rate Only | | |
| | Viking Johnson Flanged adaptors as Aquafast. | | | | |
| 6.5 | DN50 | No. | 2 | | |
| 6.6 | DN65 | No. | Rate Only | | |
| 6.7 | DN75 | No. | 2 | | |
| 6.8 | DN100 | No. | Rate Only | | |
| 6.9 | DN125 | No. | Rate Only | | |
| 6.10 | DN150 | No. | 3 | | |
| 7 | Cast or Spun Iron Pipe Fittings Junctions and Branches | | | | |
| · | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 7.1 | DN125mm | No. | 2 | | |
| 7.2 | DN150mm | No. | 3 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 7.3 | DN125 x 50mm | No. | Rate Only | | |
| 7.4 | DN125 x 65mm | No. | Rate Only | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 8 | Reducing Couplers/ Unions | | | | |
| 8.1 | OD90 x 63mm | No. | 3 | | |
| 8.2 | OD90 x 75mm | No. | 1 | | |
| 8.3 | OD110 x 63mm | No. | 2 | | |
| 8.4 | OD110 x 90mm | No. | 1 | | |
| | Total Carried to Collection | | <u>I</u> | <u> </u> | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Valves and Penstocks | | | | (0011) |
| 9 | Air Valve | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | OD63mm | No. | Rate Only | | |
| 9.2 | OD75mm | No. | Rate Only | | |
| | | | | | |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 10.1 | DN50mm | No. | Rate Only | | |
| 10.2 | DN65mm | No. | Rate Only | | |
| | | | | | |
| 11 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connecor pipes and locakable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| 11.1 | DN50mm | No. | 13 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 12 | Marker posts for pipes, gate valves, air valves, washouts | No. | 19 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | NUAUS | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 13 | Not exceeding DN300mm | m | 24 | | |
| | Total Carried to Collection | | | | |
| | No. 4 : DISTRIBUTION NETWORK | | | | A |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |

SCHEME ID. 2.1: LUWAMBI IN BUDUDA DISTRICT

| SCHEME ID. 2.1. LOWANDI IN BODODA DISTRICT | | | | | | | | |
|--|--|--|--|--|---|--|--|--|
| Page 12 | | | | | | | | |
| 1 ago 12 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Bill No. 4.4 Carried to Bill Summary | | | | | 1 | | | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL SUMMARY

| D:11 | Description | | Amount (UGx.) |
|------|--------------------------------|-----|---------------|
| | WORK ITEMS | | |
| 1 | Abstraction Works | | |
| 2 | Transmission Mains | | |
| 3 | Storage Reservoir Works | N/A | |
| 4 | Distribution Network | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Carried to Grand Summary | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|------|-------------|------------------|
| - | General Site Clearance | | | | <u> </u> |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m ³ | 4 | | |
| 3.1 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 44 | | |
| 3.3 | Imported murram. | m³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m² | 0 | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. | m² | 840 | | |
| | | | | | |
| | Total Carried to Collection | | | <u> </u> | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | centent to BS 12, aggregate to BS 662 for the following structures | | | | |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| 6.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, | m ³ | 1 | | |
| | of the following thickness | | | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m ³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | m ³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m ³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m ³ | 41 | | |
| 6.6 | 200mm thick top slab. | m ³ | 1 | | |
| | | | | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering and | m ² | 5 | | |
| | / or filleting of all exposed concrete corners. | | | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including | m ² | 145 | | |
| | charmfering and / or filleting of all exposed concrete corners. | | 110 | | |
| | | | | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m² | 20 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|------|-------------|------------------|
| | Inserts | | | | |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers | | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, | | | | |
| | cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, | | | | |
| | and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as | | | | |
| | specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | Total Carried to Collection | | | | |

| Item | IO. 1 : ABSTRACTION WORKS | | | | Amount |
|-------|---|------|------|-------------|---------|
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | MISCELLANEOUS METAL WORK | | | | · · · · |
| | Ladders | | | | |
| 10.1 | External galvanized mild steel ladder to BS 4211, galvernized to BS 729, | m | 8 | | |
| | complete andas shown in the drawings including fixing to precast concrete | | | | |
| | units | | | | |
| | Access Manhole Cover | | | | |
| 10.2 | 600 x 600mm clear opening painted mild steel cover and frame include fixing | No. | 1 | | |
| 10.2 | and locking arrangement. | 110. | • | | |
| | | | | | |
| | Valve Surface Boxes | | | | |
| 10.3 | Valve surface box with lockable cover securely attached to main body of | No. | 0 | | |
| | surface box by chain or bolt, include down pipe, complete as specified and to a | | | | |
| | depth not exceeding 4.5 m. | | | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| | Training of Operator's staff | | | | |
| X2 | Train Operator's staff in basic operation and maintenance procedures of all | Sum | 1 | | |
| //L | plant and equipment supplied as per the technical specifications and to the | oum | | | |
| | Project Manager's approval | | | | |
| | | | | | |
| | Operation and Maintenance Manuals | 0 | | | |
| X3 | Provide Operation and Maintenance Manuals as specified and to the Project | Sum | 1 | | |
| | Manager's approval Total Carried to Collection | | | | |
| ILL N | lo. 1 : ABSTRACTION WORKS | | | | |
| tem | Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | - | • | с.у. | | (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | 1 490 2 | | | | |
| | Page 3 | | | | |
| | | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 2 · TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabbing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 2.1 | DN150mm, not in trenches; | m | 3 | | |
| 2.2 | DN150mm, in trenches; depth not exceeding 1.5m. | m | 3 | | |
| 3 | HDPE Pipes | | | | |
| 3 | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| | | | | | |
| 3.1 | OD160mm HDPE PN10 | m | Rate Only | | |
| 4 | <u>uPVC Pipes</u> | | | | |
| | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches to depths not | | | | |
| 4.1 | OD110 to PN 16 | m | Rate Only | | |
| 4.2 | OD125 to PN 16 | m | Rate Only | | |
| 4.3 | OD140 to PN 16 | m | Rate Only | | |
| 4.4 | OD160 to PN 10 | m | 1,304 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to | | | | |
| | PN 10, and of the following sizes | | | | |
| 5.1 | DN150mm | No. | 4 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 2 . TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | × • |
| 5.2 | <u>Viking Johnson stepped couplings as Maxistep</u> DN150 x OD100 | No. | | | |
| | Viking Johnson Flanged adaptors as Aquafast to PN16 | | | | |
| 5.3 | DN50 | No. | 2 | | |
| 5.4 | DN100 | No. | 7 | | |
| 5.5 | DN150 | No. | 6 | | |
| 6 | Cast or Spun Iron Pipe Fittings <i>Junctions and Branches</i> All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 6.1 | DN100mm | No. | 1 | | |
| 6.2 | DN150mm | No. | 3 | | |
| | Tapers All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, cement mortar lined, and of the following sizes; | | | | |
| | Tapers Cont'd | | | | |
| 6.3 | DN150 x 50mm | No. | 1 | | |
| 6.4 | DN150 x 65mm | No. | Rate Only | | |
| 6.5 | DN150 x 75mm | No. | Rate Only | | |
| 7 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings, including a masonry chamber, and on the following | | | | |
| | main pipe sizes | | | | |
| 7.1 | DN150mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 8 | Equal Adapters | | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | | |
| 8.2 | OD100 female adapter | No. | Rate Only | | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 2 · TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------------|---|------------|----------------|-------------|------------------|
| 9 | Valves and Penstocks Air Valves Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance pieces, and all fittings necessary to make the installation on pipes of the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | DN125mm | No. | Rate Only | | |
| 9.2 | DN150mm | No. | 1 | | |
| 10 | Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall structure and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.1 10.2 | DN125mm DN150mm | No. No. | Rate Only 2 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 1 | | |
| 11 | Valve Surface Boxes Valve surface box for DN100 - DN300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | Total Carried to Collection | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Reinstatement Roads | | | | (0 0) |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 1.2 | Not exceeding DN300mm | m | 12 | | |
| 12 | <u>Surrounds</u> Pipe surrounds, of selected excavated granular material, for the following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 75 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 85 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | Rate Only | | |
| 14 | <u>Other Pipework Ancillaries</u> <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts | nr | 54 | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT

Total Carried to Collection

| tem No. | No. 2 : TRANSMISSION MAINS Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|--------|------|--|------------------|
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill S | ummary | | <u>. </u> | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 2 : TRANSMISSION MAINS

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 4 · DISTRIBUTION NETWORK

| DEMOLITION AND SITE CLEARANCE General Site Clearance 1 Hout Site Clearance 1 General Site Clearance 2 PIPEWORK - FirtingS AND VALVES PIN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings 3.1 OD110 x 63mm 3.2 OD110 x 63mm 3.30 OD110 x 75mm | ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--|-------------|---|------|------|-------------|---|
| 1General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials.Item12PIPEWORK-PIPES Plastic Pressure Pipes to BS 3505, include unions / sockets, all to HDPE pressure pipes to BS 3505, include unions / sockets, all to Laid in trench to the following depths not exceeding 1.5mm360 | | DEMOLITION AND SITE CLEARANCE | | | | <i>iii</i> _ <i>i</i> |
| route, including felling trees, grabing tree stumps and disposal of arising materials.Image: constraint of the state of | | General Site Clearance | | | | |
| route, including felling trees, grabing tree stumps and disposal of arising materials.Image: constraint of the state of | | | | | | |
| arising materials. PIPEWORK-PIPES 2 PIPEWORK-PIPES Plastic Pressure Pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m. m 2.1 OD63mm PN10 m 2.2 OD90mm PN10 m 2.3 OD110mm PN10 m 2.3 OD110mm PN10 m 2.3 OD110mm PN10 m 2.3 OD110mm PN10 m 2.4 Plastic Pipe Fittings No. 3.1 Equal tees No. 3.1 OD110 x 63mm No. 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 No. 1 Plastic Pipe Fittings No. 1 3.1 OD110 x 63mm No. 1 9.101 HDPE Compression fitting to DIN 8074/BS 5114 No. 1 Plastic Pipe Fittings No. 1 4 End caps I I | 1 | | Item | 1 | | |
| PIPEWORK-PIPES Plastic Pressure Pipes Distribution HDPE pressure Pipes Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5mm360 Rate Only 2952.1 2.2 2.3 2.1OD63mm PN10 OD90mm PN10 2.3 3 DD110mm PN10m360 Rate Only 2952.3 3.1 3.1Equal tees OD110mmNo.23.4 3.2 DD110 x 63mm OD110 x 75mmNo.13.2 4 4 End capsPN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.1 | | | | | | |
| 2 Plastic Pressure Pipes - Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m m 360 2.1 OD63mm PN10 m 360 2.2 OD90mm PN10 m 360 2.3 OD110mm PN10 m 295 PIPEWORK - FITTINGS AND VALVES n 295 PIPEWORK - FITTINGS AND VALVES n 295 PIDEWORK - FITTINGS AND VALVES n 295 Vinequal tees n 20110mm 0.1 Unequal tees no. 2 3.1 OD110 x 63mm No. 1 3.2 OD110 x 63mm No. 1 9N10 HDPE Compression fitting to DIN 8074/BS 5114 No. 1 Plastic Pipe Fittings No. 1 3.3 OD110 x 63mm No. 1 4 End caps I I | | ansing materials. | | | | |
| 2Plastic Pressure Pipes Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5mm3602.1OD63mm PN10 OD90mm PN10m3602.2OD90mm PN10 OD110mm PN10m3602.3OD110mm PN10m295PIPEWORK - FITTINGS AND VALVESPN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.23.1Equal tees OD110mmNo.13.2OD110 x 63mm | | PIPEWORK-PIPES | | | | |
| HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5mm3602.1OD63mm PN10mm3602.2OD90mm PN10mm295OD110mm PN10m295295PIPEWORK - FITTINGS AND VALVESNo.295PIN0 HDPE Compression fitting to DIN 8074/BS 5114No.2Jastic Pipe FittingsNo.2Junequal teesNo.13.1OD110 x 63mmNo.1Joint V Affer SimmNo.1Jastic Pipe FittingsNo.1Jastic Pipe FittingsNo.1 | 2 | | | | | |
| trench to the following depths not exceeding 1.5mm3602.1OD63mm PN10mm360OD90mm PN10OD110mm PN10m295PIPEWORK - FITTINGS AND VALVESm295PIPEWORK - FITTINGS AND VALVESnnP10 HDPE Compression fitting to DIN 8074/BS 5114nnPlastic Pipe Fittingsno.20D110mmNo.2Jatic Pipe Fittingsno.1OD110 x 63mmNo.1OD110 x 75mmNo.1PN10 HDPE Compression fitting to DIN 8074/BS 5114No.1PN10 HDPE Compression fitting to DIN 8074/BS 5114No.1PN10 HDPE Compression fitting to DIN 8074/BS 5114No.1PN10 HDPE Compression fitting to DIN 8074/BS 5114No.1Plastic Pipe FittingsNo.1 | | | | | | |
| 2.2 2.3OD90mm PN10 OD110mm PN10m mRate Only 295PIPEWORK - FITTINGS AND VALVESIIPN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.23 3.1Equal tees OD110mmNo.2Jack PriceII3.2 3.30OD110 x 63mm OD110 x 75mmNo.1PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.14End capsII | | | | | | |
| 2.2 2.3OD90mm PN10 OD110mm PN10m mRate Only 295PIPEWORK - FITTINGS AND VALVESIIPN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.23 3.1Equal tees OD110mmNo.2Jack PriceII3.2 3.30OD110 x 63mm OD110 x 75mmNo.1PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.14End capsII | 0.4 | | | 200 | | |
| 2.3OD110mm PN10m295PIPEWORK - FITTINGS AND VALVESnn295PN10 HDPE Compression fitting to DIN 8074/BS 5114nnnPlastic Pipe FittingsNo.23.1Equal teesNo.2Unequal teesNo.13.2OD110 x 63mm OD110 x 75mmNo.1PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.14End capsII | | | | | | |
| PIPEWORK - FITTINGS AND VALVESImage: Pipe FittingsPN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.3.1Equal tees OD110mmNo.Unequal teesNo.23.2OD110 x 63mm OD110 x 75mmNo.PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.4End capsImage: Pipe Fittings | | | | - | | |
| PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.L3 3.1Equal tees OD110mmNo.2Unequal tees 0.0110 x 63mm OD110 x 75mmNo.13.2 3.30OD110 x 63mm OD110 x 75mmNo.1PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.14End capsImage: Compression fitting to DIN 8074/BS 5114Image: Compression fitting to DIN 8074/BS 5114 | 2.3 | | m | 290 | | |
| Plastic Pipe Fittings No. Plastic Pipe Fittings 3.1 Equal tees OD110mm No. 2 Junequal tees No. 1 3.2 OD110 x 63mm OD110 x 75mm No. 1 No. 1 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings No. 1 4 End caps Image: Complex state | | PIPEWORK - FITTINGS AND VALVES | | | | |
| Plastic Pipe Fittings No. Plastic Pipe Fittings 3.1 Equal tees OD110mm No. 2 Junequal tees No. 2 3.2 OD110 x 63mm OD110 x 75mm No. 1 No. 1 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings No. 1 4 End caps Image: Complexity of the pipe fitting for the pipe fitting f | | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 3 3.1Equal tees OD110mmNo.2Junequal teesNo.23.2 3.30OD110 x 63mm OD110 x 75mmNo.1PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe FittingsNo.14End capsImage: Compression fitting to DIN 8074/BS 5114Image: Compression fitting to DIN 8074/BS 5114 | | | | | | |
| 3.1 OD110mm No. 2 Unequal tees No. 1 3.2 OD110 x 63mm No. 1 0.30 OD110 x 75mm No. 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 No. 1 Plastic Pipe Fittings Image: Compression fitting to DIN 8074/BS 5114 Image: Compression fitting to DIN 8074/BS 5114 4 End caps Image: Compression fitting to DIN 8074/BS 5114 Image: Compression fitting to DIN 8074/BS 5114 | | <u>`</u> | | | | |
| 3.2 OD110 x 63mm OD110 x 75mm No. 1 No. 1 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings No. 1 4 End caps Image: Caps and | 3 | | | | | |
| 3.2 OD110 x 63mm No. 1 3.30 OD110 x 75mm No. 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 No. 1 Plastic Pipe Fittings Image: Compression fitting to DIN 8074/BS 5114 Image: Compression fitting to DIN 8074/BS 5114 4 End caps Image: Compression fitting to DIN 8074/BS 5114 Image: Compression fitting to DIN 8074/BS 5114 | 3.1 | OD110mm | No. | 2 | | |
| 3.2 OD110 x 63mm No. 1 3.30 OD110 x 75mm No. 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 No. 1 Plastic Pipe Fittings Image: Compression fitting to DIN 8074/BS 5114 Image: Compression fitting to DIN 8074/BS 5114 4 End caps Image: Compression fitting to DIN 8074/BS 5114 Image: Compression fitting to DIN 8074/BS 5114 | | | | | | |
| 3.30 OD110 x 75mm No. 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 1 Plastic Pipe Fittings 1 4 End caps | | <u>Unequal tees</u> | | | | |
| 3.30 OD110 x 75mm No. 1 PN10 HDPE Compression fitting to DIN 8074/BS 5114 1 Plastic Pipe Fittings 1 4 End caps | 3.2 | OD110 x 63mm | No. | 1 | | |
| Plastic Pipe Fittings 4 End caps | | | No. | 1 | | |
| Plastic Pipe Fittings 4 End caps | | | | | | |
| 4 End caps | | | | | | |
| | | Plastic Pipe Fittings | | | | |
| | 4 | Fud case | | | | |
| | | | Na | 0 | | |
| | 4.1 | | INO. | Ő | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN | | | | |
| | 10, and of the following sizes | | | | |
| 5.1 | DN50mm | No. | 2 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped adaptors as Maxistep | | | | |
| 6.1 | DN100 x 65 | No. | Rate Only | | |
| 6.2 | DN100 x 75 | No. | Rate Only | | |
| | Viking Johnson Flanged adaptors as Aquafast. | | | | |
| 6.3 | DN65 | No. | Rate Only | | |
| 6.4 | DN75 | No. | Rate Only | | |
| 6.4 | DN100 | No. | Rate Only | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 7 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | |
| | following sizes; | | | | |
| 7.1 | DN125mm | No. | Rate Only | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 7.2 | DN125 x 50mm | No. | Rate Only | | |
| 7.3 | DN125 x 65mm | No. | Rate Only | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 8 | Reducing Couplers/ Unions | | | | |
| 8.1 | OD110 x 63mm | No. | Rate Only | | |
| 8.2 | OD110 x 75mm | No. | 1 | | |
| 8.3 | OD110 x 90mm | No. | Rate Only | | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 4 · DISTRIBUTION NETWORK

| Item | o. 4 : DISTRIBUTION NETWORK | | | | Amount |
|------|--|------|-----------|-------------|--------|
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| - | Valves and Penstocks | | | | |
| 9 | <u>Air Valve</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | OD63mm | No. | Rate Only | | |
| 9.2 | OD75mm | No. | Rate Only | | |
| 9.3 | OD90mm | No. | Rate Only | | |
| 9.4 | OD110mm | No. | Rate Only | | |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| 10.1 | DN50mm | No. | Rate Only | | |
| 10.2 | DN65mm | No. | Rate Only | | |
| 10.3 | DN75mm | No. | Rate Only | | |
| 10.4 | DN100mm | No. | Rate Only | | |
| 11 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end cap | | | | |
| | complete with connecor pipes and locakable chamber as detailed on | | | | |
| | Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to | | | | |
| | PN10: - | | | | |
| 11.1 | DN50mm | No. | 8 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 12 | Marker posts for pipes, gate valves, air valves, washouts | nr | 20 | | |
| | Total Carried to Collection | | | <u> </u> | |

| Item No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|----------------|--|------|------|-------------|------------------|
| NO. | Reinstatement | | | | (003.) |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for | | | | |
| | the following pipe sizes | | | | |
| | | | | | |
| 13 | Not exceeding DN300mm | m | 24 | | |
| | Total Carried to Collection | | | | |
| BILL N Item | Io. 4 : DISTRIBUTION NETWORK | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Bill No. 4 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | Page 13 | | | | |
| | Page 14 | | | | |
| | , , , , , , , , , , , , , , , , , , , | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 4 Carried to Bill Summary | | | <u> </u> | |

SCHEME ID. 2.2: NALWANZA IN BUDUDA DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT

| BILL | SUMMARY |
|------|---------|
| | |

| Bill Description | Amount (UGx.) |
|---|---------------|
| | |
| WORK ITEMS | |
| 1 Abstraction and Electromechanical Works | |
| 2 Transmission Mains | |
| 3 Storage Reservoir Works | |
| 4 Distribution Network | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Total Carried to Grand Summary | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT

| ltem | o. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS Description | Unit | Qty. | Rate (UGx.) | Amount |
|------|---|----------------|----------|-------------|--------|
| No. | | • | _ | | (UGx.) |
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | Item | 1 | | |
| | Earthworks | | | | |
| 2 | Excavation to form trapezoidal reservior in soft ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 158 | | |
| | Filling | | | | |
| | Structures | | | | |
| | Filling to precast concrete sump structure by methods specified and to depths | | | | |
| 3.1 | <u>as shown in the drawings with the following materials: -</u> Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m³ | 115 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m³ | 45 | | |
| 4 | Double layer of woven polythene sheet laid to approval. | m² | 60.0 | | |
| | Landscaping | | | | |
| 5 | Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces; 240m ² at Intake Site and 800m ² at Pump Station. | m² | 1,050 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT

BILL No.1 · ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---------------|---|--------|-----------|-------------|------------------|
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 7.5kW Submersible Pump Set with 11.0kW Pumping Inverter with Data Module, rated flow Q = 20 m ³ /hr., rated head H = 55m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 ME10a | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. 6mm ² UV Single Cable. | m m | 200 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT

| BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS |
|---|
| DILL NU. I . ADJI KACI IUN AND ELECI KUWECHANICAL WURKJ |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | ltem | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | <i>Kerbs</i> <u>Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the</u> <u>following alignment: -</u> | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | M² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT

| BILL N | IE ID. 2.3: IYOLWA IN TORORO DISTRICT 0.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
|----------------|---|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| X5 | <u>Pump House</u> Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | Fences Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, including special erection methods in "marshy grounds" to the Engineer's approval. | m | 80 | | |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 120 | | |
| X7 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| X8 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| X9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | ltem | Rate Only | | |
| | Total Carried to Collection | | | | |
| BILL N Item | o. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | 1 | [] | Amount |
| No. | Description | | | | (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 4 | | ltom | 4 | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | Steel Pipes | | | | |
| _ | Galvanized iron pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| | | | | | |
| 2.6 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| | ······································ | | | | |
| 3.3 | OD90mm HDPE PN10 | m | 1,240 | | |
| 4 | uPVC Pipes | | | | |
| | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches | | | | |
| | OD110 to PN 10 | | | | |
| 4.1 | Depth not exceeding 1.5m | m | Rate Only | | |
| T. I | | | , | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to | | | | |
| | PN 10, and of the following sizes | | | | |
| 5.4 | DN75mm | No. | 4 | | |
| 6 | Dulk Flow Motore | | | | |
| 6 | Bulk Flow Meters Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| 6.2 | following main pipe sizes DN75mm PN10 | No. | 1 | | |
| 0.2 | Total Carried to Collection | NU. | <u> </u> | <u> </u> | |
| ILL N | Io. 2 : TRANSMISSION MAINS | | I | ļ | |
| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 10. | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | (00.) |
| - | E word & days from | | | | |
| 7 | Equal Adapters | N | _ | | |
| 7.1 | OD90 female adapter | No. | 2 | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT

| | IE ID. 2.3: IYOLWA IN TORORO DISTRICT | | | 1 | i i |
|-----|--|------------|---|---|-----|
| 8 | Valves and Penstocks | | | | |
| | <u>Air Valves</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| | | | | | |
| 8.4 | DN75mm | No. | 1 | | |
| 9 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| | | | | | |
| 9.2 | DN75mm | No. | 1 | | |
| | | | | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES Other Chambers | | | | |
| | | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | | | | | |
| 10a | Depth not exceeding 1.5m | No. | 1 | | |
| | | | | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 10b | Depth not exceeding 1.5m | No. | 1 | | |
| 100 | | INU. | | | |
| | Total Carried to Collection | I <u> </u> | 1 | 1 | |
| | | | | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT BILL No. 2 · TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | 12 | | |
| | Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | 30 | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 50 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 60 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | <i>Thrust Blocks</i> <u>Mass concrete grade C15 thrust blocks for pipes and fittings, volume</u> <u>0.1-0.2 m³, for the following pipe sizes</u> | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 4 | | |
| | <u>Other Pipework Ancillaries</u> Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 44 | | |
| | | | | | |
| | | | | | |
| BILL N | Total Carried to Collection No. 2 : TRANSMISSION MAINS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |

| CIVIL WORKS FOR OFF- FARM IRRIGATION INFRASTRUCTURE AND FAC | CILITIES: LOT 3 EA | STERN PRO | VINCE AREA |
|---|--------------------|-----------|------------|
| SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT | | 1 | |
| Page 7 | | | |
| | | | |
| Page 8 | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Total Bill No. 2 Carried to Bill Summary | | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT BILL No. 4.3 · STORAGE RESERVOIR WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | <i>/</i> / |
| | General Site Clearance | | | | |
| 1 | General site slearance including trees, stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | Reservoir | | | | |
| | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings , of the | | | | |
| | following height and reservior capacities. | | | | |
| | ionowing height and reservor capacities. | | | | |
| 2.4 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks | | | | |
| | Supply and install a vertical cylindrical Rotational Moulded Polyethylene | | | | |
| | Water Storage Tank to DUS 1560: 2013 as manufactured by Ms | | | | |
| | Gentex Ltd. / Crest Tanks or any other approved complete with a | | | | |
| | lockable access man ways, inlet/ riser, ball float valve, overflow with | | | | |
| | | | | | |
| | insect screen, float type water level indicator and outlet/ down pipe with | | | | |
| | a strainer, washout and overflow connection, including interconnecting | | | | |
| | pipe work and fittings, as detailed in the drawings, supply specifications | | | | |
| | and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, | | | | |
| | non corrosive, complete with all fittings, installation on the following GL | | | | |
| 4 | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| | | | | | |
| 10 | element and seal ring :- | Na | 4 | | |
| 4.2 | DN75mm, PN6 | No. | 1 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non | | | | |
| 5 | corrosive, complete with all fittings, installation on the following GI pipe | | | | |
| 5 | sizes, pressure ratings and supply of a pair of replacement disk element | | | | |
| | and seal ring :- | | | | |
| | [OPTIONAL] | | | | |
| 5.2 | DN75mm, PN10 | No. | 1 | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT BILL No. 3 · STORAGE RESERVOIR WORKS

| BILL N | o. 3 : STORAGE RESERVOIR WORKS | r | | | |
|-----------------|--|----------------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 6 6.1 | Landscaping and Walkways Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 150 | | |
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 7.1 | Fences Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| | Total Carried to Collection | | | | |
| | o. 3 : STORAGE RESERVOIR WORKS | ſ | 1 | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | | | | | |
| | Trial D'UNE 2 Original de D'U O | | | | |
| | Total Bill No. 3 Carried to Bill Summary | | | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------------|------------------------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of | ltem | 1 | | |
| | arising materials. | | | | |
| - | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.3 | OD90mm PN6 | m | 140 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.2 | OD90mm | No. | 1 | | |
| | Unequal tees | | | | |
| 3.7 | OD90 x 63mm | No. | 1 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.2 | OD90mm | No. | Rate Only | | |
| 4.3 | OD75mm | No. | Rate Only | | |
| 4.4 | OD63mm | No. | Rate Only | | |
| 5 | End caps | NI- | Rate Only | | |
| 5.1 5.2 | OD110mm OD90mm | No. | Rate Only Rate Only | | |
| 5.2 5.3 | OD75mm | No. No. | Rate Only | | |
| 5.3 5.4 | OD63mm | No. | 1 | | |
| 5.5 | OD50mm | No. | Rate Only | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| 6 | Valves and Penstocks | | | | |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 6.2 | OD90mm | No. | Rate Only | | |
| 6.3 | OD75mm | No. | Rate Only | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| 7.2 | DN75mm | No. | Rate Only | | |
| 7.3 | DN65mm | No. | Rate Only | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end cap | | | | |
| | complete with connector pipes and locakable chamber as detailed on | | | | |
| | Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to | | | | |
| | PN10: - | | | | |
| 8.4 | DN50mm | No. | 1 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | Rate Only | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for | | | | |
| | the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|-----------------------|------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 12 | | | | |
| | Page 13 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 2.3: IYOLWA IN TORORO DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

| BILL No.1 : ABSTRACTION AND ELECTROME | CHANICAL WORKS |
|---------------------------------------|----------------|
|---------------------------------------|----------------|

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-------|-------------|------------------|
| | General Site Clearance | | | | / |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Landscaping | | | | |
| 2 | Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces; 240m ² at Intake Site and 800m ² at Pump Station. | m² | 1,050 | | |
| 3 | Reinforced concrete pipe support to detail as per Drawings. | No. | 2 | | |
| | MISCELLANEOUS METAL WORK | | | | |
| | Pump Protection System | | | | |
| 4.1 | Diagonal pipe sleeve pump anti-vandal protection structure to detail as per Drawing No. OIS/NUC/SD/010. | Item | 1 | | |
| 4.2 | Purpose -made pipe support structure made of welded GI pipes to detail as per Drawing No. OIS/NUC/SD/010. | Item | 1 | | |
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 7.5kW Submersible Pump Set with 11.0kW Pumping Inverter with Data Module, rated flow Q = 20 m ³ /hr., rated head H = 75m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |

| ľ | DUL N. 4. ADOTDAOTION AND ELECTROMEQUANICAL WORKS |
|---|---|
| | BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS |

| ltem No. | o.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | ltem | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 16mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 16mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 100 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |
| | Earthing and Lightening Protection | | | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| | Total Carried to Collection | | | <u> </u> | |

| 1 | | | |
|-----------|-------------------|-----------------------|-----|
| BILL No.1 | : ABSTRACTION AND | ELECTROMECHANICAL WOR | ₹KS |

| battery box Alarm System ME16 GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors Item 1 ME17 GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensor for the pump protection as instructed by the Engineer. Item 1 MIE17 GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. Item 1 MISCELLANEOUS WORKS Item 1 1 X1 Diagonal pipe sleeve pump anti-vandal protection including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/004. No. 1 <i>Kerbs</i> Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the following alignment: - 70 X2 Straight or curved to a radius exceeding 12 m m 70 X3 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. m 0 X4 450mm diameter reinforced concrete pipe/ culvert m 0 X5 Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. Sum 1 | ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---|-------------|--|------|------|-------------|------------------|
| ME16 GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. Item 1 ME17 GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. Item 1 ME17 GMS CELLANEOUS WORKS Item 1 MISCELLANEOUS WORKS Item 1 X1 Pump Protection System No. 1 Diagonal pipe sleeve pump anti-vandal protection including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/004. No. 1 X2 Straight or curved to a radius exceeding 12 m m 70 X3 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. m 0 X4 450mm diameter reinforced concrete pipe/ culvert m 0 X5 Pump House. Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. Sum 1 | ME15 | | No. | 5 | | |
| per array.Item1GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer.Item1MISCELLANEOUS WORKSMISCELLANEOUS WORKSNo.1X1Diagonal pipe sleeve pump anti-vandal protection including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/004.No.1X2Straight or curved to a radius exceeding 12 mm70X375mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet.m0X4450mm diameter reinforced concrete pipe/ culvertm0X5Pump House. Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001.Sum1 | | Alarm System | | | | |
| for the pump protection as instructed by the Engineer.MISCELLANEOUS WORKSPump Protection System Diagonal pipe sleeve pump anti-vandal protection including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/004.No.X1Kerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the following alignment: -mX2Straight or curved to a radius exceeding 12 mmX375mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet.mX4450mm diameter reinforced concrete pipe/ culvertm0X5Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001.Sum1 | ME16 | | Item | 1 | | |
| X1Pump Protection System Diagonal pipe sleeve pump anti-vandal protection including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/004.No.Kerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the following alignment: -m70X2Straight or curved to a radius exceeding 12 mm70X375mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet.m²220X4450mm diameter reinforced concrete pipe/ culvertm0X5Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001.Sum1 | ME17 | | Item | 1 | | |
| X1Diagonal pipe sleeve pump anti-vandal protection including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/004.No.1Kerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the following alignment: -m70X2Straight or curved to a radius exceeding 12 mm70X375mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet.m0X4450mm diameter reinforced concrete pipe/ culvertm0X5Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001.Sum1 | | MISCELLANEOUS WORKS | | | | |
| X1Diagonal pipe sleeve pump anti-vandal protection including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/004.No.1Kerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the following alignment: -m70X2Straight or curved to a radius exceeding 12 mm70X375mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet.m0X4450mm diameter reinforced concrete pipe/ culvertm0X5Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001.Sum1 | | Pump Protection System | | | | |
| Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the following alignment: -mX2Straight or curved to a radius exceeding 12 mmX375mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet.m²X4450mm diameter reinforced concrete pipe/ culvertm0X5Pump House No.OIS/NUC/PH/001.Sum1 | X1 | | No. | 1 | | |
| following alignment: -m70X2Straight or curved to a radius exceeding 12 mm70X375mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet.m²220X4450mm diameter reinforced concrete pipe/ culvertm0X5Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001.Sum1 | | Kerbs | | | | |
| X3 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. m² 220 X4 450mm diameter reinforced concrete pipe/ culvert m 0 X5 Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. Sum 1 Fences Fences Image: Construct a c | | | | | | |
| Solar Array laid onto a guage 500 polythene sheet. m 0 X4 450mm diameter reinforced concrete pipe/ culvert m 0 X5 Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. Sum 1 Fences Fences Image: Construct a for the superficial area Pump House to detail as per Drawing Sum 1 | X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X5 Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. Fences | X3 | | M² | 220 | | |
| X5 Construct a 12.0m superficial area Pump House to detail as per Drawing Sum 1 No.OIS/NUC/PH/001. Fences Image: Construct a 12.0m superficial area Pump House to detail as per Drawing Sum 1 | X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |
| No.OIS/NUC/PH/001. | | Pump House | | | | |
| | X5 | | Sum | 1 | | |
| X6a Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of m 80 | | Fences | | | | |
| barbed wire on top; height 2-2.5m at the Intake Site, including special erection methods in "marshy grounds" to the Engineer's approval. | X6a | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, including special erection | m | 80 | | |

| ltem No. | Description | | | Amount (UGx.) |
|----------------|---|------|-----------|------------------|
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 120 | |
| X7 | Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | |
| | Training of Operator's staff | | | |
| X8 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | |
| | Operation and Maintenance Manuals | | | |
| X9 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | ltem | Rate Only | |
| | Total Carried to Collection | | | |
| BILL N Item | Io. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | Amount |
| No. | Description | | | (UGx.) |
| | Bill No. 1 Collection | | | |
| | Page 2 | | | |
| | Page 3 | | | |
| | Page 4 | | | |
| | Page 5 | | | |
| | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | ·I | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| 1 | <u>General Site Clearance</u> General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| | ansing materials. | | | | |
| 2 | <u>PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| 2.1 | DN75mm, not in trenches; | m | Rate Only | | |
| 2.2 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| . . | trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD75mm HDPE PN10 | m | 1,055 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to | | | | |
| Г 4 | PN 10, and of the following sizes | Na | 4 | | |
| 5.1 | DN75mm | No. | 4 | | |
| 6 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| 6.1 | following main pipe sizes DN75mm PN10 | No. | 1 | | |
| 6.2 | DN40mm PN10 | No. | Rate Only | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 7 | Equal Adapters | | | | |
| | OD90 female adapter | No. | 2 | 1 | |

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 8 | Valves and Penstocks | | | | //_ |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 8.1 | DN65mm | No. | Rate Only | | |
| 8.2 | DN75mm | No. | Rate Only | | |
| • | Westerde | | | | |
| 9 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| | | | | | |
| 9.1 | DN75mm | No. | 1 | | |
| 9.2 | DN65mm | No. | Rate Only | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| 10.1 | Danth nationanding 1 Fra | Na | Rate Only | | |
| 10.1 | Depth not exceeding 1.5m | No. | Tate Only | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 1 | | |
| 10.2 | Depti not exceeding 1.5m | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for | | | | |
| | the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | 12 | | |
| | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | 14 | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 25 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 15 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 3 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 34 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT BILL No. 2 · TRANSMISSION MAINS

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|-----------------------|------|------|-------------|------------------|
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site slearance including trees, stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | Reservoir | | | | |
| | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings , of the | | | | |
| | following height and reservior capacities. | | | | |
| | | | | | |
| 2.1 | Height; 6.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks | | | | |
| | Supply and install a vertical cylindrical Rotational Moulded Polyethylene | | | | |
| | Water Storage Tank to DUS 1560: 2013 as manufactured by Ms | | | | |
| | Gentex Ltd. / Crest Tanks or any other approved complete with a | | | | |
| | lockable access man ways, inlet/ riser, ball float valve, overflow with | | | | |
| | insect screen, float type water level indicator and outlet/ down pipe with | | | | |
| | a strainer, washout and overflow connection, including interconnecting | | | | |
| | pipe work and fittings, as detailed in the drawings, supply specifications | | | | |
| | and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| | | | | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, | | | | |
| 4 | non corrosive, complete with all fittings, installation on the following GI | | | | |
| | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| 4.1 | <u>element and seal ring :-</u> DN75mm, PN10 | No. | 1 | | |
| 4.1 | | NO. | I | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non | | | | |
| 5 | corrosive, complete with all fittings, installation on the following GI pipe | | | | |
| 0 | sizes, pressure ratings and supply of a pair of replacement disk element | | | | |
| | and seal ring :- | | | | |
| | [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 1 | | |

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT

| | o. 3 : STORAGE RESERVOIR WORKS | | | 1 | Amount |
|-------------|--|----------------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| 6 | Landscaping and Walkways | | | | |
| 6.1 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 150 | | |
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 | Fences | | | | |
| 7.1 | Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| | Gates | | | | |
| 7.2 | Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| | Total Carried to Collection | | | <u> </u> | |
| | o. 3 : STORAGE RESERVOIR WORKS | | | 1 | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 3 Carried to Bill Summary | | · | | |

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of arising materials. | | | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN6 | m | 365 | | |
| 2.2 | OD75mm PN6 | m | Rate Only | | |
| 2.3 | OD90mm PN6 | m | 380 | | |
| 2.3 | OD110mm <u>uPVC</u> PN6 | m | 865 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD110mm | No. | 1 | | |
| 3.2 | OD90mm | No. | Rate Only | | |
| 3.3 | OD75mm | No. | Rate Only | | |
| 3.4 | OD63mm | No. | 1 | | |
| | Unequal tees | | | | |
| 3.5 | OD90 x 63mm | No. | 3 | | |
| 3.6 | OD75 x 63mm | No. | 2 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.1 | OD110mm | No. | Rate Only | | |
| 4.2 | OD90mm | No. | Rate Only | | |
| 4.3 | OD75mm | No. | Rate Only | | |
| 4.4 | OD63mm | No. | Rate Only | | |

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| 5 | End caps | | | | . , |
| 5.1 | OD63mm | No. | 14 | | |
| | | | | | |
| 6 | Valves and Penstocks | | | | |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 6.1 | OD75mm | No. | 2 | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| 7.1 | DN65mm | No. | 2 | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end cap | | | | |
| | complete with connector pipes and locakable chamber as detailed on | | | | |
| | Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to | | | | |
| | PN10: - | | | | |
| 8.1 | DN50mm | No. | 14 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 26 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for | | | | |
| | the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.4: MUKUJU IN TORORO DISTRICT BILL No. 4 · DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 12 | | | | |
| | Page 13 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 4 Carried to Bill Summar | у | | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL SUMMARY

| Bill No. | Description | | Amount (UGx.) |
|-------------|--------------------------------|-----|---------------|
| | WORK ITEMS | | |
| 1 | Abstraction Works | | |
| 2 | Transmission Mains | | |
| 3 | Storage Reservoir Works | N/A | |
| 4 | Distribution Network | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Carried to Grand Summary | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 1 : ABSTRACTION WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m³ | 4 | | |
| 3.1 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m³ | 44 | | |
| 3.3 | Imported murram. | m ³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m² | 0 | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. | m² | 840 | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| 6.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, of the following thickness | m ³ | 1 | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | m³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m³ | 41 | | |
| 6.6 | 200mm thick top slab. | m³ | 1 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering and / or filleting of all exposed concrete corners. | m² | 5 | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including charmfering and / or filleting of all exposed concrete corners. | m² | 145 | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m² | 20 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | Inserts | | | | |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers | | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, | | | | |
| | cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, | | | | |
| | and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as | | | | |
| | specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 1 : ABSTRACTION WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| - | MISCELLANEOUS METAL WORK | | | | <u> </u> |
| 10.1 | Ladders External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 10.2 | Access Manhole Cover 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| 10.3 | Valve Surface Boxes Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | 0 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| X2 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| X3 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | | | |
| BILL N | Io. 1 : ABSTRACTION WORKS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|--------|------------------------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline | ltem | 135 | | |
| | route, including felling trees, grabbing tree stumps and disposal of arising materials. | | | | |
| 2 | <u> PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| 2.1 | DN125mm, in trenches; depth not exceeding 1.5m. | m | 3 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 3.1 3.2 | OD125mm HDPE PN16 OD140mm HDPE PN10 | m m | Rate Only Rate Only | | |
| 4 | <u>uPVC Pipes</u> <u>uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with</u> integral rubber ring socket joints laid in trenches to depths not | | | | |
| 4.1 | OD140 to PN 16 | m | 2,836 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 5 | <u>Cast or Spun Iron Pipe Fittings</u> Bends | | | | |
| - 4 | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes | | | | |
| 5.1 | DN125mm Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | No. | 4 | | |
| | | | | | |
| 5.2 | <u>Viking Johnson stepped couplings as Maxistep</u> DN100 x 63 | No. | Rate Only | | |
| 5.3 | DN100 x 75 | No. | Rate Only | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 2 · TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Viking Johnson Flanged adaptors as Aquafast to PN16 | | | | |
| 5.4 | DN75 | No. | 1 | | |
| 5.5 | DN100 | No. | 1 | | |
| 5.6 | DN125 | No. | 10 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 6 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 6.1 | DN125mm | No. | 2 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 6.2 | DN125 x 50mm | No. | 1 | | |
| 7 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings, including a masonry chamber, and on the following | | | | |
| | main pipe sizes | | | | |
| 7.1 | DN125mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 8 | Equal Adapters | | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | | |
| 8.2 | OD100 female adapter | No. | Rate Only | | |
| 9 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | DN125mm | No. | 2 | | |
| | Total Carried to Collection | | I | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 10 | Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall structure and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.1 | DN125mm | No. | 2 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and of the following depths | | | | |
| 10.2 | Depth not exceeding 1.5m | No. | 2 | | |
| 11 | Valve Surface Boxes Valve surface box for DN100 - DN300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11.2 | Not exceeding DN300mm | m | Rate Only | | |
| 12 | Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| 12.2 | <u>Pipe surrounds, of imported granular material, for the following pipe</u> Not exceeding DN200mm | m | 200 | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 2 · TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 90 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 12 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 102 | | |
| | Total Carried to Collection | | | | |
| | IO. 2 : TRANSMISSION MAINS | | | | A |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| - | | | | | <u> </u> |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | ltem | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN6 | m | 360 | | |
| 2.2 | OD75mm PN6 | m | 122 | | |
| 2.3 | OD90mm PN6 | m | 432 | | |
| 2.4 | OD110mm PN6 | m | 95 | | |
| 2.5 | OD140mm PN6 | m | Rate Only | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD50mm | No. | Rate Only | | |
| 3.2 | OD63mm | No. | Rate Only | | |
| 3.3 | OD75mm | No. | Rate Only | | |
| 3.4 | OD90mm | No. | Rate Only | | |
| 3.5 | OD110mm | No. | Rate Only | | |
| | Unequal tees | | | | |
| 3.6 | OD75 x 63mm | No. | 1 | | |
| 3.7 | OD90 x 63mm | No. | 8 | | |
| 3.8 | OD110 x 63mm | No. | 2 | | |
| 3.9 | OD110 x 75mm | No. | 3 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | • | 1 | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | End caps | | | | |
| 4.1 | OD63mm | No. | 14 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN | | | | |
| | 10, and of the following sizes | | | | |
| 5.1 | DN50mm | No. | Rate Only | | |
| 5.2 | DN65mm | No. | Rate Only | | |
| 5.3 | DN75mm | No. | Rate Only | | |
| 5.4 | DN100mm | No. | Rate Only | | |
| 5.5 | DN125mm | No. | Rate Only | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped adaptors as Maxistep | | | | |
| 6.1 | DN100 x 63 | No. | Rate Only | | |
| 6.2 | DN100 x 75 | No. | Rate Only | | |
| 6.3 | DN100 x 100 | No. | Rate Only | | |
| | Viking Johnson Flanged adaptors as Aquafast. | | | | |
| 6.4 | DN100 | No. | Rate Only | | |
| 6.5 | DN125 | No. | Rate Only | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 7 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| | | | | | |
| 7.1 | DN125mm | No. | 1 | | |
| 7.2 | DN150mm | No. | Rate Only | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT BILL No. 4 · DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|--|------------------|
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | - | | |
| 7.3 | DN125 x 50mm | No. | Rate Only | | |
| 7.4 | DN125 x 65mm | No. | Rate Only | | |
| 7.5 | DN125 x 75mm | No. | Rate Only | | |
| 7.6 | DN125 x 100mm | No. | Rate Only | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 8 | Reducing Couplers/ Unions | | | | |
| 8.1 | OD90 x 63mm | No. | 1 | | |
| 8.2 | OD110 x 63mm | No. | 1 | | |
| | Valves and Penstocks | | | | |
| 9 | Air Valve | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | OD90mm | No. | Rate Only | | |
| 9.2 | OD110mm | No. | Rate Only | | |
| 9.3 | OD125mm | No. | Rate Only | | |
| 9.4 | OD140mm | No. | Rate Only | | |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| 10.1 | DN75mm | No. | Rate Only | | |
| 10.2 | DN100mm | No. | Rate Only | | |
| | DN125mm | No. | Rate Only | | |
| | DN140mm | No. | Rate Only | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | <u> </u> | |

SCHEME ID. 2.5: NANKUSI IN MBALE DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| 11 | Farm Gate Connections Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connecor pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - | | | | |
| 11.1 | DN50mm | No. | 13 | | |
| | Other Pipework Ancillaries Marker Posts | | | | |
| 12 | Marker posts for pipes, gate valves, air valves, washouts | No. | 36 | | |
| | <u>Reinstatement</u> Roads | | | | |
| 13 | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Not exceeding DN300mm | m | Rate Only | | |
| 10 | | | | | |
| | Total Carried to Collection Io. 4 : DISTRIBUTION NETWORK | | | | |
| Item No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | Page 13 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | 1 | | |
| | | | | | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|----------------|-----------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabbing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form trapezoidal prism reservoir in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated or the drawings. | m ³ | 520 | | |
| 2.2 | Ditto but in marshy soils | m³ | 296 | | |
| 2.3 | Ditto but in soft / decomposed rock soils | m ³ | 136 | | |
| 2.4 | Excavation to form trapezoidal drain in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | m ³ | 90 | | |
| 2.5 | Ditto but in marshy soils | m ³ | 65 | | |
| 2.6 | Ditto but in soft / decomposed rock soils | m ³ | 45 | | |
| 3.1 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m³ | Rate Only | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | Rate Only | | |
| 4 | Single layer of geotextile laid to manufacturer's specifications | m² | Rate Only | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces; 40m ² at Intake Site and 800m ² at Pump Station. | m² | 850 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | • | · | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary Portland | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, of the following thickness | m ³ | 1.1 | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe and Heel | | | | |
| 6.2 | 200mm thick toe. | m ³ | 0.3 | | |
| | | 2 | | | |
| 6.3 | 200mm thick base slab. | m³ | 2.4 | | |
| 6.4 | 350/ 200mm thick retaining wall/ weir stem. | m ³ | 0 | | |
| 6.5 | 200mm thick sump walls. | m ³ | 13.5 | | |
| 6.6 | 200mm thick top slab. | m ³ | 1.2 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including chamfering and / or filleting of all exposed concrete corners. | m² | 4.0 | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly sloping formwork to walls including chamfering and / or filleting of all exposed concrete corners. | m² | 140 | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m² | 11 | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 1.2 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | 1 | <u> </u> | |

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|-----------|-------------|------------------|
| | Inserts | | | | |
| 3.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | Rate Only | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings. | | | | |
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | Rate Only | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | Rate Only | | |
| | Strainers | | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, | | | | |
| | cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | Rate Only | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | Rate Only | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 m long, and of | | | | |
| | the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | Rate Only | | |
| | Penstocks; hand operated including head stock and distance spindle, as | | | | |
| | specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high, Stainless steel. | No. | 1 | | |
| | MISCELLANEOUS METAL WORK | | | | |
| | Ladders | | | | |
| 10.1 | External galvanized mild steel ladder to BS 4211, galvanized to BS 729, complete and as shown in the drawings including fixing to precast concrete | m | 8 | | |
| | units | | | | |
| | | | | | |
| | | | | | |

l

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|--|------------------|
| | Access Manhole Cover | | | | . / |
| 10.2 | 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 2 | | |
| | Pump Protection System | | | | |
| 10.3 | Vertical pipe pump stilling tube/ anti-vandal protection sleeve structure to detail as per Drawing No. OIS/NUC/SD/010, including 1.5x1.5x0.3m support base. | No. | 0 | | |
| | Valve Surface Boxes | | | | |
| 10.4 | Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | Rate Only | | |
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 4.0kW Submersible Pump Set with 5.5kW Pumping Inverter with Data Module, rated flow Q = 15 m ³ /hr., rated head H = 55m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 1x17No. x 550Wp panels solar array to provide 19.35kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 1x17No. x 550Wp panels Solar Array in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 135 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 150 | | |
| | Total Carried to Collection | | <u> </u> | <u> </u> | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| 1E10a | 6mm ² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| /E11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | ltem | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the following alignment: - | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 60 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a gauge 500 polythene sheet. | M² | 120 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| | Total Carried to Collection | | | <u> </u> | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Pump House | | | | |
| X5 | Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | Fences Galvanized wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special erection</u> <u>methods in "marshy grounds"</u> to the Engineer's approval. | m | 80 | | |
| X6b | Galvanized wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 120 | | |
| Х7 | Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| X8 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| Х9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection | | | | |
| ILL N | Io. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
| tem No. | Description | | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | 1 | | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|------|-----------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | <u>PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| 2.1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 8.1 | OD75mm HDPE PN10 | m | Rate Only | | |
| 4 | <u>uPVC Pipes</u> <u>uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with integral</u> rubber ring socket joints laid in trenches | | | | |
| .1 | <u>OD110 to PN 10</u> Depth not exceeding 1.5m | m | 353 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 5 | Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, EN 10242:1995, all to PN 10, and of the following sizes | | | | |
| 5.1 | DN65mm | No. | 4 | | |
| 6 | Bulk Flow Meters Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc. and all other fittings to make the installation complete, as specified, all fittings to PN10 including a masonry chamber, and on the following main pipe sizes | | | | |
| 6.1 | DN65mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 7 7.1 | Equal Adapters OD75 female adapter | No. | 2 | | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| 8 | Valves and Penstocks Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| 8.1 | DN65mm | No. | Rate Only | | |
| 8.2 | DN75mm | No. | 1 | | |
| 9 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic compression | | | | |
| | pipe fittings ; tee, drainage pipes, union ball valve, flap valve, stone | | | | |
| | masonry outfall structure and all other fittings necessary to make the | | | | |
| | complete installation on pipes of the following sizes; all to PN10 including | | | | |
| | valve surface box to detail. | | | | |
| 9.1 | DN100mm | No. | Rate Only | | |
| 9.2 | DN75mm | No. | 1 | | |
| 9.3 | DN65mm | No. | Rate Only | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and of | | | | |
| | the following depths | | | | |
| 0.1 | Depth not exceeding 1.5m | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 0.2 | Depth not exceeding 1.5m | No. | 1 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for | | | | |
| | the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | Rate Only | | |
| | Total Carried to Collection | | 1 | | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL No.2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the following | | | | |
| | <u>pipe sizes</u> | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Pipe surrounds, of imported granular material, for the following pipe sizes | | | | |
| 12.2 | Not exceeding DN200mm | m | 25 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 6 | | |
| | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1- 0.2 m ³ , for the following pipe sizes | | | | |
| 13 | Diameter not exceeding DN200mm | No. | Rate Only | | |
| | Other Pipework Ancillaries | | | | |
| 14 | <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts. | No | 4 | | |
| 14 | Total Carried to Collection | No. | 4 | | |
| BILL N | Io. 2 : TRANSMISSION MAINS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | Page 10 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|------|------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance including trees, stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | Reservoir Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, access ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc., painting and finishes; complete as specified and detailed in the drawings, of the following height and reservoir capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| 4 4.1 | 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN100mm, PN10 | No. | 1 | | |
| 5 | 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] | | | | |
| 5.1 | DN100mm, PN10 | No. | 1 | | |
| 6 6.1 | Landscaping and Walkways Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 150 | | |
| | | | | | |
| | Total Carried to Collection | | l | | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|------|-----------|-------------|------------------|
| | 500 x 500 x 50mm precast concrete paving slabs laid " Space out Stone method" between the gate, pump house and solar array in one raw, laid onto 200mm thick murram fill. | No. | Rate Only | | (0000) |
| 7 7.1 | Fences Galvanized wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| .2 | Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: | | | | |
| 3.1 | Grade C15 | m³ | 2 | | |
| | Total Carried to Collection | | | | |
| em | Io. 3 : STORAGE RESERVOIR WORKS Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | Bill No. 3 Collection | | | | (UGx.) |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|--------|-----------|---|------------------|
| - | DEMOLITION AND SITE CLEARANCE | | | | (|
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of arising materials. | ltem | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN6 | m | 278 | | |
| 2.2 | OD75mm PN6 | m | 102 | | |
| 2.2 | OD90mm PN6 | | 1102 | | |
| 2.3 2.4 | OD110mm PN6 | m m | 295 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD110mm | No. | Rate Only | | |
| 3.2 | OD90mm | No. | 1 | | |
| | Unequal tees | | | | |
| 3.3 | OD90 x 75mm | No. | 2 | | |
| 3.4 | OD90 x 63mm | No. | 5 | | |
| 3.5 | OD75 x 63mm | No. | 5 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.1 | OD110mm | No. | Rate Only | | |
| 4.2 | OD90mm | No. | Rate Only | | |
| 4.3 | OD75mm | No. | Rate Only | | |
| 4.4 | OD63mm | No. | Rate Only | | |
| 5 | End caps | | | | |
| 5.1 | OD110mm | No. | Rate Only | | |
| 5.2 | OD90mm | No. | Rate Only | | |
| 5.3 | OD75mm | No. | Rate Only | | |
| 5.4 | OD63mm | No. | 13 | | |
| 5.5 | OD50mm | No. | Rate Only | | |
| | | | | | |
| | Total Carried to Collection | 1 | <u> </u> | <u> </u> | |

SCHEME ID. 2.6: BUWEREBE IN MANAFWA DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 6 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| 6.1 | OD110mm | No. | Rate Only | | |
| 6.2 | OD90mm | No. | Rate Only | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic compression | | | | |
| | pipe fittings; tee, drainage pipes, PVC union ball valve, flap valve and all | | | | |
| | other fittings necessary to make the complete installation on pipes of the | | | | |
| | following sizes; all to PN10 including valve surface box and stone | | | | |
| | masonry outfall structure to detail as per Drawing No. OIS/NUC/SD/004. | | | | |
| 7.1 | DN100mm | No. | Rate Only | | |
| 7.2 | DN75mm | No. | Rate Only | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end cap | | | | |
| | complete with connector pipes and lockable chamber as detailed on | | | | |
| | Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to | | | | |
| | PN10: - | | | | |
| 8.1 | DN100mm | No. | Rate Only | | |
| 8.2 | DN75mm | No. | Rate Only | | |
| 8.3 | DN65mm | No. | Rate Only | | |
| 8.4 | DN50mm | No. | 13 | | |
| | Other Pipework Ancillaries | | | | |
| 9 | <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts. | No. | 34 | | |
| | Total Carried to Collection | | | | |
| BILL N | lo. 4 : DISTRIBUTION NETWORK | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 14 | | | | |
| | Page 15 | | | | |
| | Total Bill No. 4 Carried to Bill Summary | | <u> </u> | | |

SCHEME ID. 3.1: OBAJAI IN KABERAMAIDO DISTRICT BILL SUMMARY

| WORK ITEMS Abstraction and Electromechanical Works Transmission Mains Storage Reservoir Works Distribution Network | |
|--|--|
| 2 Transmission Mains 3 Storage Reservoir Works | |
| 3 Storage Reservoir Works | |
| | |
| 4 Distribution Network | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Total Carried to Grand Summary | |

SCHEME ID. 3.1: OBAJAI IN KABERAMAIDO DISTRICT

| 1 | General Site Clearance | | | Rate (UGx.) | (UGx.) |
|-----|--|----------------|----|-------------|--------|
| | | | | | |
| | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 52 | | |
| 2.2 | Soft / decomposed rock soils | m ³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| | Marshy soils | m ³ | 42 | | |
| 2.5 | Soft / decomposed rock soils | m³ | 12 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m³ | 8 | | |
| | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - | | | | |
| 3 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 10 | | |

SCHEME ID. 3.1: OBAJAI IN KABERAMAIDO DISTRICT

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------|--|----------------|------|-------------|------------------|
| | Landscaping | | | | · · · |
| 4 | Turfing for lawns inside fenced off compound; including filling with | m ² | 40 | | |
| | excavated topsoil and preparation of surfaces. | | | | |
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882, maximum aggregate size; 20mm for | | | | |
| | the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m ³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float. | | | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float and forming a 600 x 600mm opening for the inspection cover (MS). | | | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts on | | | | |
| | concrete base slab (MS) ; complete with water tight jointing and finishing works | | | | |
| _ | to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| | the pipe and as shown in the drawings. | | | | |
| 8 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin | m | 8 | | |
| | and Pump Sump. | | | | |

SCHEME ID. 3.1: OBAJAI IN KABERAMAIDO DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---------|---|------|-----------|-------------|------------------|
| 11 | Bellmouths Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 6 200 mm ND | No. | 1 | | |
| | PIPEWORK - FITTINGS AND VALVES Gate Valves: Hand Operated | | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | | |
| 13 | MISCELLANEOUS WORK Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 14.1 | Steel grating Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | | |
| | Stone pitched Channel. | | | | |
| 16 | $3.0 	ext{ x } 1.5 	ext{ top x bottom width x } 1.5 	ext{m}$ deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | | |
| 17 | Gabion boxes PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.1: OBAJAI IN KABERAMAIDO DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---------|---|------|------|-------------|------------------|
| ME1 | ELECTRO-MECHANICAL WORKS Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) 7.5kW Submersible Pump Set with 11.0kW Pumping Inverter with Data Module, rated flow Q = 20 m ³ /hr., rated head H = 55m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump | No. | 1 | | |
| ME2 | End. 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 125 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |
| | Total Carried to Collection | | | | |

BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---------|--|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| | Alarm System | | | | |
| | GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | Item | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | ltem | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs | | | | |
| | Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the following alignment: - | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 135 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |
| | Pump House | | | | |
| | Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| | Total Carried to Collection | | | | |

| | | | | | Amount |
|---------|---|------|-----------|---|------------------|
| em No. | Description | | | | (UGx.) |
| | Fences | | | | |
| X6a | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special erection</u> <u>methods in "marshy grounds"</u> to the Engineer's approval. | m | 50 | | |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | | |
| X7 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| | Training of Operator's staff | | | | |
| X8 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X9 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| ХХ | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection | | | | |
| BILL No | . 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | * | |
| em No. | Description | | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|--|------|-----------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | <u>PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| 2.1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD90mm HDPE PN10 | m | 660 | | |
| 4 | <u>uPVC Pipes</u> <u>uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with integral</u> rubber ring socket joints laid in trenches | | | | |
| 4.1 | <u>OD110 to PN 10</u> Depth not exceeding 1.5m | m | Rate Only | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 5 5.4 | Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes DN75mm | No. | 4 | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | L | <u> </u> | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------|--|------|-----------|-------------|------------------|
| 6 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| 6.1 | DN100mm PN10 | No. | Rate Only | | |
| 6.2 | DN75mm PN10 | No. | 1 | | |
| 6.3 | DN65mm PN10 | No. | Rate Only | | |
| 6.4 | DN50mm PN10 | No. | Rate Only | | |
| 6.5 | DN40mm PN10 | No. | Rate Only | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Equal Adapters | | | | |
| 7.1 | OD90 female adapter | No. | 2 | | |
| 8 | Valves and Penstocks | | | | |
| | <u>Air Valves</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| | to ISO 2441, complete with isolating gate valve to ISO 7259, flange | | | | |
| | adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 8.1 | DN75mm | No. | 1 | | |
| - | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| 9.1 | DN75mm | No. | 1 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 1 | | |
| | Total Carried to Collection | | | <u> </u> | |

| 10.2 [[[t | Valve Surface Boxes Valve Surface box for DN100 - DN300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths Depth not exceeding 1.5m Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes Not exceeding DN300mm | No. | 1 | (UGx.) |
|--|---|-----|-----|--------|
| 10.2 [[] [] [] [] [] [] [] [] [] [] [] [] [] | securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths Depth not exceeding 1.5m Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | No. | 1 | |
| 10.2 [[] [] [] [] [] [] [] [] [] [] [] [] [] | down pipe, complete as specified and to the following depths Depth not exceeding 1.5m Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | No. | 1 | |
| 10.2 [[[[[[]]]] | Depth not exceeding 1.5m Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | No. | 1 | |
| <u> </u> | Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | No. | 1 | |
| <u>I</u> <u>t</u> 11 r | Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | |
| <u>E</u> <u>t</u> | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | |
| 11 1 | the following pipe sizes | | | |
| 11 1 | the following pipe sizes | | | |
| | Not avagading DN300mm | | | |
| | | m | 48 | |
| | | | | |
| _ | Surrounds | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | |
| <u>†</u> | following pipe sizes | | | |
| 12.1 | Not exceeding DN200mm | m | 72 | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | |
| <u>+</u> | | | | |
| 12.2 | Not exceeding DN200mm | m | 150 | |
| F | Pipe surrounds, of mass concrete, for the following pipe sizes | | | |
| 12.3 | Not exceeding DN200mm | m | 100 | |
| | | | | |
| 13 <u>(</u> | Concrete Stools and Thrust Blocks | | | |
| | Thrust Blocks | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | |
| <u>(</u> | 0.1-0.2 m ³ , for the following pipe sizes | | | |
| 13.1 [| Diameter not exceeding DN200mm | No. | 4 | |
| | Other Pipework Ancillaries | | | |
| I | Marker Posts | | | |
| 14 I | Marker posts for pipes, gate valves, air valves, washouts Total Carried to Collection | nr | 28 | |

| BILL No. 2 : TRANSMISSION MAINS em No. Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--|------|------|-------------|------------------|
| Bill No. 2 Collection | | | | |
| Page 6 | | | | |
| Page 7 | | | | |
| Page 8 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Total Bill No. 2 Carried to Bill | | | | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------|--|------|------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site slearance including trees, stumps and disposal of arising materials. | ltem | 1 | | |
| | Reservoir Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, acess ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc, painting and finishes; complete as specified and detailed in the drawings, of the following height and reservior capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| | Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| 4 | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN75mm, PN10 | No. | 1 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] | | | | |
| | DN75mm, PN10 | No. | 1 | | |
| | Total Carried to Collection | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---------|--|------|-----------|-------------|------------------|
| 6 | Landscaping and Walkways | | | | x |
| 6.1 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 150 | | |
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 | Fences | | | | |
| | Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| | Gates | | | | |
| 7.2 | Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Designed Mix Concrete | | | | |
| | | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS | | | | |
| | 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| | <u>grades.</u> | | | | |
| 8.1 | Grade C15 | m³ | 2 | | |
| | Total Carried to Collection | | | | |
| BILL No | . 3 : STORAGE RESERVOIR WORKS | | | | A a |
| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 10 | | | | |
| | Page 11 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| 1 2 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. PIPEWORK-PIPES Pleasing Processory Place Distribution | ltem | 1 | (UGx.) |
|--------|--|------|-----------|--------|
| | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | ltem | 1 | |
| | route, including felling trees, grabing tree stumps and disposal of arising materials. <u>PIPEWORK-PIPES</u> | ltem | 1 | |
| 2 | | | 1 | |
| 2 | Plastia Pressure Bines, Distribution | | | |
| | Plastic Pressure Pipes- Distribution | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | |
| 2.1 | OD63mm PN10 | m | 1,364 | |
| 2.2 | OD90mm PN10 | m | 384 | |
| | PIPEWORK - FITTINGS AND VALVES | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | |
| | Plastic Pipe Fittings | | | |
| 3 | Equal tees | | | |
| 3.1 | OD63mm | No. | 6 | |
| | Unequal tees | | | |
| 3.2 | OD90 x 63mm | No. | 6 | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | |
| 4 | <u>Couplers</u> | | | |
| 4.1 | OD90 x 63mm | No. | 6 | |
| 5 | End caps | | | |
| 5.1 | OD110mm | No. | Rate Only | |
| 5.2 | OD90mm | No. | Rate Only | |
| 5.3 | OD75mm | No. | Rate Only | |
| 5.4 | OD63mm | No. | 7 | |
| 5.5 | OD50mm | No. | Rate Only | |
| | Total Carried to Collection | | | |

SCHEME ID. 3.1: OBAJAI IN KABERAMAIDO DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---------|---|------|-----------|-------------|------------------|
| 6 | Valves and Penstocks | | | | |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges | | | | |
| 6.1 | OD63mm | No. | 4 | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| 7.1 | DN50mm | No. | 6 | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| 8.4 | DN50mm | No. | 7 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 8.4 | Marker posts for pipes, gate valves, air valves, washouts | nr | 62 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for | | | | |
| 9 | Not exceeding DN300mm | m | Rate Only | | |
| | Total Carried to Collection | | I | | |
| BILL No | . 4 : DISTRIBUTION NETWORK | | | | |
| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 12 | | | | |
| | Page 13 | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 4 Carried to Bill Summary | | 1 | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 52 | | |
| 2.2 | Soft / decomposed rock soils | m ³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 60 | | |
| 2.5 | Soft / decomposed rock soils | m ³ | 15 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m³ | 8 | | |
| | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - | | | | |
| 3 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m³ | 10 | | |
| | Landscaping | | | | |
| 4 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 40 | | |
| | | | | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | . , |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882, maximum aggregate size ; 20mm for | | | | |
| | the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float. | | | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float and forming a 600 x 600mm opening for the inspection cover (MS). | | | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts | | | | |
| | on concrete base slab (MS) ; complete with water tight jointing and finishing | | | | |
| _ | works to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| | the pipe and as shown in the drawings. | | | | |
| 8 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin | m | 8 | | |
| | and Pump Sump. | | | | |
| | Bellmouths | | | | |
| 11 | Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all | | | | |
| | to PN 6 | | | | |
| | 200 mm ND | No. | 1 | | |
| | | | | | |
| | Total Carried to Collection | | | <u> </u> | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| | PIPEWORK - FITTINGS AND VALVES Gate Valves: Hand Operated | | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | | |
| | MISCELLANEOUS WORK | | | | |
| 13 | Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 14.1 | Steel grating Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | | |
| | Stone pitched Channel. | | | | |
| 16 | $3.0 	ext{ x } 1.5 	ext{ top x bottom width x } 1.5 	ext{m}$ deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | | |
| 17 | Gabion boxes PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 11.0kW Submersible Pump Set with 15kW Pumping Inverter with Data Module, rated flow Q = 22 m^3 /hr., rated head H = 75m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | ltem | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0022D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 240 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 135 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | |
| /IE13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| VIE14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | Item | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs | | | | |
| | Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the | | | | |
| | <u>following alignment: -</u> | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |
| X5 | Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | Fences Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, including special erection methods in "marshy grounds" to the Engineer's approval. | m | 50 | | |
| | Total Carried to Collection | | 1 | <u> </u> | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------------|---|------|-----------|-------------|------------------|
| K6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | | |
| Х7 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| | Training of Operator's staff | | | | |
| X8 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X9 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection | | | | |
| ILL I tem | No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | Amount |
| No. | Description | | | | (UGx.) |
| - | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | • | | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| | | | | | |
| 2.1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD90mm HDPE PN10 | m | 1,240 | | |
| 4 | uPVC Pipes | | | | |
| • | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches | | | | |
| | OD110 to PN 10 | | | | |
| 4.1 | Depth not exceeding 1.5m | m | Rate Only | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | |
| | to PN 10, and of the following sizes | | | | |
| 5.1 | DN40mm | No. | Rate Only | | |
| 5.2 | DN50mm | No. | Rate Only | | |
| 5.3 | DN65mm | No. | Rate Only | | |
| 5.4 | DN75mm | No. | Rate Only | | |
| 5.5 | DN100mm | No. | Rate Only | | |
| 6 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| 6.1 | DN100mm PN10 | No. | Rate Only | | |
| 6.2 | DN75mm PN10 | No. | 1 | | |
| 0.2 | | | | | |

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|-----------|-------------|------------------|
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 7 | Equal Adapters | | | | |
| .1 | OD90 female adapter | No. | 2 | | |
| 8 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| | DN40mm | No. | Rate Only | | |
| | DN50mm | No. | Rate Only | | |
| | DN65mm | No. | Rate Only | | |
| | DN75mm | No. | 1 | | |
| 5.5 | DN100mm | No. | Rate Only | | |
| 9 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| 9.1 | DN100mm | No. | Rate Only | | |
| 9.2 | DN75mm | No. | 1 | | |
| 9.3 | DN65mm | No. | Rate Only | | |
| 9.4 | DN50mm | No. | Rate Only | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | | | | | |
| 0.1 | Depth not exceeding 1.5m | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 0.2 | Depth not exceeding 1.5m | No. | 1 | | |
| - | | | | | |
| | | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| NO. | Reinstatement | | | | (00.) |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | Rate Only | | |
| | | | | | |
| | <u>Surrounds</u> Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 10.1 | | | | | |
| 12.1 | Not exceeding DN200mm | m | 55 | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 120 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 180 | | |
| | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 6 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts Total Carried to Collection | nr | 20 | | |
| BILL N | Io. 2 : TRANSMISSION MAINS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | Page 10 | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL No. 4.3 : STORAGE RESERVOIR WORKS

| em lo. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|----------------|-----------|-------------|------------------|
| - | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site slearance including trees, stumps and disposal of arising | Item | 1 | | |
| | materials. | | | | |
| 2 | Reservoir | | | | |
| | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings , of the following height and reservior capacities. | | | | |
| | | | | | |
| .1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks | | | | |
| | Supply and install a vertical cylindrical Rotational Moulded Polyethylene | | | | |
| | Water Storage Tank to DUS 1560: 2013 as manufactured by Ms | | | | |
| | Gentex Ltd. / Crest Tanks or any other approved complete with a | | | | |
| | lockable access man ways, inlet/ riser, ball float valve, overflow with | | | | |
| | insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting | | | | |
| | pipe work and fittings, as detailed in the drawings, supply specifications | | | | |
| | and of the following capacity. | | | | |
| | | No. | 4 | | |
| .1 | 10m ³ | INO. | 4 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, | | | | |
| 4 | non corrosive, complete with all fittings, installation on the following GI | | | | |
| • | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| | element and seal ring :- | | | | |
| .1 | DN75mm, PN10 | No. | 1 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non | | | | |
| 5 | corrosive, complete with all fittings, installation on the following GI pipe | | | | |
| • | sizes, pressure ratings and supply of a pair of replacement disk | | | | |
| | element and seal ring :- | | | | |
| .1 | [OPTIONAL] | No | Rate Only | | |
| | DN100mm, PN10 DN75mm, PN10 | No. No. | 1 | | |
| .2 .3 | DN65mm, PN10 | No. | Rate Only | | |
| 6 | Landscaping and Walkways | | | | |
| 6.1 | Turfing for lawns inside fenced off compound; including filling with | m ² | 150 | | |
| | excavated topsoil and preparation of surfaces. | 1(1 | 100 | | |
| | | | | | |

| SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT |
|--|
| BILL No. 3 : STORAGE RESERVOIR WORKS |

| 6.2 | | | Qty. | Rate (UGx.) | (UGx.) |
|-----------------|--|----------------|-----------|-------------|------------------|
| | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 7.1 | Fences Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| | Total Carried to Collection Io. 3 : STORAGE RESERVOIR WORKS | | • | | |
| Item No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| | IE ID. 3.2: AJULON IN KABERAMAIDO DISTRICT 10.4 : DISTRIBUTION NETWORK | - | | | |
|-------------|--|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | DEMOLITION AND SITE CLEARANCE | | | | X 1 |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| 2 | PIPEWORK-PIPES Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5rr | | | | |
| 2.1 | OD63mm PN10 | m | 325 | | |
| 2.2 | OD75mm PN10 | m | Rate Only | | |
| 2.3 | OD90mm PN10 | m | 806 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | 1 | | |
| 3.2 | OD75mm | No. | 1 | | |
| 3.3 | OD63mm | No. | Rate Only | | |
| | Unequal tees | | | | |
| 3.5 | OD90 x 75mm | No. | Rate Only | | |
| 3.6 | OD90 x 63mm | No. | 6 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.1 | OD90mm | No. | Rate Only | | |
| 4.2 | OD75mm | No. | Rate Only | | |
| 4.3 | OD63mm | No. | Rate Only | | |
| 5 | End caps | | | | |
| 5.1 | OD90mm | No. | Rate Only | | |
| 5.2 | OD75mm | No. | Rate Only | | |
| 5.3 | OD63mm | No. | 3 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT | BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| 6 | Valves and Penstocks | | | | |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 6.1 | OD90mm | No. | Rate Only | | |
| 6.2 | OD75mm | No. | Rate Only | | |
| 6.3 | OD63mm | No. | Rate Only | | |
| 7 | Washouts | | | | |
| - | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| 7.2 | DN75mm | No. | Rate Only | | |
| 7.1 | DN65mm | No. | Rate Only | | |
| 7.2 | DN50mm | No. | Rate Only | | |
| • | | | | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap | | | | |
| | complete with connector pipes and locakable chamber as detailed on | | | | |
| | Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to | | | | |
| | PN10: - | | | | |
| | | | | | |
| 8.1 | DN65mm | No. | Rate Only | | |
| 8.2 | DN50mm | No. | 5 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 40 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 3.2: AJULON IN KABERAMAIDO DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| em Description Io. | | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--------------------------|-----------------------|------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 13 | | | | |
| | Page 14 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

| Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--|---|---|--|---|
| General Site Clearance | | | | |
| General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| Earthworks | | | | |
| Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| Marshy soils | m ³ | 52 | | |
| Soft / decomposed rock soils | m³ | 26 | | |
| Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| Marshy soils | m ³ | 4 | | |
| Soft / decomposed rock soils | m³ | 1 | | |
| Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings | | | | |
| | m ³ | 16 | | |
| Soft / decomposed rock soils | m ³ | 8 | | |
| Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Selected excavated material including topping with a 200mm thick layer of | m ³ | 10 | | |
| top/ vegetable soil. | 111 | 10 | | |
| | General Site Clearance General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. Earthworks Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. Marshy soils Soft / decomposed rock soils Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. Marshy soils Soft / decomposed rock soils Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. Marshy soils Soft / decomposed rock soils Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. Marshy soils Soft / decomposed rock soils Filling to precast concrete sump structure by methods specified and to depths: as shown in the drawings with the following materials Selected excavated material including topping with a 200mm thick layer of | General Site Clearance Item General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Item Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. Eathworks Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m ³ Marshy soils m ³ Soft / decomposed rock soils m ³ Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. Marshy soils m ³ Soft / decomposed rock soils m ³ Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. Marshy soils m ³ Soft / decomposed rock soils m | General Site Clearance Item General Site Clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Item 1 Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. Item 1 Earthworks Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m ³ 52 Marshy soils m ³ 26 Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m ³ 4 Marshy soils m ³ 1 1 Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m ³ 1 Marshy soils m ³ 1 1 <td>General Site Clearance Item 1 General site clearance, felling trees, grabing tree stamps and stripping of togsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Item 1 Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. Item 1 Earthworks Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m³ 52 Marshy soils m³ 26 m³ 26 Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material. to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m³ 4 Marshy soils m³ 1 4 Soft / decomposed rock soils m³ 1 Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m³ 1 Mars</td> | General Site Clearance Item 1 General site clearance, felling trees, grabing tree stamps and stripping of togsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Item 1 Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. Item 1 Earthworks Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m ³ 52 Marshy soils m ³ 26 m ³ 26 Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material. to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m ³ 4 Marshy soils m ³ 1 4 Soft / decomposed rock soils m ³ 1 Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. m ³ 1 Mars |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|------|-------------|------------------|
| | Landscaping | | | | |
| 4 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 40 | | |
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland cement to BS 12, aggregate to BS 882 , maximum aggregate size ; 20mm for | | | | |
| | the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float. | | | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float and forming a 600 x 600mm opening for the inspection cover (MS). | | | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump Supply and install 100mm thick precast reinforced concrete vertical culverts | | | | |
| | on concrete base slab (MS); complete with water tight jointing and finishing | | | | |
| | works to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| | the pipe and as shown in the drawings. | | | | |
| 8 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND Total Carried to Collection | No. | 2 | | |
| ILL N | Io.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | Į | |
| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin and Pump Sump. | m | 8 | | |
| | Bellmouths | | | | |
| 11 | Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 6 | | | | |
| | 200 mm ND | No. | 1 | | |

| SCHEN | IE ID. 3.3: TOTOLIM IN KUMI DISTRICT | | | |
|-------|---|------|-----------|--|
| 12 | <i>Gate Valves: Hand Operated</i> DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | |
| | MISCELLANEOUS WORK | | | |
| 13 | Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | |
| 14.1 | Steel grating Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | |
| 16 | Stone pitched Channel. 3.0 x 1.5 top x bottom width x 1.5m deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | |
| 17 | Gabion boxes PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | |
| | Total Carried to Collection | | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 7.5kW Submersible Pump Set with 11.0kW Pumping Inverter with Data Module, rated flow Q = 20 m ³ /hr., rated head H = 75m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 100 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | ltem | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the following alignment: - | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

| | | | | - | |
|------------------|-------|------------|-------------|--------------|-------|
| BULL NI 4 | ADATE | | D EL EAT | | |
| | | ζΔ(ΞΠΟΝ ΔΝ | I) FI FC II | ROMECHANICAL | WORKS |
| | | | | | |

| | IE ID. 3.3: TOTOLIM IN KUMI DISTRICT I0.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
|-------------|--|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| X5 | Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | Fences Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special</u> erection methods in "marshy grounds" to the Engineer's approval. | m | 50 | | |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | | |
| X7 | Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| X8 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| X9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection | | - | - | |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT BILL No. 2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------------|-----------------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | PIPEWORKS - PIPES Steel Pipes | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| 2.1 2.2 | DN75mm, not in trenches; DN75mm, in trenches; depths not exceeding 1.5m | m m | Rate Only 12 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD90mm HDPE PN10 | m | 630 | | |
| | PIPEWORK - FITTINGS AND VALVES <u>Cast or Spun Iron Pipe Fittings</u> Bends | | | | |
| 4.1 4.2 | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes DN75mm DN100mm | No. No. | 4 Rate Only | | |
| | Bulk Flow Meters Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc and all other fittings to make the installation complete, as specified, all fittings to PN10 including a masonry chamber, and on the following main pipe sizes | | | | |
| 5.1 | DN75mm PN10 | No. | 1 | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|-----------|-------------|------------------|
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 6 | Equal Adapters OD90 female adapter | No. | 2 | | |
| 0 | | 140. | 2 | | |
| | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance pieces, and all fittings necessary to make | | | | |
| | the installation on pipes of the following sizes, all to PN10, include | | | | |
| | chamber as specified. | | | | |
| 7 | DN75mm | No. | Rate Only | | |
| | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| 9 | DN75mm | No. | Rate Only | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| 9.1 | Depth not exceeding 1.5m | No. | Rate Only | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 9.2 | Depth not exceeding 1.5m | No. | Rate Only | | |
| | Total Carried to Collection | | <u> </u> | <u> </u> | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|----------|-----------|-------------|------------------|
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| | | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |
| | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 11.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Ding surrounds, of imported grapular material, for the following pine | | | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 11.2 | Not exceeding DN200mm | m | 60 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| | | | | | |
| 11.3 | Not exceeding DN200mm | m | 80 | | |
| | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 12 | Diameter not exceeding DN200mm | No. | Rate Only | | |
| 12 | | NO. | Tato only | | |
| | Other Pipework Ancillaries Marker Posts | | | | |
| 13 | Marker posts for pipes, gate valves, air valves, washouts | nr | 26 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | <u> </u> | <u> </u> | <u> </u> | |
| | IO. 2 : TRANSMISSION MAINS | 1 | | | ۸ |
| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | | | | | |
| | Page 8 | | 1 | | |

| SCHEN | IE ID. 3.3: TOTOLIM IN KUMI DISTRICT Page 9 | | |
|-------|--|--|--|
| | Page 10 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Total Bill No. 2 Carried to Bill Summary | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT BILL No. 4.3 : STORAGE RESERVOIR WORKS

| Item | Io. 4.3 : STORAGE RESERVOIR WORKS | | | | Amount |
|------|--|------|------|-------------|--------|
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | DEMOLITION AND SITE CLEARANCE | | | | // |
| | General Site Clearance | | | | |
| 1 | General site slearance including trees, stumps and disposal of arising | Item | 1 | | |
| | materials. | | | | |
| 2 | Reservoir | | | | |
| | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings, of the | | | | |
| | following height and reservior capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks | | | | |
| | Supply and install a vertical cylindrical Rotational Moulded | | | | |
| | Polyethylene Water Storage Tank to DUS 1560: 2013 as | | | | |
| | manufactured by Ms Gentex Ltd. / Crest Tanks or any other approved | | | | |
| | complete with a lockable access man ways, inlet/ riser, ball float valve, | | | | |
| | overflow with insect screen, float type water level indicator and outlet/ | | | | |
| | down pipe with a strainer, washout and overflow connection, including | | | | |
| | interconnecting pipe work and fittings, as detailed in the drawings, | | | | |
| | supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, | | | | |
| 4 | non corrosive, complete with all fittings, installation on the following GI | | | | |
| 4 | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| | element and seal ring :- | | | | |
| 4.1 | DN75mm, PN10 | No. | 1 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non | | | | |
| - | corrosive, complete with all fittings, installation on the following GI pipe | | | | |
| 5 | sizes, pressure ratings and supply of a pair of replacement disk | | | | |
| | element and seal ring :- | | | | |
| | [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 1 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT BILL No. 3 - STORAGE RESERVOIR WORKS

| 6 Landscaping and Walkways 6.1 Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. m² 150 6.2 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. No. Rate Only 7 Fences m 60 60 7.1 Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. m 60 7.2 Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m³ 2 8.1 Grade C15 m³ 2 Item Total Carried to Collection BILL No. 3 : STORAGE RESERVOIR WORKS | ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|--|-------------|---|----------------|-----------|-------------|------------------|
| 6.1 Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. m ² 150 6.2 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. No. Rate Only 7 Fences m 60 60 7.1 Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. m 60 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 Provision and Placing of Concrete Ordinary Designed Mix Concrete No. 1 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m ³ 2 8.1 Grade C15 m ³ 2 Total Carried to Collection Unit Qty. Bill No. 3 Collection Page 12 | | Landscaping and Walkways | | | | (00.) |
| method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. nethod" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. 7 Fences 7.1 Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. m 60 7.2 Gates No. 1 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 Provision and Placing of Concrete Ordinary Designed Mix Concrete No. 1 1 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m³ 2 8.1 Grade C15 m³ 2 1 Total Carried to Collection No. 1 Bill No. 3 Collection Page 12 | | Turfing for lawns inside fenced off compound; including filling with | m² | 150 | | |
| 7.1 Galvamised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. m 60 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 Provision and Placing of Concrete Ordinary Designed Mix Concrete No. 1 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 172 aggregate to BS882 , for 10mm aggregate sizes and the following grades: m³ 2 8.1 Grade C15 m³ 2 Total Carried to Collection WILL No. 3 : STORAGE RESERVOIR WORKS Item No. Unit Qty. Rate (UGx.) Amou (UGx) Page 12 Bill No. 3 Collection I I I | 6.2 | method" between the gate, pump house and solar array in one raw, | No. | Rate Only | | |
| 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 1 Provision and Placing of Concrete Ordinary Designed Mix Concrete Image: Concrete Ordinary Designed Mix Concrete Image: Concrete Ordinary Designed Mix Concrete Image: Concrete Ordinary Designed Mix Concrete 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: Image: Concrete Ordinary Designed Mix Concrete Image: Concrete Ordinary Designed Mix Concrete 8.1 Grade C15 Image: Concrete Ordinary Designed to Collection Image: Concrete Ordinary Designed Mix Concrete Image: Concrete Ordinary Designed Mix Concrete 8.1 Grade C15 Image: Concrete Ordinary Designed to Collection Image: Concrete Ordinary Designed Mix Concrete Image: Concrete Ordinary Designed Mix Concrete 8.1 Grade C15 Image: Concrete Ordinary Designed to Collection Image: Concrete Ordinary Designed Mix Concrete Image: Concrete Ordinary Designed Mix Concrete SILL No. 3 : STORAGE RESERVOIR WORKS Image: Concrete Ordinary Description Image: Concrete Ordinary Description Image: Concrete Ordinary Description Image: Concrete Ordinary Description No. Bill No. 3 Collection Image: Concrete Ordinary Description Image: Concrete Ordinary Description Image: Concrete Ordinary Descri | | Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw | m | 60 | | |
| 8 Designed Mix Concrete Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: Image: Concrete is a co | 7.2 | Metal field gate to BS 3470; width 1.5m single leaf and height to match | No. | 1 | | |
| BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m³ 2 8.1 Grade C15 m³ 2 Total Carried to Collection BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Amou (UGx) Bill No. 3 Collection Page 12 I | | | | | | |
| Total Carried to Collection BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Amou (UGx) Bill No. 3 Collection Page 12 Image 12 Image 12 Image 12 Image 12 | 8 | BS 12, aggregate to BS882, for 10mm aggregate sizes and the | | | | |
| BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Amou (UGx Bill No. 3 Collection Page 12 Image | 8.1 | Grade C15 | m ³ | 2 | | |
| Item No. Description Unit Qty. Rate (UGx.) Amou (UGx) Bill No. 3 Collection Page 12 Image 12 Image 12 Image 12 Image 12 | | Total Carried to Collection | | | | |
| No. Unit Qty. Rate (UGx.) Bill No. 3 Collection Page 12 | BILL N | lo. 3 : STORAGE RESERVOIR WORKS | | | | |
| Page 12 | | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | | Bill No. 3 Collection | | | | |
| Page 13 | | Page 12 | | | | |
| | | Page 13 | | | | |
| | | | | | | |
| Total Bill No. 3 Carried to Bill Summary | | | | | | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| 2.1 | trench to the following depths not exceeding 1.5m OD63mm PN6 | m | 80 | | |
| 2.1 | OD90mm PN6 | m m | 180 | | |
| 2.2 | | | 100 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | Rate Only | | |
| | Unequal tees | | | | |
| 3.2 | OD90 x 75mm | No. | Rate Only | | |
| 3.3 | OD90 x 63mm | No. | 3 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.2 | OD90mm | No. | Rate Only | | |
| 5 | End caps | | | | |
| 5.1 | OD63mm | No. | 3 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Carried to Collection | <u> </u> | <u>I</u> | 1 | |

SCHEME ID. 3.3: TOTOLIM IN KUMI DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| 6 | Valves and Penstocks | | | | |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make | | | | |
| | the installation on pipes of the following sizes, all to PN10, include | | | | |
| | chamber as specified. | | | | |
| 6.1 | OD90mm | No. | Rate Only | | |
| 6.2 | OD75mm | No. | Rate Only | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 7.1 | DN75mm | No. | Rate Only | | |
| 7.2 | DN65mm | No. | Rate Only | | |
| 8 | Farm Gate Connections | | | | |
| - | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connector pipes and locakable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| 8.1 | DN50mm | No. | 3 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 12 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |
| | Total Carried to Collection | | • | | |
| tem | Io. 4 : DISTRIBUTION NETWORK | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 14 | | | | |
| | raye 14 | | | | |

| CIVIL WORKS FOR OFF- FARM IRRIG SCHEME ID. 3.3: TOTOLIM IN KUMI E | | ILITIES: LOT 3 EA | STERN PRO | VINCE AREA |
|--|------------------------------------|-------------------|-----------|------------|
| | | 1 | I | I I |
| | Page 15 | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Tota | Bill No. 4 Carried to Bill Summary | | | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles or site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| .1 | Marshy soils | m ³ | 52 | | |
| 2 | Soft / decomposed rock soils | m ³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 46 | | |
| 2.5 | Soft / decomposed rock soils | m³ | 14 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m ³ | 8 | | |
| | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - | | | | |
| 3 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 10 | | |
| 4 | Landscaping Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 40 | | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix , concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882, maximum aggregate size; 20mm for | | | | |
| | the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m³ | 0.25 | | |
| 5.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float. | | | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float and forming a 600 x 600mm opening for the inspection cover (MS). | | | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts or | | | | |
| | concrete base slab (MS) ; complete with water tight jointing and finishing | | | | |
| | works to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| | the pipe and as shown in the drawings. | | | | |
| 8 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin | m | 8 | | |
| | and Pump Sump. | | | | |
| | | | | | |
| | Total Carried to Collection | | | <u> </u> | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| 11 | Bellmouths Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 6 200 mm ND | No. | 1 | | |
| | PIPEWORK - FITTINGS AND VALVES Gate Valves: Hand Operated | | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | | |
| | MISCELLANEOUS WORK | | | | |
| 13 | Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 14.1 | Steel grating Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | | |
| | Stone pitched Channel. | | | | |
| 16 | $3.0 \ x \ 1.5$ top x bottom width x 1.5m deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | | |
| 17 | Gabion boxes PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | | |
| | Total Carried to Collection | | | <u> </u> | |

| BILL N | 0.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
|-------------|---|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers | | | | |
| ME1 | 7.5kW Submersible Pump Set with 11.0kW Pumping Inverter with Data Module, rated flow Q = 20 m^3 /hr., rated head H = 55m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | ltem | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | ltem | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 100 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | <u>/</u> / |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| /IE14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | ltem | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | ltem | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No.OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | <i>Kerbs</i> <u>Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the</u> <u>following alignment: -</u> | | 135 | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |
| X5 | Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |

| BILL N | o. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | |
|-------------|---|------|-----------|------------------|
| ltem No. | Description | | | Amount (UGx.) |
| X6a | Fences Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special erection</u> <u>methods in "marshy grounds"</u> to the Engineer's approval. | m | 50 | |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | |
| X7 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | |
| X8 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | |
| X9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | |
| ХХ | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | |
| | Total Carried to Collection | | | |
| | 0. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | 1 | American |
| Item No. | Description | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | |
| | Page 2 | | | |
| | Page 3 | | | |
| | Page 4 | | | |
| | Page 5 | | | |
| | Page 6 | | | |
| | Page 7 | - | | |
| | Total Bill No. 1 Carried to Bill Summary | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| | | | 10 | | |
| 2.1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD75mm HDPE PN10 | m | 185 | | |
| | | | | | |
| 4 | uPVC Pipes | | | | |
| | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches | | | | |
| | OD110 to PN 10 | | | | |
| 1.1 | Depth not exceeding 1.5m | m | Rate Only | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | |
| | to PN 10, and of the following sizes | | | | |
| .1 | DN65mm | No. | 4 | | |
| 6 | Bulk Flow Meters | | | | |
| Ŭ | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as_ | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| 5.1 | DN65mm PN10 | No. | 1 | | |
| | | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 7 | Equal Adapters | | | | |
| 7.1 | OD75 female adapter | No. | 2 | | |
| 8 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 8.1 | DN65mm | No. | Rate Only | | |
| 9 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| | | | | | |
| 9.1 | DN65mm | No. | Rate Only | | |
| 9.2 | DN50mm | No. | Rate Only | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| 0.1 | Depth not exceeding 1.5m | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 0.2 | Depth not exceeding 1.5m | No. | Rate Only | | |
| | | | | | |
| | Total Carried to Collection | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | 12 | | |
| | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Pipe surrounds, of imported granular material, for the following pipe_ | | | | |
| | Not exceeding DN200mm | m | 30 | | |
| 12.2 | | | 00 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 6 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 2 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 13 | | |
| | Total Carried to Collection | | | | |
| | | | | | |
| | Bill No. 2 Collection | | | | |
| | Dece 9 | | | | |
| | Page 8 | | | | |
| | Page 8 | | | | |
| | Page 10 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL No. 4.3 : STORAGE RESERVOIR WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site slearance including trees, stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | Reservoir Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, acess ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc, painting and finishes; complete as specified and detailed in the drawings, of the following height and reservior capacities. | | | | |
| 2.1 | Height; 6.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | <u>Plastic Tanks</u> Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| 4 4.1 | <u>150-200 micron union/ compresion type clear uPVC Y- Screen Filter,</u> non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN100mm, PN10 | No. | 1 | | |
| 5 | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 1 | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|-----------|-------------|------------------|
| 6 | Landscaping and Walkways | | | | |
| 6.1 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 150 | | |
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 | Fences | | | | |
| | Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| | Gates | | | | |
| 7.2 | Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| | Total Carried to Collection | | | | |
| BILL N | o. 3 : STORAGE RESERVOIR WORKS | | - | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 3 Carried to Bill Summary | | | | |

| BILL No.4 : DISTRIBUTION NETWORK | |
|----------------------------------|--|
|----------------------------------|--|

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | <u>General Site Clearance</u> | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of | Item | 1 | | |
| | arising materials. | | | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN6 | m | 208 | | |
| 2.2 | OD90mm PN6 | m | 610 | | |
| | <u>OD110 to PN 6</u> | | | | |
| 2.3 | Depth not exceeding 1.5m | m | 1,670 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | 1 | | |
| 3.2 | OD75mm | No. | 1 | | |
| | Unequal tees | | | | |
| 3.3 | OD90 x 75mm | No. | 2 | | |
| 3.4 | OD90 x 63mm | No. | 1 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Couplers_ | | | | |
| 4.1 | OD90mm | No. | Rate Only | | |
| 4.2 | OD75mm | No. | Rate Only | | |
| 4.3 | OD63mm | No. | Rate Only | | |
| 5 | End caps | | | | |
| 5.1 | OD75mm | No. | Rate Only | | |
| 5.2 | OD63mm | No. | 9 | | |
| | | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|--|------------------|
| 6 | Valves and Penstocks | | | | |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 6.1 | OD110mm | No. | 3 | | |
| 6.2 | OD90mm | No. | 2 | | |
| 6.3 | OD63mm | No. | 2 | | |
| 7 | Washouts | | | | |
| - | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 7.1 | DN100mm | No. | 2 | | |
| 7.2 | DN75mm | No. | 3 | | |
| 7.4 | DN50mm | No. | 4 | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connector pipes and locakable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| 8.1 | DN50mm | No. | 9 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 108 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |
| | Total Carried to Collection | | | <u> </u> | |

SCHEME ID. 3.4: KAGOLOGOLO IN SERERE DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| BILL N Item No. | Io. 4 : DISTRIBUTION NETWORK Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------------|--|---------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 13 | | | | |
| | Page 14 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 4 Carried to Bill | Summary | | | |

CIVIL WORKS FOR OFF- FARM IRRIGATION INFRASTRUCTURE AND FACILITIES: LOT 3 EASTERN PROVINCE AREA SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT

| BII I | SUMMARY |
|-------|---------|
| | |

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles or site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 52 | | |
| 2.2 | Soft / decomposed rock soils | m ³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 64 | | |
| 2.5 | Soft / decomposed rock soils | m ³ | 16 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m ³ | 8 | | |
| 3 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Selected excavated material including topping with a 200mm thick layer of top | m ³ | 10 | | |
| 5 | vegetable soil. | m | 10 | | |
| | Total Carried to Collection | | l | <u> </u> | |

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|----------------|------|-------------|------------------|
| | Landscaping | | | | |
| 4 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 40 | | |
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882, maximum aggregate size; 20mm for | | | | |
| | the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m ³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float. | Item | 1 | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float and forming a 600 x 600mm opening for the inspection cover (MS). | ltem | 1 | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts or | | | | |
| | concrete base slab (MS) ; complete with water tight jointing and finishing | | | | |
| | works to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| • | the pipe and as shown in the drawings. | NL. | 0 | | |
| 8 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT

BILL No.1 : ABSTRACTION AND FLECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin and Pump Sump. | m | 8 | | · · · |
| 11 | Bellmouths Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all | | | | |
| | to PN 6 200 mm ND | No. | 1 | | |
| | PIPEWORK - FITTINGS AND VALVES Gate Valves: Hand Operated | NO. | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | | |
| | MISCELLANEOUS WORK | | | | |
| 13 | Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 14.1 | Steel grating Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | | |
| | Stone pitched Channel. | | | | |
| 16 | $3.0 	ext{ x } 1.5$ top x bottom width x $1.5 	ext{m}$ deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | | |
| 17 | Gabion boxes PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|-------------|--------|-------------|------------------|
| | ELECTRO-MECHANICAL WORKS | | | | X/ |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 5.5kW Submersible Pump Set with 7.5kW Pumping Inverter with Data Module, rated flow Q = 15m³/hr., rated head H = 85m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 1x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 1x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 ME6 | PV Protect 1000-15, SPD x 1 on incoming solar PV. Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | No. Item | 1 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P6/12 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0012D. | No. | 1 | | |
| ME9 | 6mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 6mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 100 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |

| BILL No.1 : ABSTRACTION AND ELECTROMECHANIC |
|---|
|---|

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | , <i>i</i> |
| ME13 | Earthing at solar array and borehole installation by 16mn ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| | Alarm System | | | | |
| ME16 | GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | Item | 1 | | |
| | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| | Pump Protection System | | | | |
| | Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No.OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs | | | | |
| | Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the following alignment: - | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 135 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |
| | Total Carried to Collection | | | | |

I

| BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WO | RKS |
|--|-----|
| | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Pump House_ | | | | |
| X5 | Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | <u>Fences</u> Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special erection</u> <u>methods in "marshy grounds"</u> to the Engineer's approval. | m | 50 | | |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | | |
| X7 | Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| X8 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| X9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection Io. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
| Item No. | Description | | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |
| - | IO. 2 : TRANSMISSION MAINS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| | PIPEWORKS - PIPES | | | | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT

| | IE ID. 3.5: KITUKILU IN BUGWERI DISTRICT | r | ı ı | 1 |
|-----|--|-----|-----------|---|
| 2 | Steel Pipes | | | |
| | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include | | | |
| | unions/sockets, all to ISO 2531 of the following sizes; | | | |
| | | | | |
| 2.1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | |
| | | | | |
| 3 | HDPE Pipes | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | |
| | trenches to depths not exceeding 1.5m | | | |
| 3.1 | OD160mm HDPE PN10 | m | Rate Only | |
| | | | | |
| 4 | uPVC Pipes | | | |
| | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | |
| | integral rubber ring socket joints laid in trenches | | | |
| | | | | |
| | OD160 to PN 10 | | | |
| 4.1 | Depth not exceeding 1.5m | m | 1,240 | |
| | | | | |
| | PIPEWORK - FITTINGS AND VALVES | | | |
| | | | | |
| | Cast or Spun Iron Pipe Fittings | | | |
| 5 | Bends | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | |
| | to PN 10, and of the following sizes | | | |
| 5.1 | DN160mm | No. | 4 | |
| | | | | |
| 6 | Bulk Flow Meters | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | |
| | following main pipe sizes | | | |
| 6.1 | DN15mm PN10 | No. | 1 | |
| | Total Carried to Collection | | • | |
| L | | | | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | \$ <i>1</i> |
| 7 | Equal Adapters | | | | |
| 7.1 | OD90 female adapter | No. | 2 | | |
| | | | | | |
| 8 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| | as specified. | | | | |
| 8.1 | DN150mm | No. | 2 | | |
| 9 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| 9.1 | DN150mm | No. | 2 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| 10.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover_ | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 10.2 | Depth not exceeding 1.5m | No. | 2 | | |
| | | | | | |
| | Total Carried to Collection | | 1 | <u> </u> | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT BILL No. 2 · TRANSMISSION MAINS

| No. Description Un No. Reinstatement Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes m 11 Not exceeding DN300mm m Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes m 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13.0 Concrete Stools and Thrust Blocks m 14 Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 0ther Pipework Ancillaries Marker Posts nr 14 Marker posts for pipes, gate valves, air valves, washouts nr 14 Marker posts for pipes, gate valves, air valves, washouts nr No. Description Un Bill No. 2 Collection Page 6 Page 7 Page 7 Page 7 | it Qty. | Rate (UGx.) | Amount |
|--|-----------|-------------|------------------|
| Roads Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes m 11 Not exceeding DN300mm m Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes m 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 14 Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes Not 13.1 Diameter not exceeding DN200mm Not 14 Marker Posts m 15.1 Diameter not exceeding DN200mm Not 16.1 Diameter not exceeding DN200mm Not 17.1 Diameter not exceeding DN200mm Not 18.1 Diameter not exceeding DN200mm Not 19.1 Diameter not exceeding DN200mm Not 19.1 Diameter not exceeding DN200mm Not 19.1 Diameter not exceeding DN200mm Not 19.1< | | | (UGx.) |
| Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes m 11 Not exceeding DN300mm m Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes m 12.1 Not exceeding DN200mm m 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13.1 Concrete Stools and Thrust Blocks m 14.3 Concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes 13.1 Diameter not exceeding DN200mm Nc 14 Marker Posts nr 14 Marker Posts nr 14 Marker posts for pipes, gate valves, air valves, washouts nr 14 Bescription Un 15 Bill No. 2 Collection Page 6 <td></td> <td></td> <td></td> | | | |
| for the following pipe sizes m 11 Not exceeding DN300mm m Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes m 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 12.4 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13.1 Concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes 13.1 Diameter not exceeding DN200mm Nc 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 011.1 No. 2 : TRANSMISSION MAINS n Item Description Un | | | |
| 11 Not exceeding DN300mm m Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes m 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 13.1 Diameter not exceeding DN200mm Not 13.1 Diameter not exceeding DN200mm Not 13.1 Diameter not exceeding DN200mm Not 14 Marker Posts m 15 Description Un 14 Description Un Pige 6 Bill No. 2 Collection Page 6 | | | |
| 11 Not exceeding DN300mm m Surrounds Pipe surrounds, of selected excavated granular material, for the following pipe sizes m 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 13.1 Diameter not exceeding DN200mm Not 13.1 Diameter not exceeding DN200mm Not 13.1 Diameter not exceeding DN200mm Not 14 Marker Posts m 15 Description Un 14 Description Un Pige 6 Bill No. 2 Collection Page 6 | | | |
| Pipe surrounds, of selected excavated granular material, for the Image: Selected excavated granular material, for the following pipe 12.1 Not exceeding DN200mm m 12.2 Pipe surrounds, of imported granular material, for the following pipe m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 13.1 Diameter not exceeding DN200mm Not 14 Marker Posts m 14 Marker posts for pipes, gate valves, air valves, washouts mr Bill No. 2 Collection Page 6 | Rate Only | 1 | |
| following pipe sizes m 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 14 Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes 13.1 Diameter not exceeding DN200mm Nc 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 0ther Pipework Ancillaries m Marker Posts n 14 Marker posts for pipes, gate valves, air valves, washouts nr No. Description Un Bill No. 2 Collection Page 6 | | | |
| 12.1 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 14 Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes Not 13.1 Diameter not exceeding DN200mm Not 14 Marker Posts n 15.1 Diameter not exceeding DN200mm Not 16.1 Diameter not exceeding DN200mm Not 17.1 Diameter not exceeding DN200mm Not 18.1 No. 2 Collection nr 19.1 Total Carried to Collection In 11.1 No. 2 Collection Page 6 Page 6 | | | |
| Pipe surrounds, of imported granular material, for the following pipe. m 12.2 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks. m 13 Concrete Stools and Thrust Blocks m 13 Concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes Not 13.1 Diameter not exceeding DN200mm Not 13.1 Other Pipework Ancillaries Marker Posts nr Marker Posts nr 14 Marker posts for pipes, gate valves, air valves, washouts nr Total Carried to Collection ILL No. 2 : TRANSMISSION MAINS Un Bill No. 2 Collection Page 6 | | | |
| 12.2 Not exceeding DN200mm m Pipe surrounds, of mass concrete, for the following pipe sizes m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 13 Concrete Grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 0ther Pipework Ancillaries Marker Posts n 14 Marker Posts n 14 No. 2 : TRANSMISSION MAINS un Bill No. 2 Collection Page 6 Page 6 | 150 | | |
| Pipe surrounds, of mass concrete, for the following pipe sizes m 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 14 Mass concrete grade C15 thrust blocks for pipes and fittings, volume Nc 0.1-0.2 m³, for the following pipe sizes Nc 13.1 Diameter not exceeding DN200mm Nc 0ther Pipework Ancillaries Marker Posts nr 14 Marker posts for pipes, gate valves, air valves, washouts nr Total Carried to Collection Bill No. 2 : TRANSMISSION MAINS Image 6 | | | |
| 12.3 Not exceeding DN200mm m 13 Concrete Stools and Thrust Blocks m 13 Concrete Stools and Thrust Blocks m 13 Thrust Blocks m 13 Mass concrete grade C15 thrust blocks for pipes and fittings, volume n 0.1-0.2 m³, for the following pipe sizes n 13.1 Diameter not exceeding DN200mm Nc 0ther Pipework Ancillaries nr Marker Posts n 14 Marker Posts nr BILL No. 2 : TRANSMISSION MAINS Un Bill No. 2 Collection Page 6 | 180 | | |
| 13 Concrete Stools and Thrust Blocks 13 Thrust Blocks Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes 13.1 Diameter not exceeding DN200mm 13.1 Diameter not exceeding DN200mm 14 Marker Posts 14 Marker Posts 15 Total Carried to Collection BILL No. 2 : TRANSMISSION MAINS Item No. Description Un Bill No. 2 Collection Page 6 | | | |
| Thrust Blocks Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m³, for the following pipe sizes 13.1 Diameter not exceeding DN200mm No 14 Marker Posts nr Total Carried to Collection Bill No. 2 Collection Page 6 Page 6 | 160 | | |
| Mass concrete grade C15 thrust blocks for pipes and fittings, volume No 13.1 Diameter not exceeding DN200mm No 13.1 Other Pipework Ancillaries No 14 Marker Posts nr 15.1 Total Carried to Collection Intervention 14 Description Un Bill No. 2 Collection Page 6 | | | |
| 13.1 0.1-0.2 m³, for the following pipe sizes Diameter not exceeding DN200mm No 13.1 0ther Pipework Ancillaries Marker Posts No 14 Marker posts for pipes, gate valves, air valves, washouts nr 14 Marker posts for pipes, gate valves, air valves, washouts nr SILL No. 2 : TRANSMISSION MAINS Image 100 mm Un Bill No. 2 Collection Page 6 | | | |
| 13.1 Diameter not exceeding DN200mm No Other Pipework Ancillaries Marker Posts Marker Posts 14 Marker posts for pipes, gate valves, air valves, washouts nr Total Carried to Collection SILL No. 2 : TRANSMISSION MAINS Item No. Description Un Bill No. 2 Collection Page 6 | | | |
| Other Pipework Ancillaries Marker Posts Marker posts for pipes, gate valves, air valves, washouts Total Carried to Collection SILL No. 2 : TRANSMISSION MAINS Item No. Description Bill No. 2 Collection Page 6 | | | |
| Marker Posts nr 14 Marker Posts nr 14 Marker posts for pipes, gate valves, air valves, washouts nr Total Carried to Collection SILL No. 2 : TRANSMISSION MAINS Item No. Description Un Bill No. 2 Collection Page 6 | o. 8 | | |
| 14 Marker posts for pipes, gate valves, air valves, washouts nr Total Carried to Collection SILL No. 2 : TRANSMISSION MAINS tem No. Description Un Bill No. 2 Collection Page 6 | | | |
| Total Carried to Collection ILL No. 2 : TRANSMISSION MAINS tem No. Description Un Bill No. 2 Collection Page 6 | | | |
| ILL No. 2 : TRANSMISSION MAINS tem No. Description Bill No. 2 Collection Page 6 | 46 | | |
| tem Description Un Bill No. 2 Collection Page 6 | | | |
| No. Description On Bill No. 2 Collection Page 6 | | | |
| Page 6 | it Qty. | Rate (UGx.) | Amount (UGx.) |
| Page 6 | | | |
| Ŭ | | | |
| Page 7 | | | |
| | | | |
| | | | |
| Page 8 Total Bill No. 2 Carried to Bill Summary | | | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT BILL No. 4.3 : STORAGE RESERVOIR WORKS

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site slearance including trees, stumps and disposal of arising materials. | ltem | 1 | | |
| | Reservoir Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, acess ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc, painting and finishes; complete as specified and detailed in the drawings, of the following height and reservior capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| | Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN75mm, PN10 | No. | 1 | | |
| Ð | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] | | | | |
| | DN75mm, PN10 | No. | 1 | | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| No. Description Unit Qty. Rate (UGx.) (UGx.) 6 Landscaping and Walkways m ² 150 (UGx.) 6.1 Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. m ² 150 Rate (UGx.) (UGx.) 6.2 500 x 500 x 50m precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. No. Rate Only Rate Only 7 Fences m 60 60 60 60 7.1 Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. M 60 1 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 1 Provision and Placing of Concrete Ordinary Designed Mix Concrete. No. 1 1 1 8 Designed mix concrete. to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m³ 2 1 8.1 Grade C15 m³ 2 1 1 Total Carried to Collection B | | o. 3 : STORAGE RESERVOIR WORKS | | | 1 | |
|---|-------------|---|----------------|-----------|-------------|------------------|
| 6.1 Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. m ² 150 6.2 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. No. Rate Only 7 Fences m 60 7.1 Galvarnised wire Gauge 10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. m 60 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 Provision and Placing of Concrete Ordinary Designed Mix Concrete No. 1 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m ³ 2 8.1 Grade C15 m ³ 2 Entrume Total Carried to Collection Bill No. 3 Collection Bill No. 3 Collection Page 9 | ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| excavated topsoil and preparation of surfaces. Image: Construct and the second sec | | | 0 | | | |
| Image: Constraint of the second of the se | 6.1 | | m² | 150 | | |
| 7.1 Galvamised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. m 60 1 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 1 7.2 Provision and Placing of Concrete Ordinary Designed Mix Concrete No. 1 1 8 Designed mix concrete. to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m ³ 2 8.1 Grade C15 m ³ 2 1 Total Carried to Collection Bill No. 3 Collection No. Description Unit Qty. Rate (UGx.) Amount (UGx.) Page 9 | 6.2 | method" between the gate, pump house and solar array in one raw, | No. | Rate Only | | |
| 7.1 Galvamised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. m 60 1 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 1 7.2 Provision and Placing of Concrete Ordinary Designed Mix Concrete No. 1 1 8 Designed mix concrete. to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m ³ 2 8.1 Grade C15 m ³ 2 1 Total Carried to Collection Bill No. 3 Collection No. Description Unit Qty. Rate (UGx.) Amount (UGx.) Page 9 | 7 | Fences | | | | |
| 7.2 Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. No. 1 1 Provision and Placing of Concrete Ordinary Designed Mix Concrete No. 1 1 1 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: 1 1 1 8.1 Grade C15 m ³ 2 1 EllLL No. 3 : STORAGE RESERVOIR WORKS Item No. Unit Qty. Rate (UGx.) Amoun (UGx.) Page 9 Sill No. 3 Collection I I I I | | Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of | m | 60 | | |
| the fence. Provision and Placing of Concrete Ordinary Designed Mix Concrete 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: Image: Concrete 8.1 Grade C15 m ³ 2 Total Carried to Collection BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Bill No. 3 Collection Image 9 Image 9 | | | | | | |
| Ordinary Designed Mix Concrete Image: Concrete in the concrete i | 7.2 | | No. | 1 | | |
| 8 Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: Image 2 Image 2 8.1 Grade C15 m ³ 2 Image 2 Total Carried to Collection BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Bill No. 3 Collection Image 9 Image 9 Image 9 Image 9 | | | | | | |
| BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: m3 L | | ordinary Designed Mix Concrete | | | | |
| 8.1 Grade C15 m ³ 2 Total Carried to Collection BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Amoun (UGx.) Bill No. 3 Collection Page 9 I I I I I | 8 | | | | | |
| Item No. Item Sill No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Page 9 | | following grades: | | | | |
| BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Amoun (UGx.) Bill No. 3 Collection Page 9 Image | 8.1 | Grade C15 | m ³ | 2 | | |
| BILL No. 3 : STORAGE RESERVOIR WORKS Item No. Description Unit Qty. Rate (UGx.) Amoun (UGx.) Bill No. 3 Collection Page 9 Image | | Total Carried to Collection | | | | |
| No. Unit Qty. Rate (UGx.) Bill No. 3 Collection Page 9 | BILL N | | | | | |
| Page 9 | | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | | Bill No. 3 Collection | | | | |
| Page 10 | | Page 9 | | | | |
| | | Page 10 | | | | |
| | | | | | | |
| | | | | | | |
| Total Bill No. 3 Carried to Bill Summary | | Total Bill No. 2 Carried to Bill Summary | | | | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of arising materials. | | | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN6 | m | 345 | | |
| 2.2 | OD75mm PN6 | m | 485 | | |
| 2.3 | OD90mm PN6 | m | 1,120 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD63mm | No. | 1 | | |
| | Unequal tees | | | | |
| 3.2 | OD90 x 75mm | No. | 1 | | |
| 3.3 | OD90 x 63mm | No. | 1 | | |
| 3.4 | OD75 x 63mm | No. | 1 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Reducing Couplers/ Unions | | | | |
| 4.1 | OD90 x 63mm | No. | Rate Only | | |
| 4.2 | OD75 x 63mm | No. | Rate Only | | |
| 4.3 | OD63mm | No. | Rate Only | | |
| 5 | End caps | _ | | | |
| 5.1 | OD63mm | No. | 12 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|-----------|-------------|------------------|
| 6 | Valves and Penstocks | | | | |
| | Air Vaves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 5.1 | OD75mm | No. | 2 | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 7.1 | DN75mm | No. | 3 | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connector pipes and locakable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| 3.1 | DN50mm | No. | 12 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 68 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |

| SCHEME ID. 3.5: KITUKILO IN BUGWERI DISTRICT |
|--|
| BILL No. 4 : DISTRIBUTION NETWORK |

| em No. Description | | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------------|----------------------------------|---------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 4 Carried to Bill | Summary | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabbing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | Item | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism silt basin and reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 4.0m including forming earth bands around the reservoir banks with the excavated material as per the drawings to fair profiles to receive grassing and/ or disposing the excavated material on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 1555 | | |
| 2.2 | Soft / decomposed rock soils | m ³ | 30 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 3.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 150 | | |
| 2.5 | Soft / decomposed rock soils | m ³ | 6 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m ³ | 8 | | |
| | Filling | | | | |
| | Structures | | | | |
| | Filling to precast concrete sump structure by methods specified and to depths | | | | |
| | as shown in the drawings with the following materials: - | | | | |
| 3 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 10 | | |
| | Total Carried to Collection | | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT BILL SUMMARY

| BILL SUMMARY BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | | | |
|---|--|------|----------|-------------|------------------|--|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) | |
| 4 | Landscaping Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 2725 | | | |
| | ELECTRO-MECHANICAL WORKS | | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | | |
| ME1 | 11.0kW Submersible Pump Set with 15kW Pumping Inverter with Data Module, rated flow Q = 15 m ³ /hr., rated head H = 150m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump Fnd | No. | 1 | | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | ltem | 1 | | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | | 1 | | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | ltem | 1 | | | |
| ME7 | PV Combiner | No. | 1 | | | |
| ME7a | Pressure Switch and Gauge - P6/12 | No. | 1 | | | |
| ME8 | Sinewave filter - SWAP0022D. | No. | 1 | | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 100 | | | |
| ME10a | 6mm ² UV Single Cable. | m | 60 | | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | | |
| ME11a | Adapter box | No. | 1 | | | |
| | Total Carried to Collection | | <u> </u> | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| BILL SUMMARY BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | | | | |
|---|--|------|-----------|-------------|------------------|--|--|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | | | |
| | Earthing and Lightening Protection | | | | | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | ltem | 1 | | | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | | | |
| | MISCELLANEOUS WORKS | | | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | | | |
| | Kerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the following alignment: - | | | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 220 | | | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | Rate Only | | | | |
| | Total Carried to Collection | | | | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| BILL N | 0.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
|-------------|---|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| X5 | Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | Fences Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, including special erection methods in "marshy grounds" to the Engineer's approval. | m | 80 | | |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 120 | | |
| X7 | Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| X8 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| X9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | ltem | Rate Only | | |
| XXX | Stone Pitching. 250mm minimum thick grouted stone masonry jointed in cement : sand (1:4) motar as detailed in the drawing. | m² | 125 | | |
| | Total Carried to Collection Bill No. 1 Collection | | | | |
| | | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | 1 | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| BILL N | BILL No. 2 : TRANSMISSION MAINS | | | | | | | |
|-------------|--|------------|-----------|-------------|------------------|--|--|--|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) | | | |
| | DEMOLITION AND SITE CLEARANCE | | | | | | | |
| | General Site Clearance | | | | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | | | | |
| | route, including felling trees, grabing tree stumps and disposal of | | | | | | | |
| | arising materials. | | | | | | | |
| | | | | | | | | |
| 2 | <u>PIPEWORKS - PIPES</u> Steel Pipes | | | | | | | |
| 2 | Steer Pipes | | | | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include | | | | | | | |
| | unions/sockets, all to ISO 2531 of the following sizes; | | | | | | | |
| | | | | | | | | |
| 2.1 | DN50mm, in trenches; depths not exceeding 1.5m | m | 12 | | | | | |
| | (1995 D) | | | | | | | |
| 3 | HDPE Pipes | | | | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | | | | |
| | trenches to depths not exceeding 1.5m | | 135 | | | | | |
| 3.1 | OD63mm HDPE PN10 | m | 346 | | | | | |
| 0.1 | | | 010 | | | | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | | | | |
| | | | | | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | | | | |
| 4 | Bends | | | | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | | | | |
| | to PN 10, and of the following sizes | NI- | Rate Only | | | | | |
| 4.1 4.2 | DN40mm DN50mm | No. No. | 4 | | | | | |
| 4.2 | DNJOHIH | INO. | 4 | | | | | |
| 5 | Bulk Flow Meters | | | | | | | |
| • | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | | | | |
| | following main pipe sizes | | | | | | | |
| | | | | | | | | |
| 5.1 | DN50mm PN10 | No. | 1 | | | | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | | | | |
| | | | | | | | | |
| 6 | Equal Adapters | | | | | | | |
| 6.1 | OD63 female adapter | No. | 2 | | | | | |
| | | | | | | | | |
| | Total Carried to Collection | | | | | | | |
| - | IO. 2 : TRANSMISSION MAINS | | | | Amount | | | |
| Item No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) | | | |
| 110. | | | | | (00.) | | | |
| 7 | Valves and Penstocks | | | | | | | |
| | <u>Air Valves</u> | | | | | | | |
| • | | • | • | . 1 | | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT BILL SUMMARY

| DILL V | SUMMARY | | | | | |
|--------|--|------|--------------|--|--|--|
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | | |
| | as specified. | | | | | |
| | | | | | | |
| 7.1 | DN50mm | No. | Rate Only | | | |
| | | | | | | |
| 8 | Washouts | | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | | |
| | compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | | |
| | PN10 including valve surface box to detail. | | | | | |
| | | | | | | |
| 8.1 | DN50mm | No. | Rate Only | | | |
| | | | | | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | | |
| | Other Chambers | | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | | |
| | of the following depths | | | | | |
| 9.1 | Depth not exceeding 1.5m | No. | Rate Only | | | |
| 5.1 | Depth not exceeding 1.5m | 140. | i lato o ing | | | |
| | Valve Surface Boxes | | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | | |
| | down pipe, complete as specified and to the following depths | | | | | |
| 9.2 | Depth not exceeding 1.5m | No. | Rate Only | | | |
| | | | | | | |
| | Reinstatement | | | | | |
| | Roads | | | | | |
| | | | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | | |
| 40 | for the following pipe sizes | | Data Only | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | | |
| | Total Carried to Collection | | | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| ltem | No. 2 : TRANSMISSION MAINS Description | Unit | Qty. | Rate (UGx.) | Amount |
|------|--|------|------|-------------|--------|
| No. | | onit | Qty. | | (UGx.) |
| | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the following pipe sizes | | | | |
| | | | | | |
| 11.1 | Not exceeding DN200mm | m | 15 | | |
| | | | - | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| | | | | | |
| 11.2 | Not exceeding DN200mm | m | 20 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| | | | | | |
| 11.3 | Not exceeding DN200mm | m | 40 | | |
| | | | | | |
| 12 | Concrete Stools and Thrust Blocks | | | | |
| | Thread Disales | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 12.1 | Diameter not exceeding DN200mm | No. | 1 | | |
| 12.1 | | INU. | I | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 13 | Marker posts for pipes, gate valves, air valves, washouts | nr | 20 | | |
| | | | | | |
| | Total Carried to Collection Io. 2 : TRANSMISSION MAINS | | | | |
| Item | | | _ | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | | | | | |
| | Bill No. 2 Collection | | | | |
| | | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | raye r | | | | |
| | Page 8 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill Summary | | | | |

BILL SUMMARY BILL No. 2 : TRANSMISSION MAINS

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| BILL | Io. 4.3 : STORAGE RESERVOIR WORKS | T | | 1 | |
|-------------|---|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site slearance including trees, stumps and disposal of arising materials. | Item | 1 | | |
| 2 | Reservoir <u>Erect a welded steel tower for reservoir support complete, include</u> <u>foundations, columns, beams, acess ladders, plates, braces, walkway/</u> <u>guardrail, base plates, anchor bolts, nuts, washers, etc, painting and</u> <u>finishes; complete as specified and detailed in the drawings, of the</u> <u>following height and reservior capacities.</u> | | | | |
| 2.1 | Height; 3.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | <u>Plastic Tanks</u> Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| 4 4.1 | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN75mm, PN10 | No. | 1 | | |
| 5 | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 1 | | |
| | Total Carried to Collection | | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT BILL SUMMARY

| BILL N | Io. 3 : STORAGE RESERVOIR WORKS | | | | |
|-------------|--|----------------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 6 | Landscaping and Walkways | | | | |
| 6.1 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m ² | 150 | | |
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 | Fences | | | | |
| 7.1 | Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| | | | | | |
| | Total Carried to Collection | | | | |
| | Io. 3 : STORAGE RESERVOIR WORKS | | 1 | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | Total Bill No. 3 Carried to Bill Summary | | | | |

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

| BILL N Item | Io.4 : DISTRIBUTION NETWORK | | | <u>г</u> | Amount |
|----------------|---|------|-----------|-------------|--------|
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN6 | m | 82 | | |
| 2.2 | OD75mm PN6 | m | Rate Only | | |
| 2.3 | OD90mm PN6 | m | 100 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | Rate Only | | |
| 3.2 | OD75mm | No. | Rate Only | | |
| 3.3 | OD63mm | No. | Rate Only | | |
| | Unequal tees | | | | |
| 3.4 | OD90 x 75mm | No. | Rate Only | | |
| 3.5 | OD90 x 63mm | No. | 2 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.1 | OD90mm | No. | Rate Only | | |
| 4.2 | OD75mm | No. | Rate Only | | |
| 4.3 | OD63mm | No. | Rate Only | | |
| 5 | End caps | | | | |
| 5.1 | OD75mm | No. | Rate Only | | |
| 5.2 | OD63mm | No. | 2 | | |
| | Total Carried to Collection | | | i | |

٦

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT BILL SUMMARY

| BILL No.4 : DISTRIBUTION NETWORK | | | | | | |
|----------------------------------|--|------|-----------|-------------|------------------|--|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) | |
| 6 | Valves and Penstocks | | | | | |
| | Air Vaves | | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | | |
| | as specified. | | | | | |
| 6.1 | OD90mm | No. | Rate Only | | | |
| 6.2 | OD75mm | No. | Rate Only | | | |
| 6.3 | OD63mm | No. | Rate Only | | | |
| 7 | Washouts | | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | | |
| 7.1 | DN75mm | No. | Rate Only | | | |
| 7.2 | DN65mm | No. | Rate Only | | | |
| 7.3 | DN50mm | No. | Rate Only | | | |
| 8 | Farm Gate Connections | | | | | |
| - | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | | |
| | cap complete with connector pipes and locakable chamber as detailed | | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | | |
| | to PN10: - | | | | | |
| 8.1 | DN50mm | No. | 2 | | | |
| | Other Pipework Ancillaries | | | | | |
| | Marker Posts | | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 5 | | | |
| 5 | | | Ŭ | | | |
| | Reinstatement | | | | | |
| | Roads | | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | | |
| | for the following pipe sizes | | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | | |
| | Total Carried to Collection | | | | | |
| | | | | | | |

٦

SCHEME No. 3.6: LUWANULA IN MAYUGE DISTRICT

BILL SUMMARY BILL No. 4 : DISTRIBUTION NETWORK

| ltem No. | o. 4 : DISTRIBUTION NETWORK Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 4 Carried to Bill Summary | | | · | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles or site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 52 | | |
| 2.2 | Soft / decomposed rock soils | m ³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 48 | | |
| 2.5 | Soft / decomposed rock soils | m ³ | 12 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m ³ | 8 | | |
| | Filling | | | | |
| | Structures | | | | |
| | Filling to precast concrete sump structure by methods specified and to depths | | | | |
| 3 | as shown in the drawings with the following materials: - Selected excavated material including topping with a 200mm thick layer of top, vegetable soil. | m³ | 10 | | |
| | Landscaping | | | | |
| 4 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 40 | | |
| | Total Carried to Collection | | 1 | <u> </u> | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882, maximum aggregate size; 20mm for the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m ³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float. | ltem | 1 | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float and forming a 600 x 600mm opening for the inspection cover (MS). | ltem | 1 | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts or concrete base slab (MS) ; complete with water tight jointing and finishing works to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| • | the pipe and as shown in the drawings. | N | 0 | | |
| 8 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin | m | 8 | | |
| | and Pump Sump. | | | | |
| | Total Carried to Collection | | 1 | <u> </u> | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| 11 | Bellmouths Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 6 200 mm ND | No. | 1 | | |
| | PIPEWORK - FITTINGS AND VALVES Gate Valves: Hand Operated | | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | | |
| | MISCELLANEOUS WORK | | | | |
| 13 | Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 14.1 | Steel grating Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | | |
| | Stone pitched Channel. | | | | |
| 16 | 3.0×1.5 top x bottom width x 1.5m deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | | |
| 17 | Gabion boxes PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | | |
| | Total Carried to Collection | | | | |

-

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT

| BILL N | Io.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
|---------------|--|--------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 7.5kW Submersible Pump Set with 11.0kW Pumping Inverter with Data Module, rated flow Q = 20 m^3 /hr., rated head H = 55m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Aarray in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 ME10a | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. 6mm ² UV Single Cable. | m m | 175 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | ltem | 1 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| ME16 | Alarm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | ltem | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | ltem | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No.OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | <i>Kerbs</i> <u>Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the</u> <u>following alignment: -</u> | | 135 | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |
| | | | | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | Pump House | | | | (00)) |
| X5 | Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | Fences Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special erection</u> <u>methods in "marshy grounds"</u> to the Engineer's approval. | m | 50 | | |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | | |
| X7 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| X8 | <u>Training of Operator's staff</u> Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| X9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | ltem | Rate Only | | |
| | Total Carried to Collection | | | | |
| ILL N | o. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
| tem No. | Description | | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|------|------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | ltem | 1 | | |
| 2 | <u> PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| <u>2</u> .1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | <u>HDPE Pipes</u> HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD90mm HDPE PN10 | m | 506 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 4 I.1 | Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN 10, and of the following sizes DN75mm | No. | 4 | | |
| 5 | Bulk Flow Meters Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc and all other fittings to make the installation complete, as specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| ö.1 | <u>following main pipe sizes</u> DN75mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 6 5.1 | Equal Adapters OD75 female adapter | No. | 2 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No. 2 : TRANSMISSION MAINS

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|------|-------------|------------------|
| 7 | Valves and Penstocks <u>Air Valves</u> Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance pieces, and all fittings necessary to make the installation on pipes of the following sizes, all to PN10, include chamber as specified. | | | | |
| 7.1 | DN75mm | No. | 2 | | |
| 8 | Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall structure and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 8.1 | DN75mm <u>PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u> Other Chambers | No. | 3 | | |
| | Masonry air valve chamber, complete as specified in the drawings, and of the following depths | | | | |
| 9.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | Valve Surface Boxes <u>Valve surface box for DN100 - DN300 valves</u> , with lockable cover <u>securely attached to main body of surface box by chain or bolt, include</u> <u>down pipe</u> , complete as specified and to the following depths | | | | |
| 9.2 | Depth not exceeding 1.5m | No. | 1 | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | 24 | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 11.1 | Not exceeding DN200mm | m | Rate Only | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 11.2 | Not exceeding DN200mm | m | 70 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 11.3 | Not exceeding DN200mm | m | 12 | | |
| 12 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 12.1 | Diameter not exceeding DN200mm | No. | 4 | | |
| | Other Pipework Ancillaries | | | | |
| 13 | <i>Marker Posts</i> Marker posts for pipes, gate valves, air valves, washouts | nr | 40 | | |
| 10 | | | | | |
| | Total Carried to Collection | | | | |
| tem | IO. 2 : TRANSMISSION MAINS | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | | | | | |
| | 1 | 1 | 1 | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | (00.) |
| | General Site Clearance | | | | |
| | General site slearance including trees, stumps and disposal of arising | Item | 1 | | |
| 1 | materials. | nom | • | | |
| | | | | | |
| 2 | Reservoir | | | | |
| - | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings , of the | | | | |
| | following height and reservior capacities. | | | | |
| | | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| | | | | | |
| 3 | Plastic Tanks | | | | |
| - | Supply and install a vertical cylindrical Rotational Moulded Polyethylene | | | | |
| | Water Storage Tank to DUS 1560: 2013 as manufactured by Ms | | | | |
| | Gentex Ltd. / Crest Tanks or any other approved complete with a | | | | |
| | lockable access man ways, inlet/ riser, ball float valve, overflow with | | | | |
| | insect screen, float type water level indicator and outlet/ down pipe with | | | | |
| | a strainer, washout and overflow connection, including interconnecting | | | | |
| | pipe work and fittings, as detailed in the drawings, supply specifications | | | | |
| | and of the following capacity. | | | | |
| | | | | | |
| 8.1 | 10m ³ | No. | 4 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, | | | | |
| | non corrosive, complete with all fittings, installation on the following GI | | | | |
| 4 | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| | | | | | |
| 1.1 | element and seal ring :- DN75mm, PN10 | No. | 1 | | |
| | | NO. | 1 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non | | | | |
| | corrosive, complete with all fittings, installation on the following GI pipe | | | | |
| 5 | sizes, pressure ratings and supply of a pair of replacement disk | | | | |
| | element and seal ring :- | | | | |
| | [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 1 | | |
| | | | | | |
| 6 | Landscaping and Walkways | | | | |
| 6.1 | Turfing for lawns inside fenced off compound; including filling with | m² | 150 | | |
| | excavated topsoil and preparation of surfaces. | | | | |
| | Total Carried to Collection | | | | |
| | Io. 3 : STORAGE RESERVOIR WORKS | | | Г Г | Amount |
| em Io. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone | No. | Rate Only | | |
| | method" between the gate, pump house and solar array in one raw, | | | | |
| | laid onto and including 200mm thick murram fill. | | | | |
| | | | | | |
| 7 | Fences | | | | |

| SCHEN | IE ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT | | | | |
|--------|---|----------------|------|-------------|---------|
| 7.1 | Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of | m | 60 | | |
| | barbed wire on top; height 2-2.5m. | | | | |
| | Catao | | | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match | No. | 1 | | |
| 1.2 | the fence. | NO. | I | | |
| | | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Designed Mix Concrete | | | | |
| | | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to | | | | |
| | BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| | Tonowing grades. | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| | | | | | |
| | Total Carried to Collection | | | | |
| BILL N | o. 3 : STORAGE RESERVOIR WORKS | | | | America |
| | Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | Description | Unit | QLy. | | (UGx.) |
| No. | | Unit | Qty. | | (UGx.) |
| No. | Bill No. 3 Collection | Unit | uty. | | (UGx.) |
| No. | | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | Unit | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | Unit | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | Unit | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | Unit | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | | uty. | | (UGx.) |
| No. | Bill No. 3 Collection Page 11 | | uty. | | (UGx.) |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | <u>General Site Clearance</u> | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN10 | m | 400 | | |
| 2.3 | OD90mm PN10 | m | 110 | | |
| 2.5 | OD110mm uPVC PN10 PIPEWORK - FITTINGS AND VALVES | m | 728 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | 2 | | |
| | Unequal tees | | | | |
| 3.2 | OD90 x 75mm | No. | Rate Only | | |
| 3.3 | OD90 x 63mm | No. | Rate Only | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.1 | OD90mm | No. | 1 | | |
| 5 | End caps | | | | |
| 5.1 | OD75mm | No. | Rate Only | | |
| 5.2 | OD63mm | No. | 8 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| 6 | Valves and Penstocks | | | | |
| | <u>Air Vaves</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 6.1 | OD90mm | No. | 1 | | |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 7.1 | DN50mm | No. | 2 | | |
| 7.2 | DN40mm | No. | Rate Only | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connector pipes and locakable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| 8.1 | DN50mm | No. | 8 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 22 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | 48 | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 4.1: NAMUNKANAGA IN IGANGA DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| No. Description | | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---------------------------------|-----------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 4 Carried to Bil | I Summary | | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION. BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION. BILL No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|----------------|-----------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabbing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form trapezoidal prism reservoir in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | m ³ | 520 | | |
| 2.2 | Ditto but in marshy soils | m ³ | 296 | | |
| 2.3 | Ditto but in soft / decomposed rock soils | m ³ | 136 | | |
| 2.4 | Excavation to form trapezoidal drain in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | m ³ | 345 | | |
| 2.5 | Ditto but in marshy soils | m ³ | 255 | | |
| 2.6 | Ditto but in soft / decomposed rock soils | m ³ | 165 | | |
| 3.1 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m³ | Rate Only | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | Rate Only | | |
| 4 | Single layer of geotextile laid to manufacturer's specifications | m² | Rate Only | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces; 240n ² at Intake Site and 800m ² at Pump Station. | m² | 1,050 | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION. BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|------|-------------|------------------|
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 7.5kW Submersible Pump Set with 11.0kW Pumping Inverter with Data Module, rated flow Q = 20 m ³ /hr., rated head H = 55m total head; set to not more than $\underline{5m}$ below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| ME2 | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | ltem | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Array in Item 2 above as per drawings, including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | ltem | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P5/8 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0017D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 200 | | |
| /IE10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | ltem | 1 | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION. BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| Earthing and Lightening Protection Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a nanhole with pure copper electrodes and all accessories to attain an earth esistance of less than 1 ohm ightning Protection at solar array and borehole installation consisting of 5x3mm copper tape, air terminal, test block and earth electrode in a manhole nd all accessories. OW Solar security light and battery complete with 6m steel pole and lockable attery box Narm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors er array. | Sum Sum No. | 1 | | |
|--|---|--|--|--|
| hanhole with pure copper electrodes and all accessories to attain an earth esistance of less than 1 ohm ightning Protection at solar array and borehole installation consisting of 5x3mm copper tape, air terminal, test block and earth electrode in a manhole nd all accessories. 0W Solar security light and battery complete with 6m steel pole and lockable attery box Narm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors | Sum No. | 1 | | |
| 5x3mm copper tape, air terminal, test block and earth electrode in a manhole nd all accessories. 0W Solar security light and battery complete with 6m steel pole and lockable attery box Narm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors | No. | | | |
| attery box Narm System GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors | | 5 | | |
| GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors | | | | |
| | Item | 1 | | |
| GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor or the pump protection as instructed by the Engineer. | ltem | 1 | | |
| NISCELLANEOUS WORKS | | | | |
| Pump Protection System /ertical pipe pump stilling tube/ anti-vandal protection sleeve including a oating suction assembly structure to detail as per Drawing No.OIS/ABS/002a r OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| Cerbs Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the ollowing alignment: - | | | | |
| straight or curved to a radius exceeding 12 m | m | 70 | | |
| 5mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a gauge 500 polythene sheet. | m² | 220 | | |
| 50mm diameter reinforced concrete pipe/ culvert | m | Rate Only | | |
| | | | | |
| | OIS/ABS/003, including 1.5x1.5x0.3m support base. erbs re-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the llowing alignment: - traight or curved to a radius exceeding 12 m form thick of 12 - 25mm size machine crushed aggregate cover under the blar Array laid onto a gauge 500 polythene sheet. 50mm diameter reinforced concrete pipe/ culvert | OIS/ABS/003, including 1.5x1.5x0.3m support base. erbs re-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the llowing alignment: - traight or curved to a radius exceeding 12 m form thick of 12 - 25mm size machine crushed aggregate cover under the plar Array laid onto a gauge 500 polythene sheet. | POIS/ABS/003, including 1.5x1.5x0.3m support base. erbs re-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the llowing alignment: - traight or curved to a radius exceeding 12 m traight or curved to a radius exceeding 12 m form thick of 12 - 25mm size machine crushed aggregate cover under the olar Array laid onto a gauge 500 polythene sheet. 50mm diameter reinforced concrete pipe/ culvert m Rate Only | OIS/ABS/003, including 1.5x1.5x0.3m support base. erbs re-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m² to the llowing alignment: - traight or curved to a radius exceeding 12 m form thick of 12 - 25mm size machine crushed aggregate cover under the olar Array laid onto a gauge 500 polythene sheet. 50mm diameter reinforced concrete pipe/ culvert m Rate Only |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION. BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Pump House | | | | |
| X5 | Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| | Fences | | | | |
| X6a | Galvanized wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special erection</u> <u>methods in "marshy grounds"</u> to the Engineer's approval. | m | 80 | | |
| X6b | Galvanized wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 120 | | |
| | Gates | | | | |
| X7 | Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| | Training of Operator's staff | | | | |
| X8 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X9 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection | | | | |
| | o. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | 1 | | |
| ltem No. | Description | | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION.

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|-------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of arising materials. | Item | 1 | | |
| 2 | <u>PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| .1 | Galvanised steel pipes with threaded joints, include unions/sockets, all to ISO 2531 and to PN10, laid in trench of the following sizes and | m | 12 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| .1 | OD75mm HDPE PN10 | m | 1,010 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 4 | <u>Cast or Spun Iron Pipe Fittings</u> <i>Bends</i> Galvanized iron threaded socket 45° bends, EN 10242:1995, all to PN | | 135 | | |
| .1 | <u>10, and of the following sizes</u> DN100mm | No. | 4 | | |
| 5 | Bulk Flow Meters Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc. and all other fittings to make the installation complete, as specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| .1 | following main pipe sizes DN100mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 6 | Equal Adapters | | | | |
| 5.1 | OD75female adapter | No. | 2 | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION.

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|------|-------------|------------------|
| 7 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| '.1 | DN65mm | No. | 3 | | |
| 8 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings ; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| .1 | DN75mm | No. | 4 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| 9.1 | Depth not exceeding 1.5m | No. | 3 | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| .1 | Depth not exceeding 1.5m | No. | 4 | | |
| | Reinstatement | | | | |
| 10 | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 0.1 | Not exceeding DN300mm | m | 36 | | |
| 11 | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 1.1 | Not exceeding DN200mm | m | 80 | | |
| | Total Carried to Collection | | | <u> </u> | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION. BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 1.2 | Not exceeding DN200mm | m | 350 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 11.3 | Not exceeding DN200mm | m | 60 | | |
| 12 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 12.1 | Diameter not exceeding DN200mm | No. | 6 | | |
| | Other Pipework Ancillaries | | | | |
| 40 | Marker Posts | N | 10 | | |
| 13 | Marker posts for pipes, gate valves, air valves, washouts. Total Carried to Collection | No. | 40 | <u> </u> | |
| ILL N | lo. 2 : TRANSMISSION MAINS | | | ļ | |
| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION. BILL No. 3 : STORAGE RESERVOIR WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance including trees, stumps and disposal of arising | Item | 1 | | |
| • | materials. | | | | |
| 2 | Reservoir | | | | |
| | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, access ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc., painting and | | | | |
| | finishes; complete as specified and detailed in the drawings , of the | | | | |
| | following height and reservoir capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks | | | | |
| | Supply and install a vertical cylindrical Rotational Moulded Polyethylene | | | | |
| | Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. | | | | |
| | Gentex Ltd. / Crest Tanks or any other approved complete with a | | | | |
| | lockable access man ways, inlet/ riser, ball float valve, overflow with | | | | |
| | insect screen, float type water level indicator and outlet/ down pipe with | | | | |
| | a strainer, washout and overflow connection, including interconnecting | | | | |
| | pipe work and fittings, as detailed in the drawings, supply specifications | | | | |
| | and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| | 150-200 micron union/ compression type clear uPVC Y- Screen Filter, | | | | |
| 4 | non corrosive, complete with all fittings, installation on the following GI | | | | |
| 4 | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| | element and seal ring :- | | | | |
| 4.1 | DN75mm, PN10 | No. | 1 | | |
| 4.2 | DN65mm, PN10 | No. | Rate Only | | |
| | 150-200 micron union/ compression type clear uPVC Y- Disc Filter, | | | | |
| 5 | non corrosive, complete with all fittings, installation on the following GI | | | | |
| 5 | pipe sizes, pressure ratings and supply of a pair of replacement disk | | | | |
| | element and seal ring :- | | | | |
| | [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 1 | | |
| | | | | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION.

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|---|----------------|-----------|-------------|------------------|
| 6 | Landscaping and Walkways | | | | |
| 5.1 | Turfing for lawns inside fenced off compound; including filling with excavated topsoil and preparation of surfaces. | m² | 150 | | |
| 5.2 | 500 x 500 x 50mm precast concrete paving slabs laid " Space out Stone method" between the gate, pump house and solar array in one raw, laid onto 200mm thick murram fill. | No. | Rate Only | | |
| 7 7.1 | Fences Galvanized wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: | | | | |
| 3.1 | Grade C15 | m ³ | 2 | | |
| | Total Carried to Collection Io. 3 : STORAGE RESERVOIR WORKS | | | | |
| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 10. | Bill No. 3 Collection | | | | (000.) |
| | Page 9 | | | | |
| | Page 10 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No.3 Carried to Bill Summary | | 1 | | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION.

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of arising materials. | ltem | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| 2 | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN10 | m | 540 | | |
| 2.2 | OD90mm PN10 | | 1,580 | | |
| Z | | m | 1,000 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | 8 | | |
| 3.2 | OD63mm | No. | 4 | | |
| | | 110. | т | | |
| | Unequal tees | | | | |
| 3.3 | OD90 x 63mm | No. | 12 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 1.1 | OD90mm | No. | 12 | | |
| 1.2 | OD63mm | No. | 3 | | |
| | | 110. | Ŭ | | |
| 5.1 | End caps | | | | |
| 5.4 | OD63mm | No. | 15 | | |
| 6 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 5.1 | OD90mm | No. | 4 | | |
| | Total Carried to Collection | | | · · · · · · | |

SCHEME ID. 4.2: NAMABONI IN NAMAYINGO DISTRICT REGION.

| BILL No.4 : DISTRIBUTION NETWORK |
|----------------------------------|
|----------------------------------|

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|------|-------------|------------------|
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 7.1 | DN75mm | No. | 6 | | |
| 7.2 | DN50mm | No. | 1 | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connector pipes and lockable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| 8.1 | DN50mm | No. | 15 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts. | No. | 72 | | |
| | | | | | |
| 11 I N | Total Carried to Collection Io. 4 : DISTRIBUTION NETWORK | | | | |
| tem | Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | | Onit | QUY. | | (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.3: BUYEMBA IN TORORO DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME ID. 4.3: BUYEMBA IN TORORO DISTRICT

BILL No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabbing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 52 | | |
| 2.2 | Soft / decomposed rock soils | m ³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 66 | | |
| 2.5 | Soft / decomposed rock soils | m ³ | 17 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m ³ | 8 | | |
| | Filling Structures Filling to precast concrete sump structure by methods specified and to depths | | | | |
| 3 | as shown in the drawings with the following materials: - Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m³ | 10 | | |
| | Landscaping | 0 | 10 | | |
| 4 | Turfing for lawns inside fenced off compound; including filling with | m² | 40 | | |
| | excavated topsoil and preparation of surfaces. Total Carried to Collection | | | | |

| ltem | Description | Unit | 054 | Bate (UCx) | Amount |
|------|--|------|------|-------------|--------|
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882, maximum aggregate size; 20mm for | | | | |
| | the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float. | | | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a | | | | |
| | steel float and forming a 600 x 600mm opening for the inspection cover (MS). | | | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts on | | | | |
| | concrete base slab (MS) ; complete with water tight jointing and finishing | | | | |
| _ | works to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply of | | | | |
| 8 | the pipe and as shown in the drawings. 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| 0 | | INU. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin | m | 8 | | |
| | and Pump Sump. | | | | |
| | | | | | |

| BILL N | 0.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
|-------------|---|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| 11 | Bellmouths Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 6 200 mm ND | No. | 1 | | |
| | PIPEWORK - FITTINGS AND VALVES Gate Valves: Hand Operated | | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | | |
| | MISCELLANEOUS WORK | | | | |
| 13 | Ladders Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| 14.1 | Steel grating Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | | |
| | Stone pitched Channel. | | | | |
| 16 | $3.0 	ext{ x } 1.5 	ext{ top x bottom width x } 1.5 	ext{m deep maximum trapezoidal lined drain as detailed in the drawing.}$ | m | 5 | | |
| 17 | Gabion boxes PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - 250mm; as instructed by the Engineer | nr | Rate Only | | |
| | Total Carried to Collection | | | | |
| | | | | | |

| BILL N | 0.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | - | | |
|-------------|---|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | ELECTRO-MECHANICAL WORKS | | | | |
| | Solar Pumping System (based on 550Wp panels; bidder to adjust numbers to match rating of panel offered) | | | | |
| ME1 | 11.0kW Submersible Pump Set with 15kW Pumping Inverter with Data Module, rated flow Q = 20 m ³ /hr., rated head H = 100m total head; set to not more than <u>5m</u> below ground including Dry- run protection, Motor and Pump End. | No. | 1 | | |
| | 2x17No. x 550Wp panels solar array to provide 18.7kW power to the pump system complete including wiring. | Item | 1 | | |
| ME3 | Mild steel welded structure for holding solar PV panels at 15° tilt angle and suitable for a 2x17No. x 550Wp panels Solar Array in Item 2 above as per drawings including foundations, vandal proofing mounting to the Engineer's approval | Sum | 1 | | |
| ME4 | PV Disconnect 1000-40-2 | No. | 1 | | |
| ME5 | PV Protect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| ME6 | Surge Protection Devices - SPDs for all; Pressure Sensors, Low Water Level etc. | Item | 1 | | |
| ME7 | PV Combiner | No. | 1 | | |
| ME7a | Pressure Switch and Gauge - P6/12 | No. | 1 | | |
| ME8 | Sinewave filter - SWAP0022D. | No. | 1 | | |
| ME9 | 10mm ² Borehole drop cable, | m | 5 | | |
| ME10 | 10mm ² 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 150 | | |
| ME10a | 6mm² UV Single Cable. | m | 60 | | |
| ME11 | Wire kit array from solar array to controller with MC4 connectors | No. | 2 | | |
| ME11a | Adapter box | No. | 1 | | |
| ME12 | Pump mechanical control fittings as detailed on the Pump House Drawings No. OIS/PH/001 - Sheets 3 & 4 of 4. | Item | 1 | | |
| ME13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| | Total Carried to Collection | | | | |

٦

| BILL N | IO.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
|-------------|--|------|------------------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| ME14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| | Alarm System | | | | |
| ME16 | GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | Item | 1 | | |
| ME17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | ltem | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | Pump Protection System Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs | | | | |
| | Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the following alignment: - | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a gauge 500 polythene sheet. | m² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 135 Rate Only | | |
| X5 | Pump House Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| X6a | Fences Galvanized wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, <u>including special</u> erection methods in "marshy grounds" to the Engineer's approval. | m | 50 | | |
| X6a | | m | 50 | | |

| BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS |
|---|
| |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| K6b | Galvanized wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | | |
| Х7 | Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| | Training of Operator's staff | | | | |
| X8 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| Х9 | Operation and Maintenance Manuals Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection o. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | |
| Item No. | Description | | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | | | | | |

SCHEME ID. 4.3: BUYEMBA IN TORORO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| em lo. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|------|------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabbing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | Steel Pipes | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| .1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| . 1 | Divisinin, in denches, depuis not exceeding 1.5m | 111 | 12 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| .1 | OD75mm HDPE PN10 | m | 962 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 4 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, to BS EN 10242:1995, all | | | | |
| | to PN 10, and of the following sizes | | | | |
| .1 | DN65mm | No. | 4 | | |
| 5 | Bulk Flow Meters | | | | |
| • | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc. and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings to PN10 including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| .1 | DN65mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 6 | Equal Adapters | | | | |
| .1 | OD90 female adapter | No. | 6 | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.3: BUYEMBA IN TORORO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|--|------|------|-------------|------------------|
| 7 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 7.1 | DN65mm | No. | 2 | | |
| 8 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings ; tee, drainage pipes, union ball valve, flap | | | | |
| | valve, stone masonry outfall structure and all other fittings necessary to | | | | |
| | make the complete installation on pipes of the following sizes; all to | | | | |
| | PN10 including valve surface box to detail. | | | | |
| 8.1 | DN65mm | No. | 2 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| 9.1 | Depth not exceeding 1.5m | No. | 2 | | |
| | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 9.2 | Depth not exceeding 1.5m | No. | 2 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | 40 | | |
| 10 | Not exceeding DN300mm | m | 12 | | |
| 11 | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 1.1 | Not exceeding DN200mm | m | 260 | | |

SCHEME ID. 4.3: BUYEMBA IN TORORO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Pipe surrounds, of imported granular material, for the following pipe | | | | (com) |
| 11.2 | Not exceeding DN200mm | m | 150 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 11.3 | Not exceeding DN200mm | m | 45 | | |
| | Concrete Stools and Thrust Blocks | | | | |
| | <i>Thrust Blocks</i> <u>Mass concrete grade C15 thrust blocks for pipes and fittings, volume</u> 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 12 | Diameter not exceeding DN200mm | No. | 6 | | |
| | Other Pipework Ancillaries Marker Posts | | | | |
| 13 | Marker posts for pipes, gate valves, air valves, washouts. | No. | 32 | | |
| | Total Carried to Collection | | | • | |
| Item | Io.2 : TRANSMISSION MAINS | | | | Amount |
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| materials. Reservoir Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, access ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc., painting and finishes; complete as specified and detailed in the drawings, of the following height and reservoir capacities. No. 1 Height; 9.0m for (4No. x 10m ³ Tanks) No. 1 3 Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inled inster approved complete with a lockable access man ways, inled in the drawings, supply specifications and of the following capacity. No. 4 1 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- 1 No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk. element and seal ring :- 1 No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk. element and seal | em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---|-----------|---|----------------|------|-------------|------------------|
| Image: Instant Control Instant Conterest Control Instant Control Instant Contro | | DEMOLITION AND SITE CLEARANCE | | | | |
| Imaterials. Reservoir Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, access ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc., painting and finishes; complete as specified and detailed in the drawings, of the following height and reservoir capacities. No. 1 I Height; 9.0m for (4No. x 10m ³ Tanks) No. 1 B Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 1 10m ³ No. 1 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- (OPTIONAL] No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- (OPTIONAL] No. 1 1 1 1 1 <td></td> <td>General Site Clearance</td> <td></td> <td></td> <td></td> <td></td> | | General Site Clearance | | | | |
| Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, access ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc., painting and fnishes; complete as specified and detailed in the drawings. of the following height and reservoir capacities. No. 1 Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene No. 1 Bastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene No. 1 Sentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following Gl pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 6 | 1 | | Item | 1 | | |
| Erect a welded steel tower for reservoir support complete, include foundations, columns, beams, access ladders, plates, braces, walkway/ guardrail, base plates, anchor bolts, nuts, washers, etc., painting and fnishes; complete as specified and detailed in the drawings. of the following height and reservoir capacities. No. 1 Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene No. 1 Bastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene No. 1 Sentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following Gl pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 6 | | | | | | |
| foundations, columns, beams, access ladders, plates, braces, waikway/ guardrail, base plates, anchor bolts, nuts, washers, etc., painting and finishes; complete as specified and detailed in the drawings , of the following height and reservoir capacities. 1 Height, 9.0m for (4No. x 10m ³ Tanks) No. 1 3 Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man away, intel/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of re | 2 | | | | | |
| quardrail, base plates, anchor bolts, nuts, washers, etc., painting and finishes; complete as specified and detailed in the drawings, of the following height and reservoir capacities. No. 1 .1 Height; 9.0m for (4No. x 10m ³ Tanks) No. 1 3 Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with in sect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 1 10 ⁻²⁰⁰ micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 10N ⁷ 5mm, PN10 No. 1 5 pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 100-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 150-200 micron union/ compression type c | | | | | | |
| Inishes; complete as specified and detailed in the drawings , of the following height and reservoir capacities. No. 1 Height; 9.0m for (4No. x 10m ³ Tanks) No. 1 B Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/inser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following Gl pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 10N ⁷ 5mm, PN10 No. 1 5 pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- (OPTIONAL] No. 1 1 DN75mm, PN10 No. 1 6 Landscaping and Walkways No. 1 7 Turfing for lawns inside fenced off compound; including filling with m ² 150 | | | | | | |
| following height and reservoir capacities. No. 1 Height; 9.0m for (4No. x 10m ³ Tanks) No. 1 B Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- (OPTIONAL] No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- (OPTIONAL] No. 1 1 DN75mm, PN10 No. 1 5 | | | | | | |
| 1 Height; 9.0m for (4No. x 10m ³ Tanks) No. 1 3 Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- 10 DN75mm, PN10 No. 1 5 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- 10 PN75mm, PN10 No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- 10 PN75mm, PN10 No. 1 5 Landscaping and Walkways .1 No. 1 6 Landscaping and Walkways .1 No | | · · · · · · · · · · · · · · · · · · · | | | | |
| 3 Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 1 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 <td></td> <td>following height and reservoir capacities.</td> <td></td> <td></td> <td></td> <td></td> | | following height and reservoir capacities. | | | | |
| Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. .1 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- 10 DN75mm, PN10 No. 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- 10 DN75mm, PN10 No. 1 1 DN75mm, PN10 No 1 1 DN75mm, PN10 No 1 1 DN75mm, PN10 No 1 1 DN75mm, PN10 | .1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. 1 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN75mm, PN10 No. 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] DN75mm, PN10 No. I DN75mm, PN10 No I | 3 | Plastic Tanks | | | | |
| Water Storage Tank to DUS 1560: 2013 as manufactured by Ms. Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 1 ISO-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- 1 1 DN75mm, PN10 No. 1 1 Turfing for lawns inside fenced off compound; including filling with m ² 150 | | | | | | |
| Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 11 DN75mm, PN10 No. 1 5 Iso-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 10 DN75mm, PN10 No. 1 5 Iso-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 .1 DN75mm, PN10 No. 1 .1 DN75mm, PN10 No. 1 .1 < | | | | | | |
| lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 1 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN75mm, PN10 No. 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] No. 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk | | | | | | |
| insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. 10m³ No. 4 <u>150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :-</u> DN75mm, PN10 No. 1 <u>150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :-</u> DN75mm, PN10 No. 1 <u>150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :-</u> DN75mm, PN10 No. 1 <u>150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :-</u> [OPTIONAL] DN75mm, PN10 No. 1 | | | | | | |
| a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 5 Information on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 5 Information on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 6 Landscaping and Walkways No. 1 1 Turfing for lawns inside fenced off compound; including filling with m ² 150 | | | | | | |
| pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 5 Information compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 5 Information compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 10 DN75mm, PN10 No. 1 11 DN75mm, PN10 No. 1 12 DN75mm, PN10 No. 1 13 DN75mm, PN10 No. 1 14 DN75mm, PN10 No. 1 15 Landscaping and Walkways 1 150 | | | | | | |
| and of the following capacity. No. 4 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 5 Information of the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 10PTIONAL] DN75mm, PN10 No. 1 6 Landscaping and Walkways No. 1 7 Turfing for lawns inside fenced off compound; including filling with m ² 150 | | | | | | |
| 1 10m ³ No. 4 150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. 1 10PTIONAL] DN75mm, PN10 No. 1 6 Landscaping and Walkways m ² 150 | | | | | | |
| 4150-200 micron union/ compression type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- DN75mm, PN10No.15150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL]No.16Landscaping and Walkways Turfing for lawns inside fenced off compound; including filling withm²150 | 1 | | No | 4 | | |
| 4 non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- No. 1 1 DN75mm, PN10 No. 1 5 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] No. 1 1.1 DN75mm, PN10 No. 1 6 Landscaping and Walkways No. 1 7 Turfing for lawns inside fenced off compound; including filling with m ² 150 | . I | 10m ⁻ | INU. | 4 | | |
| * pipe sizes, pressure ratings and supply of a pair of replacement screen No. 1 .1 DN75mm, PN10 No. 1 5 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] No. 1 1.1 DN75mm, PN10 No. 1 6 Landscaping and Walkways No. 1 7 Turfing for lawns inside fenced off compound; including filling with m ² 150 | | | | | | |
| pipe sizes, pressure ratings and supply of a pair of replacement screen No. 1 element and seal ring :- No. 1 DN75mm, PN10 No. 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, No. 1 non corrosive, complete with all fittings, installation on the following GI No. 1 pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- No. [OPTIONAL] No. 1 DN75mm, PN10 No. 1 6 Landscaping and Walkways No. 1 .1 Turfing for lawns inside fenced off compound; including filling with m ² 150 | ٨ | | | | | |
| 1 DN75mm, PN10 No. 1 1 150-200 micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk. element and seal ring :- [OPTIONAL] No. 1 1 DN75mm, PN10 No. 1 6 Landscaping and Walkways No. 1 1 Turfing for lawns inside fenced off compound; including filling with m ² 150 | - | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| 5 ¹⁵⁰⁻²⁰⁰ micron union/ compression type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] No. 1 1 ¹⁵⁰⁻²⁰⁰ micron union/ compression type clear uPVC Y- Disc Filter, pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] No. 1 1 ¹⁵⁰ mm, PN10 ¹⁵⁰ mm, PN10 ¹⁵⁰ mm, PN10 | | element and seal ring :- | | | | |
| 5 non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] 1.1 DN75mm, PN10 6 Landscaping and Walkways .1 Turfing for lawns inside fenced off compound; including filling with | .1 | DN75mm, PN10 | No. | 1 | | |
| 5 non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] 1.1 DN75mm, PN10 6 Landscaping and Walkways .1 Turfing for lawns inside fenced off compound; including filling with | | 150-200 micron union/ compression type clear uPVC Y- Disc Filter, | | | | |
| pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] [OPTIONAL] No. 1 1 DN75mm, PN10 No. 1 6 Landscaping and Walkways | 6 | | | | | |
| element and seal ring :- [OPTIONAL] .1 DN75mm, PN10 6 Landscaping and Walkways .1 Turfing for lawns inside fenced off compound; including filling with m ² | 5 | pipe sizes, pressure ratings and supply of a pair of replacement disk | | | | |
| [OPTIONAL] .1 DN75mm, PN10 6 Landscaping and Walkways .1 Turfing for lawns inside fenced off compound; including filling with m ² | | ·· · · · · · · · · | | | | |
| .1 DN75mm, PN10 No. 1 6 Landscaping and Walkways .1 Turfing for lawns inside fenced off compound; including filling with m ² 150 | | | | | | |
| .1 Turfing for lawns inside fenced off compound; including filling with m ² 150 | .1 | | No. | 1 | | |
| .1 Turfing for lawns inside fenced off compound; including filling with m ² 150 | 6 | | | | | |
| | .1 | | m ² | 150 | | |
| | | excavated topsoil and preparation of surfaces. | - | | | |

SCHEME ID. 4.3: BUYEMBA IN TORORO DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| 500 x 500 x 50mm precast concrete paving slabs laid " Space out Stone method" between the gate, pump house and solar array in one raw, laid onto 200mm thick murram fill. Fences Galvanized wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. Gates Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. Provision and Placing of Concrete Ordinary Designed Mix Concrete Designed mix concrete, to BS 5328, with ordinary Portland cement to | | Rate Only 60 1 | | (UGx.) |
|--|------|----------------------|-------------|------------------|
| Galvanized wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. Provision and Placing of Concrete Ordinary Designed Mix Concrete | No. | 1 | | |
| Ordinary Designed Mix Concrete | | | | |
| Designed mix concrete, to BS 5328, with ordinary Portland cement to | | | | |
| BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| 1 Grade C15 | m³ | 2 | | |
| Total Carried to Collection | | | | |
| L No. 3 : STORAGE RESERVOIR WORKS | | | | • • |
| Description 0. | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| Bill No. 3 Collection | | | | |
| Page 9 | | | | |
| Page 10 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

SCHEME ID. 4.3: BUYEMBA IN TORORO DISTRICT **BILL No.4 : DISTRIBUTION NETWORK**

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|--------|-------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabbing tree stumps and disposal of arising materials. | ltem | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN10 | m | 1,580 | | |
| | OD90mm PN10 | m m | 260 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | 2 | | |
| 8.7 | <u>Unequal tees</u> OD90 x 63mm | No. | 3 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| .1 | OD90mm | No. | 12 | | |
| 5 | End caps | | | | |
| 5.1 | OD63mm | No. | 8 | | |
| 6 | Valves and Penstocks | | | | |
| | <u>Air Valves</u> | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified | | | | |
| | ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, | | | | |
| | flange adaptors, distance pieces, and all fittings necessary to make the | | | | |
| | installation on pipes of the following sizes, all to PN10, include chamber | | | | |
| | as specified. | | | | |
| 5.1 | OD90mm | No. | 2 | | |

| Item | | | • | B ((11 B) | Amount |
|-------|---|------|------|---------------------------|--------|
| No. | Description | Unit | Qty. | Rate (UGx.) | (UGx.) |
| 7 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per Drawing | | | | |
| 7.1 | DN75mm | No. | 6 | | |
| 7.2 | DN50mm | No. | 3 | | |
| 8 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end cap complete with connector pipes and lockable chamber as detailed on | | | | |
| | Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to | | | | |
| | PN10: - | | | | |
| 8.1 | DN50mm | No. | 8 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts. | No. | 88 | | |
| BILLN | Total Carried to Collection | | | | |
| ltem | Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | | Unit | œty. | | (UGx.) |
| | Bill No. 4 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.4: HABAYAGA IN NAMAMAYINGO DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|--------------------------------|---------------|
| | WORK ITEMS | |
| 1 | Abstraction Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | ltem | 1 | | |
| | Earthworks | | | | |
| 2.1 | Excavation to form river/ stream diversion towards the intake / abstraction structure in normal ground, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfeces to receive hardcore fill. | m ³ | 35 | | |
| 2.2 | Ditto but for the Intake Structure | m ³ | 45 | | |
| 2.3 | Ditto but for the River Weir Structure | m ³ | 4 | | |
| 3.1 | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - Imported rock/ hardcore fill, size 75 to 300mm hand packed or compacted by the arm of an excavator. | m ³ | 55 | | |
| 3.2 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m³ | 44 | | |
| 3.3 | Imported murram. | m ³ | 18 | | |
| 4 | Single layer of geotextile laid to manufaturer's specifications | m ² | 0 | | |
| 5 | Landscaping Turfing for lawns inside fenced off compound, including filling with excavated topsoil and the preparation of surfaces at Intake Site. | m² | 840 | | |
| | | | | | |
| | | | | | |
| | | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|------|-------------|------------------|
| | IN-SITU CONCRETE | | | | |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary portland | | | | |
| | cement to BS 12, aggregate to BS 882 for the following structures: - | | | | |
| | Grade C15/10 | | | | |
| | Blinding | | | | |
| 6.1 | 50mm thick blinding concrete, for base slabs, toes, key and heel; grade C15, | m³ | 1 | | |
| | of the following thickness | | | | |
| | Grade C25/10 | | | | |
| | Reinforced Concrete Base Slabs, Toe, Key and Heel | | | | |
| 6.2 | 200mm thick key and toe. | m ³ | 5 | | |
| 6.3 | 200mm thick base and heel slabs. | 3 | 5 | | |
| 0.5 | | m³ | 5 | | |
| 6.4 | 500/ 200mm thick reaining wall/ weir stem. | m³ | 19 | | |
| 6.5 | 200mm thick sump wall. | m³ | 41 | | |
| 6.6 | 200mm thick top slab. | m³ | 1 | | |
| | Formwork | | | | |
| | Formwork-Fair Finish | | | | |
| 7.1 | Fair Finish Plane Horizontal | | | | |
| | Plane fair finish horizontal formwork to the tops slab including charmfering and | m ² | 5 | | |
| | / or filleting of all exposed concrete corners. | | | | |
| | Fair Finish Plane Vertical | | | | |
| 7.2 | Plane fair finish vertical and / or slightly slping formwork to walls including | m ² | 145 | | |
| | charmfering and / or filleting of all exposed concrete corners. | | | | |
| | Finishing of top surfaces | | | | |
| 7.3 | Steel trowel finishing of top surfaces. | m ² | 20 | | |
| | | | | | |
| | Reinforcement | | | | |
| | Deformed High Yield Steel | | | | |
| | High yield square twisted bars to BS 4449 and of the following sizes | | | | |
| 8.1 | Nominal size, 12mm | t | 2 | | |
| | Total Carried to Collection | | | 1 | |

1

| BILL N | Io. 1 : ABSTRACTION WORKS | | | | |
|-------------|---|------|------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Inserts | | | | |
| 8.2 | DN 250 CI / ST flanged, puddled pipe insert pipe inserts projecting from two faces of the concrete wall and of the following sizes, excluding supply of pipe. | No. | 2 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged Reducers | | | | |
| 9.1 | DN250 x 150mm | No. | 1 | | |
| | Flange Adaptors | | | | |
| 9.2 | DN 150mm Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6. | No. | 1 | | |
| | Strainers | | | | |
| | Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes: - | | | | |
| 9.3 | DN 250 mm | No. | 2 | | |
| | End Caps | | | | |
| 9.4 | DN250mm flanged end cap. | No. | 1 | | |
| | Valves and Penstocks | | | | |
| | Gate Valves: Hand Operated | | | | |
| | All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 10 for | | | | |
| | operation by tee key, with extension spindle not exceeding 1.5 metres long, | | | | |
| | and of the following sizes:- | | | | |
| 9.5 | 150 mm ND | No. | 1 | | |
| | Penstocks; hand operated including head stock and distance spindle, as | | | | |
| | specified in drawings of the following size: - | | | | |
| 9.6 | 300mm wide x 1000mm high <u>Staniless Steel.</u> | No. | 2 | | |
| | | | | | |
| | Total Coviad to Collection | | | <u> </u> | |
| | Total Carried to Collection | | | | |

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | MISCELLANEOUS METAL WORK | | | | |
| 10.1 | Ladders External galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| | | | | | |
| 10.2 | Access Manhole Cover 600 x 600mm clear opening painted mild steel cover and frame include fixing and locking arrangement. | No. | 1 | | |
| | Valve Surface Boxes | | | | |
| 10.3 | Valve surface box with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to a depth not exceeding 4.5 m. | No. | 0 | | |
| | MISCELLANEOUS WORKS | | | | |
| X1 | 450mm diameter reinforced concrete pipe/ culvert | m | 2 | | |
| X2 | Training of Operator's staff Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | 0 | | | |
| X3 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| | Total Carried to Collection | | • | | |
| | Io. 1 : ABSTRACTION WORKS | | 1 | 1 | A |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 1 Collection | | | | (00%) |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Total Bill No. 1 Carried to Bill Summary | | | | |

| tem No. | Description | Unit | 135 | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabbing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORKS - PIPES | | | | |
| 2 | <u>Steel Pipes</u> | | | | |
| | Galvanised steel pipes (Class B) with threaded joints, include | | | | |
| | unions/sockets, all to ISO 2531, of the following sizes. | | | | |
| | | | | | |
| 2.1 | DN150mm, not in trenches; | m | 6 | | |
| 2.2 | DN150mm, in trenches; depth not exceeding 1.5m. | m | 6 | | |
| 3 | HDPE Pipes | | | | |
| | HDPE pressure pipes to BS 3505, include unions/sockets, laid in | | | | |
| | trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD90mm HDPE PN10 | m | 930 | | |
| 4 | uPVC Pipes | | | | |
| | uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with | | | | |
| | integral rubber ring socket joints laid in trenches to depths not | | | | |
| 4.1 | OD160 to PN 10 | m | 2,160 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | |
| | to PN 10, and of the following sizes | | | | |
| 5.1 | DN125mm | No. | Rate Only | | |
| 5.2 | DN150mm | No. | 6 | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 | | | | |
| | m | | | | |
| | Viking Johnson stepped couplings as Maxistep | | | | |
| 5.3 | DN150 x 100 | No. | 1 | | |
| | Total Carried to Collection | | <u> </u> | <u> </u> | |

SCHEME ID. 4.4: HABAYAGA IN NAMAMAYINGO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|--|------------------|
| | Viking Johnson Flanged adaptors as Aquafast to PN16 | | | | |
| 5.4 | DN150 | No. | 4 | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 6 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the | | | | |
| | following sizes; | | | | |
| 6.1 | DN150mm | No. | 3 | | |
| | Tapers | | | | |
| | All flanged concentric taper to BS4772, flanges to BS4504 all to PN6, | | | | |
| | cement mortar lined, and of the following sizes; | | | | |
| 6.2 | DN150 x 50mm | No. | 8 | | |
| 6.3 | DN150 x 65mm | No. | 4 | | |
| 6.4 | DN150 x 75mm | No. | Rate Only | | |
| 7 | Bulk Flow Meters | | | | |
| | Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, | | | | |
| | valves, etc and all other fittings to make the installation complete, as | | | | |
| | specified, all fittings, including a masonry chamber, and on the | | | | |
| | following main pipe sizes | | | | |
| 7.1 | DN150mm PN10 | No. | 1 | | |
| | PN16 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| 8 | Equal Adapters | | | | |
| 8.1 | OD90 female adapter | No. | Rate Only | | |
| 8.2 | OD100 female adapter | No. | Rate Only | | |
| 9 | Valves and Penstocks | | | | |
| | Air Valves | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | DN125mm | No. | Rate Only | | |
| 9.2 | DN150mm | No. | 2 | | |
| | Total Carried to Collection | | 1 | <u> </u> | |

1

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic compression pipe | | | | |
| | fittings; tee, drainage pipes, union ball valve, flap valve, stone masonry outfall | | | | |
| | structure and all other fittings necessary to make the complete installation on | | | | |
| | pipes of the following sizes; all to PN10 including valve surface box to detail. | | | | |
| 10.1 | DN125mm | No. | Rate Only | | |
| 10.2 | DN150mm | No. | 4 | | |
| | PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| | Other Chambers | | | | |
| | Masonry air valve chamber, complete as specified in the drawings, and | | | | |
| | of the following depths | | | | |
| | Depth not exceeding 1.5m | No. | 2 | | |
| 11 | Valve Surface Boxes | | | | |
| | Valve surface box for DN100 - DN300 valves, with lockable cover | | | | |
| | securely attached to main body of surface box by chain or bolt, include | | | | |
| | down pipe, complete as specified and to the following depths | | | | |
| 11.1 | Depth not exceeding 1.5m | No. | 4 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 11.2 | Not exceeding DN300mm | m | 12 | | |
| 12 | Surrounds | | | | |
| 12 | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | 80 | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 420 | | |
| 12.2 | Total Carried to Collection | 111 | 720 | <u> </u> | |

SCHEME ID. 4.4: HABAYAGA IN NAMAMAYINGO DISTRICT BILL No. 2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| 110. | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | (001.) |
| | | | | | |
| 12.3 | Not exceeding DN200mm | m | 85 | | |
| 13 | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 6 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts | nr | 72 | | |
| | Total Carried to Collection | | | | |
| BILL N | Io. 2 : TRANSMISSION MAINS | | | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Total Bill No. 2 Carried to Bill Summar | | | | |

SCHEME ID. 4.4: HABAYAGA IN NAMAMAYINGO DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| em No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------|---|----------------|------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site slearance including trees, stumps and disposal of arising materials. | Item | 1 | | |
| 2 | Reservoir | | | | |
| - | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings, of the | | | | |
| | following height and reservior capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| • | Dia the Taula | | | | |
| 3 | Plastic Tanks | | | | |
| | Supply and install a vertical cylindrical Rotational Moulded Polyethylene | | | | |
| | Water Storage Tank to DUS 1560: 2013 as manufactured by Ms | | | | |
| | Gentex Ltd. / Crest Tanks or any other approved complete with a | | | | |
| | lockable access man ways, inlet/ riser, ball float valve, overflow with | | | | |
| | insect screen, float type water level indicator and outlet/ down pipe with | | | | |
| | a strainer, washout and overflow connection, including interconnecting | | | | |
| | pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, | | | | |
| | non corrosive, complete with all fittings, installation on the following GI | | | | |
| 4 | pipe sizes, pressure ratings and supply of a pair of replacement screen | | | | |
| | element and seal ring :- | | | | |
| 1.1 | DN75mm, PN10 | No. | 1 | | |
| | | | | | |
| | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non | | | | |
| 5 | corrosive, complete with all fittings, installation on the following GI pipe | | | | |
| 5 | sizes, pressure ratings and supply of a pair of replacement disk | | | | |
| | element and seal ring :- | | | | |
| | [OPTIONAL] | | | | |
| 5.1 | DN75mm, PN10 | No. | 1 | | |
| 6 | Landscaping and Walkways | | | | |
| 5.1 | Turfing for lawns inside fenced off compound; including filling with | m ² | 150 | | |
| | excavated topsoil and preparation of surfaces. | | | | |
| | | | | | |

SCHEME ID. 4.4: HABAYAGA IN NAMAMAYINGO DISTRICT BIL No. 3 : STORAGE RESERVOIR WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|--|----------------|-----------|-------------|------------------|
| 6.2 | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 7.1 | Fences Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for 10mm aggregate sizes and the following grades: | | | | |
| 8.1 | Grade C15 | m ³ | 2 | | |
| | Total Carried to Collection Io. 3 : STORAGE RESERVOIR WORKS | | <u> </u> | | |
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount |
| | | | ۵., | | (UGx.) |
| | Bill No. 3 Collection | | | | (UGx.) |
| | Bill No. 3 Collection Page 10 | | | | (UGx.) |
| | | | | | (UGx.) |
| | Page 10 | | | | <u>(UGx.)</u> |
| | Page 10 | | | | <u>(UGx.)</u> |
| | Page 10 | | | | <u>(UGx.)</u> |
| | Page 10 | | | | <u>(UGx.)</u> |
| | Page 10 | | | | <u>(UGx.)</u> |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|------|-----------------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | <u>General Site Clearance</u> | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN10 | m | 350 | | |
| 2.3 | OD90mm PN10 | m | 110 | | |
| 2.5 | OD110mm uPVC PN10 | m | 728 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | <u>Equal tees</u> | | | | |
| 3.1 | OD90mm | No. | 4 | | |
| 3.2 | OD110mm | No. | 2 | | |
| | Unequal tees | | | | |
| 3.3 | OD110 x 63mm | No. | Rate Only | | |
| 3.4 | OD110 x 75mm | No. | 6 | | |
| 8.5 | OD110 x 90mm | No. | 6 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | End caps | | | | |
| 4.1 | OD63mm | No. | 12 Data Oaku | | |
| 4.2 | OD75mm | No. | Rate Only | | |
| 4.3 | OD90mm | No. | Rate Only | | |
| 1.4 | OD110mm | No. | Rate Only | | |
| | | | | | |
| | Total Carried to Collection | | | | |

SCHEME ID. 4.4: HABAYAGA IN NAMAMAYINGO DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|-----------|-------------|------------------|
| | Cast or Spun Iron Pipe Fittings | | | | |
| 5 | Bends | | | | |
| | Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all to PN | | | | |
| | 10, and of the following sizes | | | | |
| 5.4 | DN100mm | No. | 8 | | |
| 5.6 | DN150mm | No. | Rate Only | | |
| | Steel pipe fittings; flanges to PN 16; in trenches not exceeding 1.5 m | | | | |
| | Viking Johnson stepped adaptors as Maxistep | | | | |
| 6.1 | DN100 x 63 | No. | Rate Only | | |
| 6.2 | DN100 x 75 | No. | Rate Only | | |
| | Viking Johnson Flanged adaptors as Aquafast. | | | | |
| 6.5 | DN50 | No. | 3 | | |
| 6.6 | DN65 | No. | Rate Only | | |
| 6.7 | DN75 | No. | Rate Only | | |
| 6.8 | DN100 | No. | 8 | | |
| 6.9 | DN125 | No. | Rate Only | | |
| | Cast or Spun Iron Pipe Fittings | | | | |
| 7 | Junctions and Branches | | | | |
| | All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6 and of the following sizes; | | | | |
| 7.1 | DN125mm | No. | Rate Only | | |
| 7.2 | DN150mm | No. | Rate Only | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 8 | Reducing Couplers/ Unions | | | | |
| 8.1 | OD75 x 63mm | No. | Rate Only | | |
| 8.2 | OD90 x 63mm | No. | 2 | | |
| 8.3 | OD90 x 75mm | No. | Rate Only | | |
| 8.3 | OD110 x 63mm | No. | 4 | | |
| | | | | | |
| | | | | | |
| | | | | | |

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|-------------|------------------|
| | Valves and Penstocks | | | | |
| 9 | Air Valve | | | | |
| | Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to | | | | |
| | ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, | | | | |
| | distance pieces, and all fittings necessary to make the installation on pipes of | | | | |
| | the following sizes, all to PN10, include chamber as specified. | | | | |
| 9.1 | OD90mm | No. | 2 | | |
| 9.2 | OD110mm | No. | 1 | | |
| 10 | Washouts | | | | |
| | Washout as specified in the drawings, complete with plastic | | | | |
| | compression pipe fittings; tee, drainage pipes, PVC union ball valve, | | | | |
| | flap valve and all other fittings necessary to make the complete | | | | |
| | installation on pipes of the following sizes; all to PN10 including valve | | | | |
| | surface box and stone masonry outfall structure to detail as per | | | | |
| 0.1 | DN100mm | No. | 1 | | |
| 11 | Farm Gate Connections | | | | |
| | Make DN50mm Irrigation Water Supply Hydrant connection to the | | | | |
| | distribution main, inclusive of PVC compressive ball valve and end | | | | |
| | cap complete with connecor pipes and locakable chamber as detailed | | | | |
| | on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all | | | | |
| | to PN10: - | | | | |
| 1.1 | DN50mm | No. | 12 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 12 | Marker posts for pipes, gate valves, air valves, washouts | nr | 30 | | |
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 13 | Not exceeding DN300mm | m | Rate Only | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.4: HABAYAGA IN NAMAMAYINGO DISTRICT BILL No. 4 : DISTRIBUTION NETWORK

| em Description | | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------------|-----------------------|------|------|-------------|------------------|
| | Bill No. 4 Collection | | | | |
| | Page 12 | | | | |
| | Page 13 | | | | |
| | Page 14 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL SUMMARY

| Bill No. | Description | Amount (UGx.) |
|-------------|---|---------------|
| | WORK ITEMS | |
| 1 | Abstraction and Electromechanical Works | |
| 2 | Transmission Mains | |
| 3 | Storage Reservoir Works | |
| 4 | Distribution Network | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Total Carried to Grand Summary | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT

BILL No. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|----------------|------|-------------|------------------|
| | General Site Clearance | | | | |
| 1 | General site clearance, felling trees, grabing tree stamps and stripping of topsoil to depths not exceeding 0.25m for Water Abstraction Point/ Intake Works, Pump House and Solar Array Sites including stockpiling of topsoil for reuse and disposing off resultant materials as directed by the Engineer. | Item | 1 | | |
| | Earthworks | | | | |
| | Excavation to form trapezoidal prism reservior in material other than topsoil, rock or other artificial hard material, depth not exceeding 6.0m including forming earth bands along the channel of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.1 | Marshy soils | m ³ | 52 | | |
| 2.2 | Soft / decomposed rock soils | m ³ | 26 | | |
| | Excavation to form trapezoidal channel in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.4 | Marshy soils | m ³ | 60 | | |
| 2.5 | Soft / decomposed rock soils | m ³ | 15 | | |
| | Excavation to form cylindrical sump well in material other than topsoil, rock or other artificial hard material, depth not exceeding 5.0m including disposal and spreading of excavated material to fair profiles on site as directed by the Engineer and preparation of excavated surfaces to slopes as indicated on the drawings. | | | | |
| 2.6 | Marshy soils | m ³ | 16 | | |
| 2.7 | Soft / decomposed rock soils | m ³ | 8 | | |
| | Filling Structures Filling to precast concrete sump structure by methods specified and to depths as shown in the drawings with the following materials: - | | | | |
| 3 | Selected excavated material including topping with a 200mm thick layer of top/ vegetable soil. | m ³ | 10 | | |
| 4 | Landscaping Turfing for lawns inside fenced off compound; including filling with | m ² | 40 | | |
| | excavated topsoil and preparation of surfaces. | | | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| em | Description | Unit | Qty. | Rate (UGx.) | Amount |
|-----|---|----------------|------|-------------|----------|
| | IN-SITU CONCRETE | | | , , | /11/2w \ |
| | Provision and Placing of Concrete | | | | |
| | Ordinary Design Mix Concrete | | | | |
| | Designed mix, concrete to BS 8500 and BS EN 206-1, with ordinary | | | | |
| | portland cement to BS 12, aggregate to BS 882, maximum aggregate size; | | | | |
| | 20mm for the following structures: - | | | | |
| | Insitu Concrete | | | | |
| 5 | 75mm thick Grade C15 concrete blinding to pump sump base | m ³ | 0.25 | | |
| 6.1 | 2200mm Diameter x 150mm thick Grade C25 concrete base slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float. | | | | |
| 6.2 | 2200mm Diameter x 150mm thick Grade C25 concrete top slab reinforced | Item | 1 | | |
| | with H12 - 200 E.W (B) complete with all associated formwork, finishing with a steel float and forming a 600 x 600mm opening for the inspection cover | | | | |
| | Pre-cast Concrete | | | | |
| | Pump Well/ Sump | | | | |
| | Supply and install 100mm thick precast reinforced concrete vertical culverts | | | | |
| | on concrete base slab (MS) ; complete with water tight jointing and finishing | | | | |
| _ | works to approval. | | | | |
| 7 | 1200mm diameter ; height n.e 8m | Item | 1 | | |
| | Concrete Inserts | | | | |
| | Cast or Spum Iron Pipe Fittings. | | | | |
| | Flanged, puddled and plain end pipe insert projecting from one face of the | | | | |
| | concrete, all to PN6 and of the following sizes and lengths, including supply | | | | |
| | of the pipe and as shown in the drawings. | | | | |
| 8 | 200mm ND and not exceeding 0.5m length | No. | 2 | | |
| | Adaptors | | | | |
| | Flange adaptor to fit ductile PVC to all to PN6 and of the following sizes:- | | | | |
| 9 | 200 mm ND | No. | 2 | | |
| 10 | OD225mm PN10 plain end uPVC pipe connection between Silt Trap Basin | m | 8 | | |
| | and Pump Sump. | | | | |
| | Bellmouths | | | | |
| 11 | Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 6 | | | | |
| | 200 mm ND | No. | 1 | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT

BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | PIPEWORK - FITTINGS AND VALVES | | | | · · · |
| | Gate Valves: Hand Operated | | | | |
| 12 | DN 200 mm all flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 6 for operation by tee key, with extension spindle not exceeding 4.5 metres long, and of the following sizes | | | | |
| | MISCELLANEOUS WORK | | | | |
| | Ladders | | | | |
| 13 | Internal galvanized mild steel ladder to BS 4211, galvernized to BS 729, complete andas shown in the drawings including fixing to precast concrete units | m | 8 | | |
| | Steel grating | | | | |
| 14.1 | Galvanized iron Coarse Trash Screen as detailed in the drawings. | No. | 1 | | |
| 14.2 | Galvanized iron Fine Trash Screen as detailed in the drawings. | No. | 1 | | |
| 15 | Pump Well/ Sump Supply and install 8.0m long HDPE vertical culverts on concrete base slab (MS) ; complete with a Single ND200mm flanged branch to receive a ND200 gate valve. Branch height/ positioning to be determined on site. Internal diameter ; 1200x200mm | Item | Rate Only | | |
| | Stone pitched Channel. | | | | |
| 16 | 3.0 x 1.5 top x bottom width x 1.5m deep maximum trapezoidal lined drain as detailed in the drawing. | m | 5 | | |
| | Gabion boxes | | | | |
| 17 | PVC coated gabion boxes ; size 1m x 1m x 1m; including rockfill of size 100 - | nr | Rate Only | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT

BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ption | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|---|------|---------------|---------------|------------------|
| RO-MECHANICAL WORKS | | | | () |
| Pumping System (based on 550Wp panels; bidder to adjust numbers h rating of panel offered) | | | | |
| / Submersible Pump Set with 15kW Pumping Inverter with Data , rated flow Q = 22 m ³ /hr., rated head H = 75m total head; set to not han <u>5m</u> below ground including Dry- run protection, Motor and Pump | No. | 1 | | |
| x 550Wp panels solar array to provide 18.7kW power to the pump complete including wiring. | Item | 1 | | |
| eel welded structure for holding solar PV panels at 15° tilt angle and | Sum | 1 | | |
| connect 1000-40-2 | No. | 1 | | |
| tect 1000-15, SPD x 1 on incoming solar PV. | No. | 1 | | |
| Protection Devices - SPDs for all; Pressure Sensors, Low Water tc. | Item | 1 | | |
| nbiner | No. | 1 | | |
| re Switch and Gauge - P5/8 | No. | 1 | | |
| ve filter - SWAP0022D. | No. | 1 | | |
| Borehole drop cable, | m | 5 | | |
| 3-Phase Power Armoured Cable and 1-Phase Cable for grounding. | m | 240 | | |
| JV Single Cable. | m | 60 | | |
| array from solar array to controller with MC4 connectors | No. | 2 | | |
| r box | No. | 1 | | |
| nechanical control fittings as detailed on the Pump House Drawings S/PH/001 - Sheets 3 & 4 of 4. | ltem | 1 | | |
| | ° | s 3 & 4 of 4. | s 3 & 4 of 4. | s 3 & 4 of 4. |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT

BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|--|------|------|-------------|------------------|
| | Earthing and Lightening Protection | | | | |
| /IE13 | Earthing at solar array and borehole installation by 16mm ² PVC-I cable in a manhole with pure copper electrodes and all accessories to attain an earth resistance of less than 1 ohm | Sum | 1 | | |
| 1E14 | Lightning Protection at solar array and borehole installation consisting of 25x3mm copper tape, air terminal, test block and earth electrode in a manhole and all accessories. | Sum | 1 | | |
| ME15 | 60W Solar security light and battery complete with 6m steel pole and lockable battery box | No. | 5 | | |
| | Alarm System | | | | |
| /IE16 | GMS Alarm System complete with 1No. alarm horn and 2No.vibration sensors per array. | Item | 1 | | |
| VE17 | GMS Alarm System complete with 1No. alarm horn and 1No.vibration sensor for the pump protection as instructed by the Engineer. | Item | 1 | | |
| | MISCELLANEOUS WORKS | | | | |
| | Pump Protection System | | | | |
| X1 | Vertical pipe pump stilling tube/ anti-vandal protection sleeve including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/002a or OIS/ABS/003, including 1.5x1.5x0.3m support base. | No. | 1 | | |
| | Kerbs | | | | |
| | Pre-cast concrete kerbs to BS 7263 of cross section area 0.05-0.1 m ² to the following alignment: - | | | | |
| X2 | Straight or curved to a radius exceeding 12 m | m | 70 | | |
| X3 | 75mm thick of 12 - 25mm size machine crushed aggregate cover under the Solar Array laid onto a guage 500 polythene sheet. | m² | 220 | | |
| X4 | 450mm diameter reinforced concrete pipe/ culvert | m | 0 | | |
| | Pump House | | | | |
| X5 | Construct a 12.0m superficial area Pump House to detail as per Drawing No.OIS/NUC/PH/001. | Sum | 1 | | |
| | Fences | | | | |
| X6a | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Intake Site, i <u>ncluding special</u> <u>erection methods in "marshy grounds"</u> to the Engineer's approval. | m | 50 | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS

| | Io.1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | <u> </u> | A.m.a |
|-------------|---|------|-----------|-------------|------------------|
| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| X6b | Galvarnised wire Gauge10 chain link fence to BS 1722:2019 with triple raw of barbed wire on top; height 2-2.5m at the Pumping Station Site. | m | 10 | | |
| X7 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 2 | | |
| | Training of Operator's staff | | | | |
| X8 | Train Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Project Manager's approval | Sum | 1 | | |
| | Operation and Maintenance Manuals | | | | |
| X9 | Provide Operation and Maintenance Manuals as specified and to the Project Manager's approval | Sum | 1 | | |
| XX | Horizontal pump installation option out of flanged/ sealed end HDPE culvert pipe mounted on fabricated GI support structure including a floating suction assembly structure to detail as per Drawing No. OIS/ABS/005. | Item | Rate Only | | |
| | Total Carried to Collection | | | | |
| | IO. 1 : ABSTRACTION AND ELECTROMECHANICAL WORKS | | | | A |
| ltem No. | Description | | | | Amount (UGx.) |
| | Bill No. 1 Collection | | | | |
| | Page 2 | | | | |
| | Page 3 | | | | |
| | Page 4 | | | | |
| | Page 5 | | | | |
| | Page 6 | | | | |
| | Page 7 | | | | |
| | | | | | |
| | | | 1 | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No. 2 : TRANSMISSION MAINS

| em Io. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------------|------------------------|-------------|------------------|
| 1 | DEMOLITION AND SITE CLEARANCE General Site Clearance General site clearance 1.5m wide working corridor along the pipeline route, including felling trees, grabing tree stumps and disposal of arising materials. | Item | 1 | | |
| 2 | <u> PIPEWORKS - PIPES</u> <u>Steel Pipes</u> | | | | |
| | Galvanized iron pipes (Class B) with threaded joints, include unions/sockets, all to ISO 2531 of the following sizes; | | | | |
| 2.1 | DN75mm, in trenches; depths not exceeding 1.5m | m | 12 | | |
| 3 | HDPE Pipes HDPE pressure pipes to BS 3505, include unions/sockets, laid in trenches to depths not exceeding 1.5m | | | | |
| 3.1 | OD90mm HDPE PN10 | m | 982 | | |
| 4 | <u>uPVC Pipes</u> uPVC pressure pipes to UNBS US 264: 2000 and DIN 8062 with integral rubber ring socket joints laid in trenches | | | | |
| 4.1 | <u>OD110 to PN 10</u> Depth not exceeding 1.5m | m | Rate Only | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| 5 | Cast or Spun Iron Pipe Fittings Bends Galvanized iron threaded socket 45° bends, toBS EN 10242:1995, all | | | | |
| 5.1 5.2 | DN40mm DN50mm | No. No. | Rate Only Rate Only | | |
| | DN65mm | No. | Rate Only | | |
| i.4 i.5 | DN75mm DN100mm | No. No. | Rate Only Rate Only | | |
| 6 | Bulk Flow Meters Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc and all other fittings to make the installation complete, as specified, all fittings to PN10 including a masonry chamber, and on the following main pipe sizes | | | | |
| 6.1 | DN100mm PN10 | No. | Rate Only | | |
| 6.2 | DN75mm PN10 | No. | 1 | | |
| 6.3 | DN65mm PN10 | No. | Rate Only | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No. 2 : TRANSMISSION MAINS

| PN16 HDPE Compression fitting to DIN 8074/BS 5114 Equal Adapters DD90 female adapter /alves and Penstocks Air Valves Elanged CI double orifice air relief valve, DN50mm, as specified flanges to ISO 2441, complete with isolating gate valve to ISO 7259, lange adaptors, distance pieces, and all fittings necessary to make he installation on pipes of the following sizes, all to PN10, include | No. | 2 | | |
|--|---|--|--|---|
| DD90 female adapter <u>/alves and Penstocks</u> <u>Air Valves</u> <u>Flanged CI double orifice air relief valve, DN50mm, as specified</u> <u>flanges to ISO 2441, complete with isolating gate valve to ISO 7259,</u> <u>lange adaptors, distance pieces, and all fittings necessary to make</u> | No. | 2 | | |
| Valves and Penstocks Air Valves langed CI double orifice air relief valve, DN50mm, as specified flanges to ISO 2441, complete with isolating gate valve to ISO 7259, lange adaptors, distance pieces, and all fittings necessary to make | No. | 2 | | |
| Air Valves Flanged CI double orifice air relief valve, DN50mm, as specified flanges to ISO 2441, complete with isolating gate valve to ISO 7259, lange adaptors, distance pieces, and all fittings necessary to make | | | | |
| Flanged CI double orifice air relief valve, DN50mm, as specified flanges to ISO 2441, complete with isolating gate valve to ISO 7259, lange adaptors, distance pieces, and all fittings necessary to make | | | | |
| flanges to ISO 2441, complete with isolating gate valve to ISO 7259, lange adaptors, distance pieces, and all fittings necessary to make | | | | |
| lange adaptors, distance pieces, and all fittings necessary to make | | | | |
| | | | | |
| he installation on pipes of the following sizes, all to PN10, include | | | | |
| | | | | |
| hamber as specified. | | | | |
| DN40mm | No. | Rate Only | | |
| DN50mm | No. | Rate Only | | |
| DN65mm | No. | Rate Only | | |
| DN75mm | No. | 1 | | |
| DN100mm | No. | Rate Only | | |
| Vashouts | | | | |
| Vashout as specified in the drawings, complete with plastic | | | | |
| compression pipe fittings; tee, drainage pipes, union ball valve, flap | | | | |
| valve, stone masonry outfall structure and all other fittings necessary | | | | |
| o make the complete installation on pipes of the following sizes; all to | | | | |
| 2N10 including valve surface box to detail. | | | | |
| DN100mm | No. | Rate Only | | |
| DN75mm | No. | 1 | | |
| DN65mm | No. | - | | |
| DN50mm | No. | Rate Only | | |
| PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES | | | | |
| Other Chambers | | | | |
| Asonry air valve chamber, complete as specified in the drawings. | | | | |
| and of the following depths | | | | |
| Depth not exceeding 1.5m | No. | 1 | | |
| /alve Surface Boxes | | | | |
| | | | | |
| securely attached to main body of surface box by chain or bolt, include | | | | |
| lown pipe, complete as specified and to the following depths | | | | |
| | | | | |
| | N100mm N75mm N65mm N50mm IPEWORK-MANHOLES AND PIPEWORK ANCILLARIES Nather Chambers Masonry air valve chamber, complete as specified in the drawings, and of the following depths Pepth not exceeding 1.5m Yalve Surface Boxes Yalve surface box for DN100 - DN300 valves, with lockable cover ecurely attached to main body of surface box by chain or bolt, include own pipe, complete as specified and to the following depths | N100mm No. N75mm No. N65mm No. N50mm No. N50mm No. IPEWORK-MANHOLES AND PIPEWORK ANCILLARIES No. IPEWORK-MANHOLES AND PIPEWORK ANCILLARIES No. Inter Chambers No. Masonry air valve chamber, complete as specified in the drawings, and of the following depths No. Vepth not exceeding 1.5m No. Valve Surface Boxes Valve Surface Boxes Valve surface box for DN100 - DN300 valves, with lockable cover No. | N100mm No. Rate Only N75mm No. 1 N65mm No. Rate Only N50mm No. Rate Only Nb50mm No. Rate Only NEEWORK-MANHOLES AND PIPEWORK ANCILLARIES No. Rate Only IPEWORK-manholes No. No. Rate Only Interval No. No. No. Interval No. No. 1 Value Surface Boxes No. 1 Valve Surface do main body of | N100mm No. Rate Only N75mm No. 1 N065mm No. Rate Only N50mm No. Rate Only N50mm No. Rate Only No. No. Ind of the following depths No. Not exceeding 1.5m No. Yalve Surface Boxes No. Yalve surface box for DN100 - DN300 valves, with lockable cover ecurely attached to main body of surface box by chain or bolt, include |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No. 2 : TRANSMISSION MAINS

| ltem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-------------|---|------|-----------|-------------|------------------|
| | Reinstatement | | | | |
| | Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads | | | | |
| | for the following pipe sizes | | | | |
| 11 | Not exceeding DN300mm | m | Rate Only | | |
| | Surrounds | | | | |
| | Pipe surrounds, of selected excavated granular material, for the | | | | |
| | following pipe sizes | | | | |
| 12.1 | Not exceeding DN200mm | m | 55 | | |
| | Pipe surrounds, of imported granular material, for the following pipe | | | | |
| 12.2 | Not exceeding DN200mm | m | 120 | | |
| | Pipe surrounds, of mass concrete, for the following pipe sizes | | | | |
| 12.3 | Not exceeding DN200mm | m | 180 | | |
| | Concrete Stools and Thrust Blocks | | | | |
| | Thrust Blocks | | | | |
| | Mass concrete grade C15 thrust blocks for pipes and fittings, volume | | | | |
| | 0.1-0.2 m ³ , for the following pipe sizes | | | | |
| 13.1 | Diameter not exceeding DN200mm | No. | 6 | | |
| | Other Pipework Ancillaries | | | | |
| | Marker Posts | | | | |
| 14 | Marker posts for pipes, gate valves, air valves, washouts Total Carried to Collection | nr | 20 | | |
| | lo. 2 : TRANSMISSION MAINS | | | | |
| Item | Description | Unit | Qty. | Rate (UGx.) | Amount |
| No. | Description | Onit | હાપુ. | | (UGx.) |
| | Bill No. 2 Collection | | | | |
| | Page 8 | | | | |
| | Page 9 | | | | |
| | Page 10 | | | | |
| | Total Bill No. 2 Carried to Bill Summary | / | • | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No. 4.3 : STORAGE RESERVOIR WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|----------------|-----------|-------------|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site slearance including trees, stumps and disposal of arising materials. | Item | 1 | | |
| 2 | Reservoir | | | | |
| | Erect a welded steel tower for reservoir support complete, include | | | | |
| | foundations, columns, beams, acess ladders, plates, braces, walkway/ | | | | |
| | guardrail, base plates, anchor bolts, nuts, washers, etc, painting and | | | | |
| | finishes; complete as specified and detailed in the drawings, of the | | | | |
| | following height and reservior capacities. | | | | |
| 2.1 | Height; 9.0m for (4No. x 10m ³ Tanks) | No. | 1 | | |
| 3 | Plastic Tanks Supply and install a vertical cylindrical Rotational Moulded Polyethylene Water Storage Tank to DUS 1560: 2013 as manufactured by Ms Gentex Ltd. / Crest Tanks or any other approved complete with a lockable access man ways, inlet/ riser, ball float valve, overflow with insect screen, float type water level indicator and outlet/ down pipe with a strainer, washout and overflow connection, including interconnecting pipe work and fittings, as detailed in the drawings, supply specifications and of the following capacity. | | | | |
| 3.1 | 10m ³ | No. | 4 | | |
| 4 | 150-200 micron union/ compresion type clear uPVC Y- Screen Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement screen element and seal ring :- | | | | |
| 4.1 | DN75mm, PN10 | No. | 1 | | |
| 5 | 150-200 micron union/ compresion type clear uPVC Y- Disc Filter, non corrosive, complete with all fittings, installation on the following GI pipe sizes, pressure ratings and supply of a pair of replacement disk element and seal ring :- [OPTIONAL] | | | | |
| 5.1 | DN100mm, PN10 | No. | Rate Only | | |
| | DN75mm, PN10 | No. | 1 | | |
| | DN65mm, PN10 | No. | Rate Only | | |
| | | | | | |
| | Landscaping and Walkways | - | | | |
| C 4 | Turfing for lawns inside fenced off compound; including filling with | m ² | 150 | | |
| 6.1 | excavated topsoil and preparation of surfaces. | | | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No. 3 : STORAGE RESERVOIR WORKS

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|-----------------|--|----------------|-----------|-------------|------------------|
| | 500 x 500 x 50mm precast concrete paving slabs laid "Space out Stone method" between the gate, pump house and solar array in one raw, laid onto and including 200mm thick murram fill. | No. | Rate Only | | |
| 7 7.1 | <u>Fences</u> Galvarnised wire Gauge10 chain link fence to BS 1722 with triple raw of barbed wire on top; height 2-2.5m. | m | 60 | | |
| 7.2 | <u>Gates</u> Metal field gate to BS 3470; width 1.5m single leaf and height to match the fence. | No. | 1 | | |
| | Provision and Placing of Concrete Ordinary Designed Mix Concrete | | | | |
| 8 | Designed mix concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for 10mm aggregate sizes and the following grades: | | | | |
| 3.1 | Grade C15 | m ³ | 2 | | |
| | Total Carried to Collection | | | | |
| tem No. | o. 3 : STORAGE RESERVOIR WORKS Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
| | Bill No. 3 Collection | | | | |
| | Page 11 | | | | |
| | Page 12 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|--|------|-----------|--|------------------|
| | DEMOLITION AND SITE CLEARANCE | | | | |
| | General Site Clearance | | | | |
| 1 | General site clearance 1.5m wide working corridor along the pipeline | Item | 1 | | |
| | route, including felling trees, grabing tree stumps and disposal of | | | | |
| | arising materials. | | | | |
| | PIPEWORK-PIPES | | | | |
| 2 | Plastic Pressure Pipes- Distribution | | | | |
| | HDPE pressure pipes to BS 3505, include unions / sockets, all to laid in | | | | |
| | trench to the following depths not exceeding 1.5m | | | | |
| 2.1 | OD63mm PN10 | m | 480 | | |
| 2.2 | OD75mm PN10 | m | Rate Only | | |
| 2.3 | OD90mm PN10 | m | 1150 | | |
| | PIPEWORK - FITTINGS AND VALVES | | | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 3 | Equal tees | | | | |
| 3.1 | OD90mm | No. | 1 | | |
| 3.2 | OD75mm | No. | 1 | | |
| 3.3 | OD63mm | No. | Rate Only | | |
| | Unequal tees | | | | |
| 3.5 | OD90 x 75mm | No. | Rate Only | | |
| 3.6 | OD90 x 63mm | No. | 6 | | |
| | PN10 HDPE Compression fitting to DIN 8074/BS 5114 | | | | |
| | Plastic Pipe Fittings | | | | |
| 4 | Couplers | | | | |
| 4.1 | OD90mm | No. | Rate Only | | |
| 4.2 | OD75mm | No. | Rate Only | | |
| 4.3 | OD63mm | No. | Rate Only | | |
| 5 | End caps | | | | |
| 5.1 | OD90mm | No. | Rate Only | | |
| 5.2 | OD75mm | No. | Rate Only | | |
| 5.3 | OD63mm | No. | 3 | | |
| | | | | | |
| | Total Carried to Collection | | <u>I</u> | <u> </u> | |

SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT BILL No.4 : DISTRIBUTION NETWORK

| tem No. | Description | Unit | Qty. | Rate (UGx.) | Amount (UGx.) |
|------------|---|-------------------|-------------------------------------|-------------|------------------|
| 6 | Valves and Penstocks Air Vaves Flanged CI double orifice air relief valve, DN50mm, as specified ,flanges to ISO 2441, complete with isolating gate valve to ISO 7259, flange adaptors, distance pieces, and all fittings necessary to make the installation on pipes of the following sizes, all to PN10, include chamber as specified. | | | | |
| 6.2 | OD90mm OD75mm OD63mm | No. No. No. | Rate Only Rate Only Rate Only | | |
| 7 | Washouts Washout as specified in the drawings, complete with plastic compression pipe fittings; tee, drainage pipes, PVC union ball valve, flap valve and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN10 including valve surface box and stone masonry outfall structure to detail as per | | | | |
| 7.1 | DN75mm DN65mm DN50mm | No. No. No. | Rate Only Rate Only Rate Only | | |
| 8 | Farm Gate Connections Make DN50mm Irrigation Water Supply Hydrant connection to the distribution main, inclusive of PVC compressive ball valve and end cap complete with connector pipes and locakable chamber as detailed on Drawing No. OIS/NUC/SD/008, for the following mains sizes and all to PN10: - | | | | |
| | DN65mm DN50mm | No. No. | Rate Only 5 | | |
| | Other Pipework Ancillaries Marker Posts | | | | |
| 9 | Marker posts for pipes, gate valves, air valves, washouts | nr | 40 | | |
| | <u>Reinstatement</u> Roads | | | | |
| | Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes | | | | |
| 10 | Not exceeding DN300mm | m | Rate Only | | |

CIVIL WORKS FOR OFF- FARM IRRIGATION INFRASTRUCTURE AND FACILITIES: LOT 3 EASTERN PROVINCE AREA SCHEME ID. 4.5: GWERI IN SOTOTI DISTRICT

| Rate (UGx.) (UGx.) |
|--------------------|
| |
| |
| |
| |
| |
| |
| |
| |