COUNTY GOVERNMENT OF KWALE

**Department of Lands, Environment and Natural Resources**

Proposed Construction of Mkulung'ombe Water Pan in Kasemeni Ward

Bills of Quantities

**Bill No 1 Preliminaries and General Items**

| Item | Description | Unit | Quantity | Rate (Kes) | Amount (Kes) |
|---|---|---|---|---|---|
| 1.10 | Mobilization, Maintenance and Demobilization | | | | |
| 1.11 | Mobilization of Personnel, plant and equipment to the project site. Rate shall be inclusive of Maintenance of plant and equipment for the entire project duration and to also include Demobilization after completion of the works. Plant to include but not limited to the following: Excavator, Bulldozer... | Lx | 1 | | |
| 1.20 | Publicity Signage | | | | |
| 1.21 | Provide, install and maintain for the entire contract period a standard publicity sign board to detail as per the drawing and Project Branding | No. | 1 | | |
| 1.30 | Topographical Survey & Setting Out | | | | |
| 1.31 | Allow for topographical survey and setting out of the works in accordance with Clause 17.1 of the Part 1 of the Conditions of Contract and Clause 1.4 of the Specifications before commencement of works and avail a survey report/drawing in DWG format as shall be directed by the Project Manager | Lx | 1 | | |
| 1.32 | Prepare and submit as-built drawing (A1- copies) | Item | 1 | | |
| | ESMP | | | | |
| 1.04 | Allow Provisional sum of Kenya Shillings 200,000 for implementation of the Environmental and Social Management Plan as recommended by the ESIA report and as shall be instructed by the Project Manager | Lx | 1 | | |
| | Project Management & Capacity Building | | | | |
| 1.05 | Provide a provisional sum of Kes. 250,000 to support supervision to be expended as directed by Project Manager | Lx | 1 | | |
| 1.06 | Provide a provisional sum of Kes. 150,000 for WCCPC and PMC capacity building and project implementation facilitation to be expended as directed by Project Manager | Lx | 1 | | |
| 1.07 | Allow for Contractors Profit overheads on items 1.05 & 1.06 above | % | 20 | | |
| | **Sub-total for P & G items carried forward to Summary Page** | | | | |

**Bill No 2 Earthworks**

| Item | Description | Unit | Quantity | Rate (Kes) | Amount (Kes) |
|---|---|---|---|---|---|
| | Notes | | | | |
| | *i. All earthworks shall be carried out as per the ...* | | | | |
| | *ii. Jointly step by step verification of works to be done at every stage of the construction process to ...* | | | | |
| 2.01 | Clear site off all trees less than 500mm diameter), bushes, shrubs including stubs removal and dispose off as directed by the Project Manager | | 1,660 | | |
| 2.02 | Allow for topsoil stripping to a depth not exceeding 250mm deep and cart away to spoil as shall be directed by the Project Manager | cm | 413 | | |
| 2.03 | Mechanical Excavation in normal soil to form reservoir with side slopes of 2.5:1, stockpile,haul and place suitable material for use in embankment construction and cart away to spoil all unsuitable material as directed by the Project manager | | 13,600 | | |
| 2.04 | Excavate, move & spread suitable stockpiled material in 300mm layers while compacting not less than 10 Bulldozer/roller runs to achieve required compaction level to form/raise the embankment fill with crest width of 3m and embankment slopes of 2.5:1 | | 3,334 | | |
| | Draw Off System | | | | |
| | *Supply, deliver to site the following materials and install a draw off system as directed and as per the drawing, include for anchoring and fasten straps* | | | | |
| 2.05 | Allow for supply,trenching, pipelaying, backfilling and testing of 50m long DN110mm HDPE PN16 Draw off pipe from the reservoir area so as to drain water to the auxiliary facilities inclusive of its ... | Ls | 1 | | |
| 2.06 | Provide all materials and construct for masonry intake structure 1.2mx1.2mx2m inclusive of hardcore filling as sieves as shall be directed by the Project Manager | Ls | 1 | | |
| 2.07 | Supply, fix and test:110mm Ø sluice valve (include all fittings) as shall be directed by the Project ... | No | 1 | | |
| 2.08 | Provide all materials and construct valve chamber of internal dimensions 1200 x 1200 mm as per the MoWIS standard drawings and the fittings. Include for supply and fixing of precast concrete cover and step irons, etc as detailed in the drawings and as instructed by the Project Manager | No | 1 | | |
| | Silt Trap | | | | |
| 2.09 | Excavation in soil for Silt-Trap to an average depth not exceeding 2m with side slopes of 2:1, load and stockpile suitable fill material for use in embankment construction, cart away to spoil any excess or unsuitable material as directed by the Project ... | cm | 300 | | |
| | **Sub-total for Bush Clearance & Earthworks Carried forward to Summary Page** | | | | |

**Bill 3: RC Spill way**

| Item | Item Description | Unit | Quantity | Rate (Kes) | |
|---|---|---|---|---|---|
| **4.1** | **Site Clearance** | | | | |
| 4.1.1 | Clear site from all undergrowth shrubs, bushes,including stubs uprooting and removal of all deleterious materials from site around the Spillway area and cart away to spoil as directed by the Project Manager | sm | 1000 | | |
| **4.2** | **Earth works** | | | | |
| 4.2.1 | Excavation and disposal for spillway in normal soils for depth n.e 100mm | cm | 500 | | |
| 4.2.2 | Ditto for excavation hard/ rock formation for depth 1500mm - 2500mm | cm | 0 | | |
| 4.2.4 | Excavation for sill/weir along the axis to a depth n.e 1500mm in hard rock formation | cm | 400 | | |
| **4.3** | **Formwork** | | | | |
| 4.3.1 | Form work to F3 finish to sides of weir/sill body as directed by the Project Manager | sm | 166.40 | | |
| 4.3.2 | Form work to F3 finish to sides of Headwalls and ... | sm | 160.00 | | |
| **4.4** | **Reinforcements** | | | | |
| | **High yield deformed steel bars; Rates to include for bending, tying and fixing** | | | | |
| 4.4.1 | High yield square twisted bars to BS 4461 12mmø in ... | Kg | 135.00 | | |
| 4.4.3 | High yield square twisted bars to BS 4461 ... | Kg | 99.00 | | |
| 4.4.4 | High yield square twisted bars to BS 4461 10mmø in stilling basin at 200mm c/c | Kg | 100.00 | | |
| **4.5** | **Concrete works** | | | | |
| | **Reinforced Concrete Works to Sill, Wingwalls and Stilling Basin** | | | | |
| 4.5.1 | 50mm thick Lean Concrete Blinding class 15/20 under weir, wing walls and Stilling basin as ... | cm | 1 | | |
| 4.5.2 | Cast in situ, reinforced concrete class 25/20 to weir, ... as specified(1:1.5:3) | cm | 10.00 | | |
| 4.5.3 | Cast in situ, reinforced concrete class 25/20 to wingwalls as specified(1:1.5:3) | cm | 10.0 | | |
| **4.6** | **RipRap** | | | | |
| 4.6.1 | Using suitable hard rock with average diameter of 300mm, hand pack them to form a rip rap after the stilling basin slab, well bound by mass concrete at the end | cm | 36 | | |
| 4.6.2 | Using suitable rock material, stone pitch the side slopes of the spill way channel using 1:3 mortar as directed on site | sm | 20 | | |
| | ***Total carried from Bill 4 to Main summary*** | | | | |

**Bill No 3: 10m³ Sump Well, Communal Watering Point & Cattle Trough**

| ITEM | DESCRIPTION | UNIT | QUANTITY | RATE (Kes) | AMOUNT (Kes) |
|---|---|---|---|---|---|
| **3.00** | | | | | |
| 3.01 | Allow for general site clearance including removal of ... | M2 | 8 | | |
| 3.02 | General Excavation to remove top soil commencing from ground level n.e. 300mm deep and dispose -off ... | M3 | 3 | | |
| 3.03 | Excavate for Sump well 2400mm dia. Depth ... | M3 | 12 | | |
| 3.04 | Ditto but 1.5m - 3m depth | M3 | 12 | | |
| 3.05 | Place 300mm thick hardcore filling at bottom ... | M3 | 3 | | |
| 3.06 | | | | | |
| 3.07 | Place reinforced concrete class 20/20 (1:2:4) ... | M3 | 2 | | |
| 3.08 | Place reinforced concrete class 20/20 (1:2:4) for 150mm thick roof slab | M3 | 2 | | |
| 3.09 | Provide materials and Construct 200mm thick ... | M2 | 40 | | |
| 3.10 | 1:2 sand/cement Plastering to internal walls with ... | M2 | 40 | | |
| | Formwork | | | | |
| 3.11 | (i) To roof soffit | M2 | 8 | | |
| 3.12 | (ii) 3Ply to sides of roof slab | M2 | 3 | | |
| | Supply, cut and fix reinforcement to well ring, wall and roof slab as specified in the DWG | | | | |
| 3.13 | (i)D8 | Kgs | 150 | | |
| 3.14 | (ii)D10 | Kgs | 300 | | |
| 3.16 | Fabricate, supply and Install internally 3.5M long x 0.45m wide stainless steel ladder as per specification or as shall be directed by the Project ... | No. | 1 | | |
| 3.17 | Fabricate, supply and fix 600mm x 600mm x 50mm thick well cover and capping complete with ... | No. | 1 | | |
| | **Sub-total Sump well** | | | | |
| 3.20 | **Pipeline Works, Communal Watering Point & ...** | | | | |
| | Excavate for trench 600mmx600mm to receive pipes ... | cm | 216 | | |
| | Supply, lay, test and backfill OD 63mm HDPE PN ... | lm | 600 | | |
| | Allow provisional sum for pipeline connection from the sump-well inclusive of all fittings as directed by the Project Manager | item | 1 | | |
| | Communal Watering Point | | | | |
| 3.19 | Provide all materials and construct a 4metre water tower & kiosk inclusive of filtration unit with 10,000ltrs overhead tank as per annex 1 | item | 1 | | |
| 3.20 | Provide all materials and construct a platform/ dias with 5,000ltrs overhead tank as per annex 2 | item | 1 | | |
| | Sub-total for Communal Watering Point | | | | |
| | Animal Troughs | | | | |
| 3.21 | Provide all materials and construct 2no. animal drinking points as per Annex 3 | item | 2 | | |
| | **SUMMARY** | | | | |
| | **10m3 Sump well** | | | | |
| | Communal Water Point | | | | |
| | Community Water Point & Troughs | | | | |

**Bill 4: Water Abstraction Works (Pipe works, Earthworks & Concrete)**

| Item | Item Description | Unit | Quantity | Unit Rate | Amount |
|---|---|---|---|---|---|
| **5.1** | In take works | | | | |
| 5.1.1 | Construct a masonry machine -cut walling intake structure 1500x1500mm with openings as per the drawings attached | sm | 24 | | |
| 5.1.2 | Concrete class 25/20 for in take floor and holding the HDPE draw off pipe | cm | 2.0 | | |
| 5.1.3 | Plaster to oil finish using water proof additive mortar ... | sm | 42 | | |
| 5.1.4 | Approved hardcore material as course sieve, well handpacked into the constructed in take structure | cm | 8.0 | | |
| 5.1.5 | Intake pipe, well perforated (10mm diameer all around the pipe for 2500mm length) 150mm HDPE pipe PN 12.5. Installation including bends, end cap and any other fittings to connect it such that it is vertical and be able to connect with the horizontal draw off pipe | item | 1 | | |
| **5.2** | **Draw-off Pipe** | | | | |
| 5.2.1 | Supply, lay and test 150mm (6") diameter PN 16 HDPE pipes or approved equivalent steel pipes as directed by the project manager | lm | 20 | | |
| 5.2.1 | Supply, fix and test 150mm (6") diameter sluice valves. Fixing to include necessary fittings for connection to the 160mm (6") diameter pipes | No. | 1 | | |
| **5.3** | **Concrete Surround** | | | | |
| 5.3.1 | Cast in situ, mass concrete surround class 25/20 as haunch to the laid drawoff pipe inorder to hold it in horizontal alignment and as anchorage as directed by the project manager | cm | 14.38 | | |
| **5.4** | **Inspection Chamber** | | | | |
| 5.4.1 | Construct a masonry chamber 1500x1500mm and at least 1000mm above the ground complete with manhole cover and access ladder | No. | 1 | | |
| | ***Total carried from Bill 5 to Main summary*** | | | | |
| | **Total for Sumpwell, CWP & Trough carried forward to Summary Page** | | | | |


**Bill 4: Water Abstraction Works (Pipe works, Earthworks & Concrete)**

| Item | Item Description | Unit | Quantity | Unit Rate | Amount |
|---|---|---|---|---|---|
| **5.1** | In take works | | | | |
| 5.1.1 | Construct a masonry machine -cut walling intake structure 1500x1500mm with openings as per the drawings attached | sm | 24 | | |
| 5.1.2 | Concrete class 25/20 for in take floor and holding the HDPE draw off pipe | cm | 2.0 | | |
| 5.1.3 | Plaster to oil finish using water proof additive mortar ... | sm | 42 | | |
| 5.1.4 | Approved hardcore material as course sieve, well handpacked into the constructed in take structure | cm | 8.0 | | |
| 5.1.5 | Intake pipe, well perforated (10mm diameer all around the pipe for 2500mm length) 150mm HDPE pipe PN 12.5. Installation including bends, end cap and any other fittings to connect it such that it is vertical and be able to connect with the horizontal draw off pipe | item | 1 | | |
| **5.2** | **Draw-off Pipe** | | | | |
| 5.2.1 | Supply, lay and test 150mm (6") diameter PN 16 HDPE pipes or approved equivalent steel pipes as directed by the project manager | lm | 20 | | |
| 5.2.1 | Supply, fix and test 150mm (6") diameter sluice valves. Fixing to include necessary fittings for connection to the 160mm (6") diameter pipes | No. | 1 | | |
| **5.3** | Concrete Surround | | | | |
| 5.3.1 | Cast in situ, mass concrete surround class 25/20 as haunch to the laid drawoff pipe inorder to hold it in horizontal alignment and as anchorage as directed by the project manager | cm | 14.38 | | |
| **5.4** | Inspection Chamber | | | | |
| 5.4.1 | Construct a masonry chamber 1500x1500mm and at least 1000mm above the ground complete with manhole cover and access ladder | No. | 1 | | |
| | ***Total carried from Bill 5 to Main summary*** | | | | |


**Bill No 4: Pump Installation & Solarization**

| ITEM | DESCRIPTION | UNIT | QUANTITY | RATE (Kes) | AMOUNT (Kes) |
|---|---|---|---|---|---|
| | **SOLAR POWER INSTALLATION AND EQUIPPING** | | | | |
| 4.01 | Supply, Install and test Grundfos or its equivalent european standard submersible Pump. Discharge ... | No. | 1 | | |
| 4.02 | | | | | |
| 4.03 | Supply, deliver and test 2.2kW Sunverter or its ... | No. | 1 | | |
| 4.05 | | | | | |
| 4.06 | | M | 60 | | |
| 4.06 | | | | | |
| 4.07 | Supply, deliver, install and test Monocrystaline Crystalline solar module as approved by the Project ... | Watt | 2400 | | |
| 4.08 | Supply all materials and fabricate 3m high stainless steel solar support structure properly braced, inclined for maximum solar absorption and anchored as directed by the project manager | Item | 1 | | |
| 4.09 | | | | | |
| | **Total for Pump Installation & Solarization Carried forward to Summary Page** | | | | |

**Bill No 5: Fencing**

| ITEM | DESCRIPTION | UNIT | QUANTITY | RATE (Kes) | AMOUNT (Kes) |
|---|---|---|---|---|---|
| | Earthworks | | | | |
| 5.01 | ... 600mm and grub roots and remove from site as directed | SM | 450 | | |
| 5.02 | Excavate for pits not exceeding 600mm depth and ... | No. | 151 | | |
| 5.03 | Provide and pour insitu mass concrete class 20/20 ... into excavated pits for backfilling | CM | 10.00 | | |
| 5.04 | Supply all material & Cast insitu 2440m high cranked reinforced concrete fencing posts at 3m cetre to centre with holes to allow fixing of 2.1m high chain link. The posts shall be of 100 x100 mm grade ... | No. | 167 | | |
| 5.06 | 3 lines Galvanizing wire gauge 12 | LM | 1350 | | |
| 5.07 | 3 lines Barbed wire gauge 12 on the cranked position | LM | 1350 | | |
| 5.08 | PVC Coated Chain link 2.1 meter high gauge12 | LM | 450 | | |
| | **Gate** | | | | |
| | Gate civil works | | | | |
| 5.09 | ... pillars | cm | 1 | | |
| 5.10 | 50mm thick blinding using concrete 15/20 | | 0.6 | | |
| | **Reinforcements** | | | | |
| | bars | | | | |
| 5.11 | D12 | Kg | 90 | | |
| 5.12 | D8 | Kg | 31 | | |
| 5.13 | Form work or Equivalent | | 26 | | |
| 5.14 | Cast concrete into the column concrete class 20/20 | | 6 | | |
| 5.15 | Using mortar 1:3, plaster the columns as directed on ... | | 26 | | |
| 5.16 | Fabricate and mount onto the concrete columns 2.5m wide and 2.1m high double opening steel gate (as per ...) | item | 1 | | |
| | **Painting** | | | | |
| 5.17 | Prepare and apply two white emulsion paint coats ... | sm | 25 | | |
| 5.18 | Prepare and apply two bermuda blue paint coats onto the double steel gate on both sides | sm | 45 | | |
| | **Branding of gate** | | | | |
| | Employ a skilled artist to carry out branding for: | | | | |
| 5.19 | i. Kwale County logo which should be approximately 450x450mm square | Ls | 1 | | |
| | ii. The script as detailed wording below | | | | |
| | ii. (a). Letters/Font to be 300mm height | | | | |
| | ii. (b). Font Thickness to be 50mm | | | | |
| | ii. (c). The font colour to be black | | | | |
| | The script to be in 2 lines: | | | | |
| | AUXILLARY FACILITIES | | | | |
| | line 2: FUNDED BY COUNTY GOVERNMENT OF KWALE FY 2026/2027 | | | | |
| 5.20 | ... cost for paint writing | | | | |
| | **Total for Fencing Carried forward to Summary Page** | | | | |

Proposed Construction of Mkulung'ombe Water Pan in Kasemeni Ward

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
|---|---|---|---|---|---|
| BILL 6 | IRRIGATION SYSTEM | | | | |
| A | **Preliminaries and General** | | | | |
| 1.2 | Clear site of all trees, bushes, shrubs etc and dispose as specified by the Engineer. Size of land - one acre | Lump Sum | 1 | | |
| 1.3 | Plough and harrow land of one acre size as specified by the project manager | Lump Sum | 1 | | |
| 1.4 | Formation of beds 1.5 m x 40 m as specified by engineer | Lump Sum | 1 | | |
| | **Sub - Total (Preliminaries)** | | | | |
| B | **Installation of Irrigation** | | | | |
| | **Water tank Installation** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Install 10,000-litres tanks using PPR pipes of 63mm. This includes all the fittings needed for the intake and outlates of the tanks. Then later connect the tanks to either the water kiosk for domestic use or [illegible] | No. | 2 | | |
| | | | | | |
| | Procure, supply, deliver and place 50 mm diameter PN12.5 HDPE pipe complete with all the coupling [illegible] | LM | 40 | | |
| | | | | | |
| | [illegible] | | | | |
| | [illegible] | | | | |
| | DN 63mm HDPE PN12.5 pipe with all the necessary fittings and materials required to couple it to the tanks [illegible] | LM | 80 | | |
| | | | | | |
| | [illegible] | | | | |
| | [illegible] | | | | |
| | DN 50mm HDPE PN 8 pipe with all necessary [illegible] | LM | 100 | | |
| | | | | | |
| | [illegible] | | | | |
| | 1/4 acre drip kit, 16mm, thickness 0.4mm. Include all the fittings which i.e. connectors, rubbers, take-offs, and ball corks for the blocks. Also a lateral pipe of 40mm, PN 8 will be required for each block with [illegible] | No. | 4 | | |
| | | | | | |
| | Sub - Total (Irrigation System) | | | | |

**6.0M WATER TOWER**

| ITEM | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | WATER TOWER | | | | |
| | | | | | |
| | ELEMNET NO 1 | | | | |
| | SUBSTRUCTURE WORKS [illegible] | | | | |
| | | | | | |
| | EXCAVATION AND EARTHWORKS | | | | |
| 1.0 | Clear site of all bushes, tufs and any small or large trees, including grubbing out roots and burn on site where directed | 28 | SM | | |
| | | | | | |
| 2.0 | Excavate oversite average 250mm deep and cart away [illegible] | 6 | SM | | |
| | | | | | |
| 3.0 | Excavate trench for strip foundation: not exceeding 1.5m deep | 30 | CM | | |
| | | | | | |
| [illegible] | Excavate for column pits not exceeding 1.5m deep | [illegible] | CM | | |
| | | | | | |
| | Disposal of excavated material | | | | |
| 5.0 | Filling around substructure walls and columns; backfill and compact in 150mm layers; selected excavated materials | 20 | CM | | |
| | | | | | |
| 6.0 | Load and cart away surplus material from site as directed | 8 | CM | | |
| | | | | | |
| | Disposal of Water | | | | |
| 7.0 | Allow for keeping the whole of the excavation free from mud, water and fallen materials | 1 | Item | | |
| | TOTAL CARRIED FORWARD | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | | | | | |
| | Brought Forward | | | | |
| | | | | | |
| | | | | | |
| | Planking and strutting | | | | |
| [illegible] | Allow for planking and strutting sides of excavation | [illegible] | [illegible] | | |
| | | | | | |
| | Filling | | | | |
| 2.0 | 300mm thick (minimum) approved hardcore [illegible] | 7 | SM | | |
| | | | | | |
| 3.0 | 50mm thick murram dust or any other equal and approved material in blinding surface of hardcore | 12 | SM | | |
| | | | | | |
| | Insecticide Treatment | | | | |
| | | | | | |
| 4.0 | Treat hardcore & murram surfaces and tops of foundation wall with approved antitermite applied in accordance with the manufacturer's instructions and subject to a TEN YEAR guarantee | 12 | SM | | |
| | TOTAL CARRIED FORWARD | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | SUBSTRUCTURES & SSUPERSTRUCTURE CONTINUED | | | | |
| | CONCRETE WORKS | | | | |
| 1.0 | 50mm thick concrete blinding to surfaces of strip footing & column bases (mix 1:3:6) | 8 | SM | | |
| | | | | | |
| | Vibrated reinforced concrete class 20/20 (Mix 1:2:4) to:- | | | | |
| [illegible] | 200mm thick Strip footing | [illegible] | CM | | |
| [illegible] | Column Bases | [illegible] | CM | | |
| [illegible] | 300x300mm Columns | [illegible] | CM | | |
| [illegible] | Beams | [illegible] | CM | | |
| [illegible] | 150mm thick ground floor slab | [illegible] | CM | | |
| | | | | | |
| | High Tensile Reinforcement Bars to B. S. 4461 including cutting, bending and all necessary [illegible] (Provisional) : | | | | |
| [illegible] | 8mm dia bars | [illegible] | KG | | |
| [illegible] | 10mm dia bars | [illegible] | KG | | |
| [illegible] | 12mm dia bars | [illegible] | KG | | |
| [illegible] | 16mm dia bars | [illegible] | KG | | |
| | | | | | |
| | Mesh Fabric reinforcement to BS 4483: | | | | |
| 10.0 | Square Mesh refrence A142:weighing 2.22kilogrammes per square metre | 12 | SM | | |
| | | | | | |
| | Sawn treated Cypress formwork to: | | | | |
| | | | | | |
| [illegible] | Edges of strip footing | [illegible] | SM | | |
| [illegible] | Ditto but to column bases | [illegible] | SM | | |
| [illegible] | Ditto but to sides of columns | [illegible] | SM | | |
| [illegible] | Ditto but to sides of beams | [illegible] | SM | | |
| [illegible] | Ditto but to edges of floor slab | [illegible] | [illegible] | | |
| | TOTAL CARRIED FORWARD | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | Brought Forward | | | | |
| | | | | | |
| | FOUNDATION WALLING | | | | |
| 1.0 | 200mm natural stone foundation wall in cement:sand (1:3) reinforced with hoop iron at every to alternative course | 95 | SM | | |
| | | | | | |
| | WATERPROOFING | | | | |
| 2.0 | 1000 gauge polythene sheet waterproof to slab area, measured net, no allowances made for overlaps | 12 | SM | | |
| | | | | | |
| | PLINTH FINISHES | | | | |
| 3.0 | 15mm cement and sand (1:4) render trowelled smooth and comprising 12mm thick backing and 3mm finishing coat | 40 | SM | | |
| | | | | | |
| | Painting and Decoration | | | | |
| 4.0 | Prepare and apply 3 coats of first quality emulsion paint to rendered surfaces | 40 | SM | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | TOTAL CARRIED FORWARD TO ELEMENT COLLECTION | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | AMT |
|---|---|---|---|---|---|
| | | | | | |
| | PRIME COST AND PROVISIONAL SUMS | | | | |
| | | | | | |
| 1.0 | Allow a Prime cost Sum of Kshs. One hundred thousand (150,000.00) only for Connection of Plumbing and drainage Works | | Lump Sum | | |
| | | | | | |
| 2.0 | Allow a Prime cost Sum of Kshs. Fifty thousand (100,000.00) only for fabrication of access ladder | | Lump Sum | | |
| | | | | | |
| | TOTAL PRIME COST AND PROVISIONAL SUMS, CARRIED TO GRAND SUMMARY | | | | |

| ITEM | DESCRIPTION | QTY | UNIT | RATE | AMOUNT |
|---|---|---|---|---|---|
| | | | | | |
| | ELEMENT NO. 1 (SUBSTRUCTURE WORKS) COLLECTION | | | | |
| | | | | | |
| 1.0 | Total Excavation and Earthworks brought forward from page MB/1 | | | | |
| | | | | | |
| 2.0 | Total Substructure,Superstructure, Walling and Concrete Works brought forward from page MB/2 | | | | |
| | | | | | |
| [illegible] | Prime Cost and Provisional Sums | | | | |
| | TOTAL ELEMENT NO. 1 (SUBSTRUCTURE WORKS) CARRIED TO SUMMARY | | | | |

**Farm Inputs & Implements**

| S/No. | Item description | Unit | Qty | Rate (Ksh) | Amount (KES) |
|---|---|---|---|---|---|
| 1 | [illegible] | No. | [illegible] | | |
| 2 | [illegible] | No. | [illegible] | | |
| 3 | [illegible] | No. | [illegible] | | |
| 4 | [illegible] | No. | [illegible] | | |
| 5 | [illegible] | No. | [illegible] | | |
| 6 | PVC spray suit (complete with goggles, gloves and gumboots) | No. | 4 | | |
| 7 | [illegible] | No. | [illegible] | | |
| 8 | [illegible] | No. | [illegible] | | |
| 9 | [illegible] | No. | 10 | | |
| 10 | [illegible] | No. | [illegible] | | |
| 11 | [illegible] | No. | [illegible] | | |
| 12 | [illegible] | No. | [illegible] | | |
| 13 | [illegible] | No. | [illegible] | | |
| 14 | [illegible] | No. | [illegible] | | |
| 15 | [illegible] | No. | [illegible] | | |
| 16 | [illegible] | No. | [illegible] | | |
| 17 | [illegible] | No. | [illegible] | | |
| 18 | [illegible] | No. | [illegible] | | |
| 19 | [illegible] | No. | [illegible] | | |
| 20 | [illegible] | No. | [illegible] | | |
| 21 | [illegible] | No. | [illegible] | | |
| 22 | [illegible] | No. | [illegible] | | |
| 23 | [illegible] | Kg | [illegible] | | |
| 24 | [illegible] | No. | [illegible] | | |
| 25 | [illegible] | No. | [illegible] | | |
| 26 | [illegible] | No. | [illegible] | | |
| 27 | [illegible] | No. | [illegible] | | |
| | | | | | |
| | Sub - Total (Inputs & Implements) | | | | |

**Fence**

| ITEM | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
|---|---|---|---|---|---|
| | | | | | |
| | Earthworks | | | | |
| | Clear sight of shrubs, small trees, 1m wide girth not exceeding 600mm and grub roots and remove from site as directed by the Project Manager | SM | 388 | | |
| | Excavate for pits not exceeding 600mm depth and [illegible] | No. | 130 | | |
| | | | | | |
| | Supply, place and test | | | | |
| 1 | Treated poles, 100mm x 2500mm placed at 2500mm interval on the ground. Cast-in-place concrete to support the post on the ground. | No. | 130 | | |
| | | | | | |
| | Supply, fix and test | | | | |
| 2 | G 12.5 Barbed wire on to the erected post, include all | LM | 3,000.00 | | |
| | | | | | |
| | Supply, fix and test | | | | |
| 3 | 2000mm x 2500mm steel gate, include all necessary mterials required for fixing the gate on vibrated concrete columns reinforced with steel bars. The gate will be using square tubes of 76 mm It should [illegible] | Item | 1 | | |
| | | | | | |
| | Sub - Total (Fencing) | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| 1 | IRRIGATION SYSTEM | | | | |
| 2 | 6.0M WATER TOWER | | | | |
| 3 | Farm Inputs & Implements | | | | |
| 4 | Fence | | | | |
| | Sub-total for Auxillary Facilities Carried forward to Summary Page | | | | |

**CONSTRUCTION OF A 2-DOOR PUBLIC TOILET (ALL PROVISIONAL)**

| Item | Description | Unit | | [illegible] | [illegible] |
|---|---|---|---|---|---|
| | BILLS OF QUANTITIES FOR PROPOSED [illegible] | | | | |
| | [illegible] | | | | |
| 1.0 | Clear site of shrubs,grass,small trees girth not exceeding [illegible] | SM | | | |
| | | | | | |
| 2.0 | Excavate vegetable soil,shrubs and undergrowth grub [illegible] | SM | | | |
| | Excavate for strip foundation starting from strip level depth not exceeding 1.5m deep. | [illegible] | | | |
| | Excavate for pit latrine 2100mmx1450mm wide depth not exceeding 1.5m deep. | [illegible] | | | |
| | | | | | |
| [illegible] | Ditto but from 1.5m but not exceeding 3.0m deep | CM | | | |
| [illegible] | [illegible] | [illegible] | | | |
| [illegible] | [illegible] | [illegible] | | | |
| [illegible] | [illegible] | [illegible] | | | |
| [illegible] | [illegible] | [illegible] | | | |
| [illegible] | [illegible] | CM | | | |
| [illegible] | [illegible] | [illegible] | | | |
| [illegible] | [illegible] | [illegible] | | | |
| [illegible] | [illegible] | [illegible] | | | |
| 14.0 | Approved hardcore fill 300mm thick ,well watered and [illegible] | SM | | | |
| [illegible] | [illegible] | SM | | | |
| | Gladiator T.C.L or any other equal and approved [illegible] | SM | | | |
| | CARRIED FORWARD | | | | |

| Item | Description | Unit | | | [illegible] |
|---|---|---|---|---|---|
| | BROUGHT FORWARD | | | | |
| | Insitu Plain Concrete mix 1:3:6 in: | | | | |
| 1.0 | 50mmthick concrete blinding under strip foundations | SM | [illegible] | | |
| 2.0 | 50mmthick concrete blinding under pit linning strip | SM | [illegible] | | |
| | | | | | |
| | Insitu vibrated reinforced concrete mix 1:2:4 in | | | | |
| 3.0 | 200mmthick strip foundations | CM | 2 | | |
| [illegible] | [illegible] | [illegible] | | | |
| [illegible] | 200mmx200mmthick in floor beams | CM | [illegible] | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | |
| | High yield square twisted reinforcement including cutting to lengths,bending,twisting and fixing ,including all necessary tying wires and spacing [illegible] | | | | |
| 7.0 | 8mm longitudinal bars in strip foundation | KG | [illegible] | | |
| | [illegible] | [illegible] | | | |
| | 8mm longitudinal bars in strip foundation for pit linning | KG | [illegible] | | |
| | [illegible] | [illegible] | | | |
| | 12mm bars as main bars in suspended floors and beams | KG | 126 | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | |
| | Mild steel reinforcement to BS 4449 | | | | |
| 13.0 | 8mm diameter bars as links to floor beams | KG | [illegible] | | |
| | CARRIED FORWARD | | | | |

| Item | Description | Unit | | | KShs |
|---|---|---|---|---|---|
| | BROUGHT FORWARD | | | | |
| | Mesh fabric reinforcement to BS 4483:Square mesh reference A142:weighing 2.22kilogrammes [illegible] | | | | |
| 1.0 | In beds 200mm laps | SM | | | |
| | | | | | |
| | Formwork to: | | | | |
| 2.0 | Vertical sides of strip foundations | SM | | | |
| | | | | | |
| 3.0 | Vertical sides of strip foundations for pit linning | SM | | | |
| 4.0 | Soffits and sides of floor beams and slabs exceeding 3.0m | | | | |
| | | SM | | | |
| 5.0 | Vertical edges of beds over 75mm but not exceeding [illegible] | | | | |
| | | LM | | | |
| | Machine cut natural stones beded in cement sand mortar (1:4) including hoop iron in every alternate [illegible] | | | | |
| 6.0 | 200mm walls | SM | | | |
| | | | | | |
| | Machine cut natural stones beded in cement sand mortar (1:4) including hoop iron in every alternate [illegible] | | | | |
| 7.0 | 200mm walls in pit linning | SM | | | |
| | | | | | |
| | Bituminous felt damp proof courses bedded in [illegible] | | | | |
| | | | | | |
| 10.0 | 200mm wide horizontal | LM | | | |
| | | | | | |
| | 12mm cement sand (1:4) render:Steel trowelled on [illegible] | | | | |
| | | | | | |
| 11.0 | Plinths | SM | | | |
| | | | | | |
| | Prepare and apply two coats bituminous paint on [illegible] | | | | |
| 12.0 | Plinth | SM | | | |
| | SUBSTRUCTURE WORKS | | | | |

| Item | Description | Unit | | | Amount [illegible] |
|---|---|---|---|---|---|
| | [illegible] | | | | |
| | | | | | |
| | Insitu vibrated reinforced concrete mix 1:2:4 grade 20 [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | |
| | | | | | |
| | High yield square twisted reinforcement including cutting to lengths,bending,twisting and fixing ,including all necessary tying wires and spacing [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | |
| | | | | | |
| | [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | |
| | | | | | |
| [illegible] | [illegible] | | | | |
| | [illegible] | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | |
| | | | | | |
| | [illegible] | | | | |

| Item | Description | Unit | | | [illegible] |
|---|---|---|---|---|---|
| | [illegible] | | | | |
| | [illegible] | | | | |
| 1.0 | 200mmthick machine cut coral block walling bedded and jointed in cement and sand mortar mix 1:3 with 20mm [illegible] | [illegible] | | | |
| 2.0 | 150mmthick precast concrete permanent vent block [illegible] | SM | | | |
| | | | | | |
| | [illegible] | | | | |
| 3.0 | Mass concrete copping stone mix (1:3) twice weathered | LM | | | |
| | | | | | |
| | Heavy duty steel grilles comprising 16mm square bar perimeter framing and horizontal middle rail 12mm square bar vertical infills at 150mm centres, 16 x 4 mm flat diamond shaped welded onto square bars primed as per crown paints primer the whole grillecomplete with fixing lugs and including [illegible] | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 5.00 | | SM | | | |
| | WALLING SUPERSTRUCTURE | | | | |

| Item | Description | Unit | | | |
|---|---|---|---|---|---|
| | [illegible] | | | | |
| | **The following in 5No.second grade celcured cypress timber rafters including nails ,U-bars, lappers and all the necessary for assembling and** | | | | |
| [illegible] | [illegible] | LM | | | |
| [illegible] | [illegible] | LM | | | |
| | [illegible] | | | | |
| 3.0 | 28gauge Pre-painted box profile RoofCovering nailed to | SM | | | |
| | [illegible] | | | | |
| | **PAINT WORK** | | | | |
| | **Prepare and apply 3 coats of first grade clear wood** | | | | |
| 5.0 | Surfaces not exceeding 300mm | LM | | | |
| 6.0 | General surfaces | SM | | | |
| | ROOFING | | | | |

| Item | Description | Unit | | | Amount |
|---|---|---|---|---|---|
| 5 | **DOORS** | | | | |
| 1 | 100mmx50mm frame with one labour and fixed to block | LM | # | | |
| 1.2 | 75mmx 25mmmoulded campher architrave to Architect approval | LM | # # | | |
| 1.3 | 15mmx 15mmditto quadrant ditto | LM | # | | |
| | **Shutter** | | | | |
| 1.4 | 45mmthick (finished) hardwood ledged,braced and battened door comprising of 95 x 20mm(finished) braces,ledges and tongued and grooved matchboarding, | NO | # # # | | |
| | **Ironmongry** | | | | |
| | **Supply and fix the following ironmongery with** | | | | |
| 1.5 | 100mmbrass butt hinges with matching screws. | NO | # | | |
| 1.6 | 15mmdiameter rubber door stop | NO | # | | |
| 1.7 | 25mmx 3mmfish tailed metal cramps one end screwed to | NO | # | | |
| 1.8 | 300mmlong steel aldrop(Pad bolt ) | NO | # | | |
| 1.9 | 150mmBrass tower bolt | NO | # | | |
| | **PAINT WORK** | | | | |
| | **Prepare and apply 3 coats of first grade clear wood** | | | | |
| 10 | [illegible] | SM | # | | |
| 11 | General Surfaces | SM | # | | |

| Item | Description | Unit | | | |
|---|---|---|---|---|---|
| | [illegible] | | | | |
| | 40mmthick Cement Sand (1:4) and screed | SM | | | |
| | Ditto,in 100mmhigh skirting ,with painted top, ditto | LM | | | |
| | Supply and fix Ceramic Floor tiles to screeded floor | SM | | | |
| | 15mmthick cement and sand plaster(1:4) plaster to internal wall and concrete surfaces finished smooth with | SM | | | |
| | **Interior and exterior surfaces** | | | | |
| | Prepare and apply one coat of" Crown" penetrating primer and three finishing coats of CROWN silk vinyl | SM | | | |
| | **MISCELLEANOUS** | | | | |
| | U.P.V.C golden brown vent pipe 100mmdiameter | LM | | | |
| | Allow for drawing the County logo and the text reading ' KWALE COUNTY GOVERNMENT' and the name of | | | | |
| | **1000 litres PVC Water storage tank as EXOTANK** | | | | |
| | Supply and fix 1000litres PVC Water tank as before | NO | | | |

| Item | Description | Unit | | | |
|---|---|---|---|---|---|
| | SUMMARY | | | | |
| 1.0 | SUBSTRUCTURE WORKS | | | | |
| 2.0 | VIBRATED REINFORCED SUPERSTRUCTURE | | | | |
| 3.0 | WALLING SUPERSTRUCTURE | | | | |
| 4.0 | ROOFING | | | | |
| 5.0 | DOORS | | | | |
| 6.0 | FINISHES | | | | |
| | TOTAL | | | | |

| Summary | | | | | |
|---|---|---|---|---|---|
| Item | Description | | | | |
| [illegible] | [illegible] | | | | |
| [illegible] | [illegible] | | | | |
| [illegible] | [illegible] | | | | |
| [illegible] | [illegible] | | | | |
| [illegible] | [illegible] | | | | |
| [illegible] | Pump Installation & Relocation | | | | |
| [illegible] | [illegible] | | | | |
| [illegible] | [illegible] | | | | |
| [illegible] | [illegible] | | | | |
| | Sub total 1 | | | | |
| | [illegible] | | | | |
| | Add 0.03% PPRA Capacity Building (of Total 1) | | | | |
| | Sub total 2 | | | | |
| | ADD 16% VAT | | | | |
| | Grand Total Carried forward to form of Tender | | | | |

Annexes

ANNEX 1: BILL OF QUANTITIES FOR (METRES TOWER & KIOSK)

| Item | Description | Unit | Qty | Rate (Ksh) | Amount (Ksh) |
|---|---|---|---|---|---|
| | [illegible] | | | | |
| | Allow for ground site clearance | Item | 1 | | |
| | Approved 150mm thick layer hard core bed hand packed, well watered and compacted below floor slab. | CM | 1.5 | | |
| | 50mm quarry dust/ murram blinding to hard core surface, well rolled and leveled to receive concrete. | SM | 5 | | |
| | 1000mm gauge polythene sheeting with sides and und | SM | 6 | | |
| | Allow for excavation to a solid foundation of depth of | CM | 10 | | |
| | **Concrete Works** | | | | |
| | 50mm thick blinding concrete (1:3:6) to strip footing | CM | 1 | | |
| | Place and compact Concrete 300mm Class 25/20 | CM | 3 | | |
| | Place and compact 150mm thick ground floor slab concrete grade 20 (1:2:4). Allow for the required | CM | 2 | | |
| | Place and compact 150mm thick roof slab concrete grade 25/20 (1:1.5:3). Allow for the required | CM | 2 | | |
| | [illegible] | CM | [illegible] | | |
| | [illegible] | CM | [illegible] | | |
| | Place and compact concrete grade 20 (1:2:4) in | CM | 1.5 | | |
| | **Reinforcement** | | | | |
| | Supply and place No. A 142-fabric mesh reinforcement in floor slab (Include also the fetching | SM | 15 | | |
| | Supply bend and place as specified in the drawings, D12mm square twisted high tensile bars in foundations bases. Include for the binding wire and | KG | 60 | | |
| | Supply bend and place as specified in the drawings, D16mm square twisted high tensile bars in columns. Include for the binding wire and stirrups. | KG | 60 | | |
| | [illegible] | KG | 30 | | |
| | Supply bend and place as specified in the drawings, 16mm square twisted high tensile bars in columns and beams. Include for the binding wire and stirrups. | KG | 270 | | |
| | [illegible] | KG | 60 | | |
| | Supply bend and place as specified in the drawings, 12mm square twisted high tensile bars in roof slab. Include for the binding wire and stirrups. | KG | 180 | | |
| | [illegible] | | | | |
| | Allow for Sawn formwork to sides of fetching bay | SM | 2 | | |
| | Allow for Sawn formwork to soffit of roof slab and | SM | 10 | | |
| | Allow for Sawn formwork to columns in the sub- | SM | 4 | | |
| | Allow for Sawn formwork to columns and sides of | SM | 10 | | |
| | [illegible] | | | | |
| | 200mm natural stone (machine cut or chisel dressed) walling in 1:3 cement and sand mortar and including reinforcing with 25mm thick hoop iron in every alternate course in the sub-structure. Include for | SM | 20 | | |
| | 200mm natural stone (machine cut or chisel dressed) walling in 1:3 cement and sand mortar and including reinforcing with 25mm thick hoop iron in every alternate course in the super-structure. Include for | SM | 45 | | |
| | **Joinery & Glazing** | | | | |
| | [illegible] | NO | 3 | | |
| | **Metal Work** | | | | |
| | Supply & fix purpose made 25mm thick x 1000 mm long x 1200mm high steel shutter window fabricated from standard sections complete with frames, mullions and transoms including all necessary locking and window stays, screws and nuts once shop | NO | 1 | | |
| | Allow for 50x50x3mm angle section fixed and anchored in the reinforced concrete window sill to detail as in the drawings. The section shall be set in | LM | 3 | | |
| | 2.5mm thick x 900 x2100mm high burglar proof steel door complete as detailed in drawing no. ARC 09. Include for provision of high security padlock. Allow for painting including red oxide primer. | NO | 1 | | |
| | **Plumbing Installations** | | | | |
| | Supply, deliver and install 25mm diameter GI class 'B' pipe including jointing, coupling and fixing as detailed in the drawings. Include for all original Pegler valves, meter and all fittings and consumables and placement as shown in the drawings including pipe work into and out of the overhead tank and floater valve to manufacturers' specifications. | Sum | 1 | | |
| | **Testing and commissioning** | | | | |
| | Allow for testing and commissioning of the whole of | Item | 1 | | |
| | **Floor, Wall & Ceiling Finishes** | | | | |
| | **External finishes** | | | | |
| | Extra over walling for smooth chisel dressing with flush pointed vertical joints and recessed horizontal | SM | 20 | | |
| | 15mm thick cement sand plaster trowelled smooth to external surface of masonry wall in fetching bay, beams, columns, roof slab edges and soffit | SM | 30 | | |
| | **Internal finishes** | | | | |
| | [illegible] | SM | 2 | | |
| | [illegible] | | | | |
| | 15mm thick cement sand plaster trowelled smooth to | SM | 15 | | |
| | [illegible] | SM | 3 | | |
| | Provide and place 600x600mm paving slabs all round the water kiosk Or cast 100mm thick insitu concrete | SM | 3 | | |
| | **Painting & Finishes** | | | | |
| | Prepare and apply three coats gloss oil paint to general surfaces of metal doors, windows, sections etc | SM | 10 | | |
| | Prepare and apply three coats of first grade silk vinyl emulsion paint to plastered surfaces of beams, | SM | 35 | | |
| | Prepare and apply three coats first grade plastic emulsion paint to plastered internal surfaces of walls | SM | 15 | | |
| | **Filtration Unit** | | | | |
| | Supply, install and test Dayliff or equivalent approved European standard manual high pressure Filtration system model (PXD600) inclusive of all plumbing works as shall be directed by the Project manager | Ls | 1 | | |
| | [illegible] | | | | |
| | Supply, deliver, install and test 10,000l PVC tank as directed and approved by the Project manager | No | 1 | | |
| | **Sub-Total For 1 No. Water Kiosk** | | | | |

ANNEX 2:BILL OF QUANTITY FOR CONSTRUCTION OF A WATER TANK PLATFORM

| Item | Description | Unit | Qty | Rate (Ksh) | Amount (Ksh) |
|---|---|---|---|---|---|
| a | **Site Clearance and excavation work** | | | | |
| i | Excavate oversite average 150mm deep, wheel and | SM | 1.2 | | |
| ii | Excavate for foundation trench not exceeding 1.5m from the ground | CM | 6 | | |
| iii | [illegible] | CM | [illegible] | | |
| iv | [illegible] | CM | [illegible] | | |
| v | [illegible] | CM | [illegible] | | |
| vi | 300mm thick hardcore layer compacted in 3 layers and blinded with murram | CM | 5 | | |
| vii | [illegible] | CM | [illegible] | | |
| viii | 50mm thick weak concrete blinding under strip foundations | CM | 0.3 | | |
| b | **Vibrated reinforced concrete (1:2:4) 20mm aggregate** | | | | |
| i | [illegible] | CM | [illegible] | | |
| ii | [illegible] | CM | [illegible] | | |
| c | **Steel reinforcement** | | | | |
| i | Steel bars cut and bent as required including short | | | | |
| ii | [illegible] | kg | [illegible] | | |
| iii | [illegible] | kg | [illegible] | | |
| d | [illegible] | | | | |
| i | [illegible] | LM | [illegible] | | |
| ii | [illegible] | SM | [illegible] | | |
| iii | 12mm cement sand (1:4) render trowelled smooth platform finishes | SM | 9 | | |
| iv | 25mm thick cement sand plaster to sides and top platform | SM | 18 | | |
| e | **Plumbing Works** | | | | |
| i | Provide 2" PPR pipes for connection from the 2" main line to the tank and provide taps for the fetching bay | item | 1 | | |
| ii | [illegible] | No | [illegible] | | |
| f | **PVC Tank** | | | | |
| | Supply, fix on top of the slab and test 5,000l PVC KENTANK or Equivalent and approved quality | No | 1 | | |
| | **Grand Total for platform** | | | | |

ANNEX 3: BILL OF QUANTITIES FOR CONSTRUCTION OF ANIMAL DRINKING TROUGH

| ITEM | DESCRIPTION | UNIT | QUANTITY | RATE (Ksh) | AMOUNT (Ksh) |
|---|---|---|---|---|---|
| | **CATTLE TROUGHS** | | | | |
| | Clear trough area and excavate over site soil material | SM | 72 | | |
| | [illegible] | CM | 17 | | |
| | 225 mm thick hand-packed approved hardcore filling, | SM | 17 | | |
| | Level and blind surface of hardcore with 50mm thick | SM | 17 | | |
| | [illegible] | LM | 26 | | |
| | Reinforcement bars D8 including for tying to floor | Kg | 102 | | |
| | In-situ reinforced concrete mix Class 20/20 mm | CM | 2 | | |
| | 6"x9" approved quarry stone; squared; and rough chisel dressed one side, bedding and jointing in | SM | 13 | | |
| | [illegible] | Kg | 32 | | |
| | 25mm thick internal 1:3 cement: sand waterproofed | SM | 13 | | |
| | 25mm thick external 1:3 cement: sand waterproofed | SM | 15 | | |
| | Supply, deliver to site approved hardcore, hand-pack level and compact and join with 1:3 cement mortar to form grouted riprap 2m wide around trough as | SM | 48 | | |
| | Fabricate and install a 700mmx1000mm lockable 16g steel plate manhole cover framed and cross reinforced with 16g, 25mm hollow section steel cover. | No | 1 | | |
| | [illegible] | No | 2 | | |
| | [illegible] | No | 1 | | |
| | **Total for 1no.Animal Drinking Trough** | | | | |