



COUNTY GOVERNMENT OF SIAYA

**DEPARTMENT OF AGRICULTURE, FOOD SECURITY, LIVESTOCK & BLUE
ECONOMY - COUNTY GOVERNMENT OF SIAYA**

SPECIFICATIONS AND BILLS OF QUANTITIES

**KOGONGA IRRIGATION PROJECT IN NORTH UYOMA WARD -
SIAYA COUNTY**

**FUNDED BY THE GOVERNMENT OF KENYA, WORLD BANK
AND THE COUNTY GOVERNMENT OF SIAYA**

APRIL 2025

GRAND SUMMARY

ITEM	DESCRIPTION	PAGE NO.	AMOUNT (KSHS)
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GRAND TOTAL CARRIED TO FORM OF TENDER			

Amount in words

.....

Tenderer's Signature & Stamp

Address

Date

Witness

Signature

Address

PREAMBLE

- 1 The Bill Of Quantities shall be read in conjunction with the instructions to bidders, General and particular conditions of technical specifications and drawings

- 2 The quantities given in the BOQ are estimated and provisional and are given to provide a common basis for bidding. The basis for payment will be the actual quantities of work ordered and carried out, as measured by the contractor and verified by the engineer and valued at the rates and process bid in the priced in the priced BOQ, where applicable and otherwise at such rates and prices as the engineer may fix within the terms of the contract.

- 3 The rates and prices bid in the priced BOQ shall except, insofar as it is otherwise provided under the contract, include all constructional plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with general risks, liabilities, and obligations set out or implied in the contract.

- 4 A rate of price shall be entered against each item in the priced BOQ, whether quantities are stated or not. The cost of items against which the contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the BOQ.

- 5 The whole cost of complying with the provisions of the contract shall be included in the items provided in the priced BOQ, and where no items are provided, the costs shall be deemed to be distributed among the rates and prices entered for the related item of work

- 6 General directions and descriptions of work and materials are neither necessarily repeated nor summarized in the BOQ. References to the relevant sections of the contract documentation shall be made before entering prices against each item in the priced BOQ.

- 7 Provisional sums included and so designated in the BOQ shall be expended in whole or in part at the direction and discretion of the engineer in accordance with subclauses 13.4 and 13.5 of the general conditions except with respect to DAAB fees and expenses from which no instruction will be required from the engineer

- 8 The method of measurement of completed work for payment shall be Admeasurement in accordance with ICE conditions of contract measurement clauses.

SECTION 01 - PRELIMINARY ITEMS/WORKS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	SPEC. REF
1.1	SIGNBOARDS					
1.1.1	Provision, erection and maintenance of project signboards.	No.	2.00		-	Sections 114
1.2	MARKER POSTS					
1.2.1	Excavate for include for supply and fixing of indicator posts for water main route, road crossings, change of direction, air valves, washouts, and valve chambers.	No.	150.00		-	Section 719
1.3	PROJECT OPERATION DOCUMENTATION UPON COMPLETION					
1.3.1	Preparation of : Operation and Maintenance Booklet As-built drawings and manuals Completion and operation report	Item	1.00		-	Section 139, 142 & 1406
1.4	PROJECT ESIA DOCUMENTATION					
1.4.1	Provide for the Implementation of Environmental and Social Health Safeguards (ESH), as per the ESMP in the ESIA report in Vol III	Item	1		-	ESIA Report Vol.III
1.5	ENGAGEMENT OF ADJUDICATOR					
1.5.1	Allow a Provisional Sum of Ksh. 400,000 for engagement of a professional adjudicator for conflict resolution during project Implementation	Item	1		-	
TOTAL FOR PRELIMINARY ITEMS/WORKS CARRIED TO GRAND SUMMARY					-	

SECTION 02 - INTAKE WORKS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	SPEC. REF
2.1	SITE CLEARANCE AND SETTING OUT					
2.1.1	Clear site of all trees (less than 500 mm diameter), bushes, shrubs, etc and dispose as specified with respect to weir and intake locations	SM	200.00		-	Section 201, 203, & 1122
2.2	PUMP-HOUSE					
2.2.1	<u>Earthworks</u>					
(i)	Foundation excavation; depth not exceeding 0.25m	CM	2.25		-	Section 301
(ii)	Excavation for wall footing; depth range 0.25 - 0.5m	CM	6.00		-	Section 301
2.2.2	<u>Filling</u>					
(i)	Approved murrum blinding to floor slab	CM	1.35		-	Section 303 & 808
(ii)	Approved hardcore back-fill minimum depth 450mm compacted in 150mm layers	CM	4.05		-	Section 303 & 808
2.2.3	<u>Insitu Concrete</u> <i>Provide, mix and place:</i> <i>Note: The rate for the items below shall include for providing, mixing and placing notwithstanding the description given.</i> <u>Plain and Vibrated reinforced concrete</u>					
(i)	Blinding Concrete grade 15/20 - 50mm thick	CM	0.45		-	Section 401
(ii)	Vibrated reinforced Concrete grade 25/20 - 150mm thick floor slab	CM	1.35		-	Section 401
(iii)	Vibrated reinforced Concrete grade 25/20 - 450 X 250mm footing	CM	1.35		-	Section 401
(iv)	Vibrated reinforced Concrete grade 25/20 - 200mm thick lintel	CM	0.60		-	Section 401
2.2.4	<u>Concrete Ancillaries</u> <i>Form work; Fair finish Sawn vertical to;</i>					
(i)	External face to base slab, wall footing and lintel	SM	11.40		-	Section 401
2.2.5	<u>Reinforcement</u> <i>Provide support & fix the following reinforcement, including all cutting, bending and supports.</i>					
(i)	R8 Steel bars to ring beam links	KG	11.00		-	Section 419
(ii)	D12 high yield steel bars to ring beam and strip footing	KG	64.00		-	Section 419
(iii)	BRC A142 for floor slab	SM	10.00		-	Section 419

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2.2.6	BRICK WORK, BLOCK WORK AND MASONRY <u>Walling</u> 150x225 natural stone to walls to superstructure walling in 1:3 cement/sand mortar. Hoop iron in every 3 courses (Allow for permanent ventilation as louvre vents as per drawings)	SM	38.40	-	Section 601 & 725
(ii)	<u>Ancillaries-Finishes</u> 20mm trowel finished plaster to the internal wall surfaces	SM	38.40	-	Section 1144
(iii)	<u>Painting</u> Provide 3 coats of approved Emulsion paint to the wall surfaces	SM	76.80	-	Section 1149
(iv)	<u>Roofing</u> Roofing materials - Include timber and Unpainted Corrugated galvanised iron sheets, Gauge 30	LS	1.00	-	Section 601
2.3	INTAKE PUMP CHAMBER AND CHANNEL FROM LAKE TO PUMP				
2.3.1	Excavate intake channel from the lake to the pump sump chamber to attain a uniform elevation of 1136 from the lake to the sump or shall be directed by the project engineer. The channel dimensions to be 1m width and a slope of 1:1. The cost to include back filling.	CM	50.00	-	Sections 301 & 303
2.3.2	Supply and lay a 250mm HDPE pipe PN16 as shall be instructed by the project engineer.	LM	100.00	-	Sections 808 & 1023
2.3.3	Provide and install thrust block at intervals of 6m of the inlet pipe from the lake to the pump sump using thrust blocks.	CM	9.00	-	Section 810
2.3.4	<i>Excavate a pump chamber / shallow well of 6m depth and of diameter 1.2m or as shall be directed by the project engineer</i>				
(i)	Excavation of 0 -1.5m deep	CM	3.5	-	Section 1001
(ii)	Excavation of 1.5 - 3m deep	CM	3.5	-	Section 1001
(iii)	Excavation of 3 -4.5m deep	CM	3.5	-	Section 1001
(iv)	Excavation of 4.5 - 6m deep	CM	3.5	-	Section 1001
2.3.5	Provide and install a 900mm concrete cover on the shallow well	LM	10	-	Section 742
2.3.6	Supply and install 254mm slotted casing on the shallow well as directed by the project engineer / manager	LM	7	-	Section 1007
2.3.7	Surround the slotted steel casing and culvert with gravel of 50mm inside the culvert	CM	10	-	Section 1019
2.3.8	Supply and install a 900mm concrete cover on the shallow well	SM	3	-	Section 754

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2.4	SOLAR PUMPING SYSTEM					
2.4.1	Supply and install approved submersible pump capable of pumping 114m ³ /hr. at a total head of 50m.	No.	1.00		-	Section 1303
2.4.2	Supply and install monocrystalline 41.6 KW solar panels. See attached specifications in Vol IV	Watt	41.60		-	Section 1303
2.4.3	Supply, fabricate and install a solar steel structure to support 41.6 KW solar panel, 3m high as provided in the drawings (See Vol. II)	Watt	41.60		-	Section 1303
2.4.4	Supply and install an approved 1No. 30 kW hybrid solar pumping inverter (See attached specifications in Vol. IV)	No.	1.00		-	Section 1303
2.4.5	Supply and install solar pumping sundries including but not limited to electrical cables, level sensors, earth rod , lightening arrestor, and 3m borehole pipes, bore hole covers, unions and non return valves. (Shallow well, Solar structure, controls are within a radius of 10m)	LS	1.00		-	Section 1303
2.4.6	Supply and install water meter 90mm. Price inclusive of all fittings	No.	1.00		-	Section 1303
2.5	SOLAR PUMPING SYSTEM FENCING					
2.5.1	Supply and install 2.4 M high x 14 gauge chainlink complete with 12 1/2 Gauge x 6 strand galvanised barbed wired fencing with 100 x 125 mm cranked precast concrete posts at 3.0 M centers mortised in mass concrete surround (Cost to include excavation of concrete post holes and mass concrete on the chainlink bottom)	LM	152.00		-	Section 127
2.5.2	Supply and install steel gate 3m wide and 2m high	No.	1.00		-	Section 127
TOTAL FOR INTAKE WORKS CARRIED TO GRAND SUMMARY					-	

SECTION 03 - RISING MAIN

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	SPEC. REF
3.1	SITE CLEARANCE					
3.1.1	Bush clearing along the pipe line route of 1m width.	SM	500.00		-	Section 201
3.2	EXCAVATION AND BACKFILLING <i>Rates for excavation and backfilling in trench shall include for trimming trench bottom and for providing selected bedding and surround materials from the excavations with the specifications.</i>					
3.2.1	Excavation and backfilling in trench normal material for Dia 200mm pipe for depth not exceeding 1 m	CM	228.00		-	Section 807 & 809
3.2.2	E.O for excavation in hard rock	CM	64.80		-	Section 301
3.3	PIPEWORK <i>Provide, lay, install and test the following PN8 High Density Polyethylene - HDPE) pipes and fittings. Rates to include for all joining materials, cutting wastage. Pipe joints to be joint welded.</i> <i>Note: The following have been used on the drawings to specify pipe diameters/types/classes. Pipe dimensions/working pressures shall conform to ISO4427-2:2007 PE 100 Pipes.</i>					
3.3.1	HDPE 280mm Pipes, Class PN8					
(i)	280mm diameter	LM	680.00		-	Section 702, 1124, 1126 & 1023
(ii)	Supply and install thrust blocks as instructed by the Engineer.	CM	7.20		-	Section 810 & 1023
3.4	BLOCK CHAMBER (Section Valve Chamber)					
3.4.1	Excavate for, provide all materials and construct complete inspection valve chambers at the pipe junctions. Internal dimensions 1200 x 1200 x 1200 mm. Rates to include for all thrust blocks, pipe supports, inspection covers, etc and as to be directed by the project engineer	No.	4.00		-	Section 811

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3.4.2	HDPE 200mm flange adaptors	No.	6.00	-	Section 701 & 715
3.4.3	200mm diameter flanges	No.	6.00	-	Section 701 & 715
3.4.4	200mm diameter flanged sluice valve	No.	2.00	-	Section 701 & 715
3.5 AIRVALVES					
3.5.1	Excavate for, provide all materials and construct complete air valve chambers. Internal dimensions 1200 x 1200 x 1200 mm. Rates to include for all thrust blocks pipe supports, inspection covers, etc as detailed in the drawings in Vol. II	No.	4.00	-	Section 710 & 811
3.5.2	Provide, handle, install and test the following steel and HDPE pipes and fittings, valves and specials. Special rates shall include for completing all pipe joints as specified in the specification				
(i)	50mm HDPE flange adaptor complete with gasket and fitting.	No.	4.00	-	Section 702, 1023
(ii)	280mm x 50mm x 280mm HDPE Tee.	No.	4.00	-	Section 702, 1023
(iii)	50mm Double air valve	No.	4.00	-	Section 710
(iv)	50mm diameter 0.3m double threaded GI pipe	No.	4.00	-	Section 702
3.6	NON RETURN VALVES/ELBOW/BENDS (PROVISIONAL)				
	HDPE fittings				
3.6.1	130,90, 45, 11.25 degrees Elbows 280 mm dia	No.	10.00	-	Section 1023
3.6.2	Non return valve flap 160mm complete with all fitting accessories 280 mm dia	No.	1.00	-	Section 713
3.6.3	HDPE flange adaptor 280 mm dia	No.	2.00	-	Sections 701 & 715
3.7	ROAD, GULLEY AND RIVER CROSSINGS FOR PIPES				
	<i>Provide for road crossings as per drawings and in accordance with specifications. Rates to include for excavation and backfilling, concrete surround and all jointing materials and other fittings as directed by the Engineer.</i>				
3.7.1	Excavate for the road crossing to take pipe, 200mm dia, not exceeding 1m.	CM	22.00	-	Sections 113, 1015 & 1013

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3.7.2	Provide concrete sorround reinforced with BRC class A142 as in shown in the drawing in Vol. II	CM	15.00	-	Section 402
3.7.3	Backfill insitu and compact	CM	9.00	-	Section 809
3.8	PIPE JOINING USING BUTT FUSSION WELDING				
3.8.1	Allow for butt fusion welding (rate per joint)	No.	46.00	-	Section 716
TOTAL FOR RISING MAIN LINE CARRIED TO GRAND SUMMARY				-	

SECTION 04 - MAIN LINES

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUN	SPEC. REF
4.1	BUSH CLEARING					
4.1.1	Clear site along the pipeline route 1m wide.	LM	740.00		-	Section 202
4.2	EXCAVATION AND BACKFILLING <i>Rates for excavation and backfilling in trench shall include for trimming trench bottom and for providing selected bedding and surround materials from the excavations with the specifications.</i>					
4.2.1	Excavation and backfilling in trench normal material for Dia 200mm pipe for depth not exceeding 1 m	CM	168.00		-	Sections 807 & 809
4.2.2	E.O for excavation in hard rock (provisional)	CM	72.00		-	Section 301
4.3	PIPEWORK <i>Provide, lay, install and test the following PE100 (High Density Polyethylene - HDPE) pipes and fittings. Rates to include for all jointly materials, cutting wastage.</i>					
4.3.1	<u>HDPE PE100 Pipes</u> Class PN8					
(i)	160mm	LM	520.00		-	Sections 720
(ii)	110mm	LM	220.00		-	Sections 720
4.3.2	Offtakes Fittings PE100					
(i)	Saddle 160x110mm	No.	1.00		-	Section 705,716 & 720
(ii)	110mm tee	No.	1.00		-	Section 705,716 & 720
(iii)	110mm male adaptor	No.	3.00		-	Section 705,716 & 720
(iv)	160mm sluice valve complete with gaskets and bolts	No.	1.00		-	Section 705,716 & 720
(v)	110mm sluice valve complete with gasket and bolts	No.	4.00		-	Section 705,716 & 720
(vi)	HDPE flange adaptor 110mm	No.	8.00		-	Section 705,716 & 720
(vii)	110x63x110mm tee	No.	7.00		-	Section 705,716 & 720
(viii)	110x75x110mm tee	No.	2.00		-	Section 705,716 & 720
(ix)	90x63mm reducing coupler	No.	3.00		-	Section 705,716 & 720
(x)	HDPE flange adaptor 90mm	No.	8.00		-	Section 705,716 & 720
(xi)	HDPE flange adaptor 63mm	No.	4.00		-	Section 705,716 & 720

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(xii)	90mm sluice valve c/w bolts and nuts	No.	4.00	-	Section 705,716 & 720
(xiii)	63mm sluice valve c/w bolts and nuts	No.	3.00	-	Section 705,716 & 720
4.4	BLOCK CHAMBERS (Section and air valve chambers)				
	Excavate for, provide all materials and construct complete inspection valve chambers at the pipe junctions. Internal dimensions 1200 x 1200 x 1200 mm. Rates to include for all thrust blocks , pipe supports, inspection covers, etc as detailed in the drawings in Vol. II				
4.4.1		No.	30.00	-	Section 811
4.4.2	Fittings for Air Valve Chambers.				
(i)	Saddle 200x110mm	No.	3.00	-	Sections 710, & 811
(ii)	Male adapter 110mm	No.	3.00	-	Sections 710, & 811
(iii)	110x75mm reducer	No.	3.00	-	Sections 710, & 811
(iv)	75x50mm reducer	No.	3.00	-	Sections 710, & 811
(v)	HDPE flange adaptor 50mm	No.	3.00	-	Sections 710, & 811
(vi)	50mm Double air valves (DAV)	No.	3.00	-	Sections 710, & 811
(vii)	50mm double threaded 0.3m GI pipe	No.	3.00	-	Sections 710, & 811
4.5	WASHOUTS (W/O), Provisional.				
	Excavate for, provide all materials and construct complete w/o spillway chambers of internal dimensions 1200 x 1200 x 1200 mm. Rates to including thrust blocks, pipe supports as shown in the drawings in Vol. II				
4.5.1		No.	30.00	-	Sections 303 & 811
4.5.2	Provide, handle, install and test the following steel and HDPE pipes and fittings, valves and specials. Special rates shall include for completing all pipe joints as specified in the specification in Vol. IV				
	ELBOWS/BENDS (PROVISIONAL)				
	HDPE fittings				
	Elbows				
	130,90, 45, 11.25 degrees Elbows				
(i)	160 mm elbow	No.	5.00	-	Section 812, 716
(ii)	160 mm end cap	No.	1.00	-	Section 812, 716
(iii)	110 mm end cap	No.	4.00	-	Section 812, 716
(iv)	110mm elbow	No.	6.00	-	Section 812, 716

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4.6	ROAD, RIVER AND GULLEY CROSSING FOR PIPES. <i>Provide for road crossings as per drawings and in accordance with specifications. Rates to include for excavation and backfilling, concrete surround and all jointing materials and other fittings as directed by the Engineer.</i>					
4.6.1	Excavate for the road crossing to take pipe not exceeding 1m.	CM	16.80		-	Sections 113, 1015 & 1013
4.6.2	Provide concrete surround reinforced with BRC class A142 as in shown in the drawing in Vol. II	CM	9.86		-	Section 402
4.6.3	Backfill insitu and compact	CM	7.00		-	Section 809
4.7	PIPE JOINING USING BUTT FUSION WELDING					
4.7.1	Allow for butt fusion welding (rate per joint)	No.	16.00		-	Section 716
4.7.2	Provide supports and anchor as specified as directed by Engineer.	CM	16.00		-	Section 810
TOTAL FOR MAINLINES CARRIED TO GRAND SUMMARY					-	

SECTION 05 - SUB - MAINS (ALL SUB - MAINS)

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	SPEC. REF
5.1	EXCAVATION AND BACKFILLING FOR ALL SUB-MAINS <i>Rates for excavation and backfilling in trench shall include for trimming trench bottom and for providing selected bedding and surround materials from the excavations with the specifications.</i>					
5.1.1	Excavation and backfilling in trench normal material for Dia 75mm,90mm and 63mm for depth not exceeding 1 m	CM	2,200.00		-	Section 807 & 809
5.2	PIPEWORK <i>Provide, lay, install and test the following PE100 (High Density Polyethylene - HDPE) pipes and fittings. Rates to include for all jointly materials, cutting wastage.</i>					
5.2.1	HDPE PE100 Pipes :Class PN8					
(i)	90mm Diameter	LM	200.00		-	Sections 720
(ii)	75mm Diameter	LM	500.00		-	Sections 720
(iii)	63mm Diameter	LM	1300		-	Sections 720
5.3	BLOCK CHAMBERS (Section valve chambers) Excavate for, provide all materials and construct complete inspection valve chambers at the pipe junctions. Internal dimensions 800 x 800 x 1200 mm. Rates to include for all thrust blocks , pipe supports, inspection covers, etc as detailed in the drawings. (See Vol. II)					
5.3.1		No.	55.00		-	Section 303 & 811
5.3.2	40 No. Section chambers for washouts and feeder offtakes at 50m interval along the SubMains.					
(i)	100 x 32 mm saddle clamp	No.	9.00		-	Section 705,716 & 720
(ii)	32mm male adaptor	No.	40.00		-	Section 705,716 & 720
(iii)	32mm gate valve	No.	40.00		-	Section 705,716 & 720
(iv)	Long nipple 32mm	No.	120.00		-	Section 705,716 & 720
(v)	GI union 32mm	No.	80.00		-	Section 705,716 & 720
(vi)	90 degrees Elbow 32mm	No.	40.00		-	Section 705,716 & 720
(vii)	HDPE equal tee 32mm	No.	40.00		-	Section 716

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(viii)	End cap 32mm	No.	80.00	-	Section 705,716 & 720
(ix)	End cap 90mm	No.	1.00	-	Section 705,716 & 720
(x)	End cap 63mm	No.	6.00	-	Section 705,716 & 720
(xi)	32mm Flow limiter c/w all fittings	No.	40.00	-	Section 705,716 & 720
5.4	PIPE JOINING USING BUTT FUSION WELDING				
5.4.1	Allow for butt fusion welding (rate per joint)	No.	101.00	-	Section 716
5.4.2	Provide supports and anchor as specified as directed by Engineer.	CM	16.00	-	Section 810
5.5	DRIP IRRIGATION DEMO PLOT				
5.5.1	Provide for drip irrigation demonstration plot establishment on a 1 acre piece of land	Item	1	-	Section 720
TOTAL FOR ALL SUB-MAINS CARRIED TO GRAND SUMMARY					-

SECTION 06 - TANK

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	SPEC. REF
6.1	627m3 GROUND MOUNTED STEEL STORAGE TANKS <i>Excavation including maintaining and supporting sides and keeping free from water, mud and fallen materials by bailing, pumping or otherwise</i>					
6.1.1	Prepare site by stripping top 150 mm of soil to remove all debris including sand (if any) from site and carting away spoil	SM	121.00		-	Section 301 & 202
6.1.2	Pit excavation commencing at reduced levels depth not exceeding 1.50m deep	CM	181.50		-	Section 303
6.1.3	Extra-over for excavation in soft rock	CM	15.00		-	Section 301 & 303
6.1.4	Extra-over for excavation in hard rock	CM	20.00		-	Section 301 & 303
6.1.5	Remove surplus excavated material from site	CM	50.00		-	Section 201, 202 & 203
6.1.6	Backfill around foundation	CM	131.50		-	Section 809
6.1.7	Concrete work					
(i)	Mass Concrete class 15 (1:3:6) with 20mm thick maximum aggregate size in 50mm Thick blinding	CM	16.00		-	Section 401-413
	Vibrated Reinforced Concrete class 25 (1:1.5:3) with 20mm thick maximum aggregate size in					
(ii)	Dwarf beam base	CM	19.00		-	Section 419 & 420
	Reinforcement					
(iii)	Reinforcement bars (all sizes) as shown on drawings	KG	3,400.00		-	Section 419 & 420
	Sawn formwork					
(iv)	Formwork to sides of dwarf beam bases	SM	200.00		-	Sections 501, 502, 503 & 504
6.2	TANK					
6.2.1	Supply, Assemble, Install, Test and Commission a ground level water tank made of pressed steel or GRP or FRP sectional tank plates, 6mm thick plates of size 1,200mm x 1,200mm hydraulically cold pressed in one piece, or approved equivalent. Capacity of tank to be at least 627,000 litres and of preferred dimensions size 13m x 13m x 3.6m high. The tank to rest on dwarf walls erected as detailed in the Scope of Works. The tank to be complete with 1.5 mm roof cover, mosquito proof hinged and lockable inspection vent close to the inlet pipe, 190mm diameter x 16mm thickness, long over flow GI pipe feeding to nearest flood water disposal trench, including applying two coats of non-toxic bituminous paint on the inside and two coats of aluminium paint on the outside, all inclusive. All bolts used in the assembly should be of high tensile grade 8.8 for rigid holding and should be zinc coated to prevent against any rust forming	LS	1.00		-	Section 717
6.2.2	Allow for all the requisite pipe work including inlet, outlet and washout pipework to the foot of the tank tower	LS	1.00		-	Section 717
TOTAL FOR ALL TANK CARRIED TO GRAND SUMMARY					-	