

**EMBOLOT-EMBOBUT WARD**

**WEWO WATER PROJECT 2017-18**

**CONSTRUCTION OF INTAKE WORKS, PIPELINE AND PROPOSED  
CONSTRUCTION OF 50M<sup>3</sup> GROUND MASONRY WATER TANK**

**INTAKE WORKS**

Item	Description	Unit	Qty	Rate	Amount
01	Provide and erect six feet high chain link fence with four strands of barbed wire on treated timber posts casted in concrete at 3m intervals	M	160		
02	Provide and fix four feet wide lockable steel gate to the access to the intake. Allow for good quality padlock.	L/S	1		
03	Construct intake chamber 1000mmx1000mm with 600mmx500mm fine screen inside the intake weir with a precast concrete cover	L /s	1		
	<b>Sub Total carried to grand total</b>				

**PIPELINE**

Item	Description	Unit	Qty	Rate	Amount
01	Excavate and backfill trench 600mm deep in normal soil	M	1530		
02	Provide and lay 50mm Ø GS pipe class B. use approved jointing compound.	No	30		
03	Provide, handle, lay and joint 50mm PVC pipe class D using approved jointing compound(tangit solvent cement)	No	225		
05	Provide and install the following fittings for places to be specified by the Engineer. <ul style="list-style-type: none"> <li>• .50mmØ PVC adaptor</li> <li>• 50mmØ plain socket</li> <li>• 50mm Ø 90<sup>0</sup> GS bends</li> <li>• 50mmØ gate valve</li> <li>• 50mmØ union socket</li> </ul>	No No No No No	10 2 4 1 4		
05	Provide and fix 50mmØ washout at lowest section along the line.	No	2		
	<b>Sub Total carried to grand total</b>				

**BILL NO.1 50m3 CAPACITY GROUND MASONRY WATER TANK.  
BILL OF QUANTITIES**

Item	Description	Unit	Qty	Rate	Amount
1.0	<b><u>EARTH WORKS(ALL PROVISIONAL)</u></b>				
1.01	Strip top soil 200mm from ground level over the area of tank and remove all the spoil to a temporary soil heap.	M2	60		
1.02	Trim, spread and level the ground around the tank to form suitable drainage of surface water.	M2	20		
1.03	Excavate from the stripped level to a depth not exceeding 1.5m deep and dispose of the materials 50m away from the foundation, allowing the use of selected excavated materials for fill or back fill as required.	M3	68		
1.04	Extra over excavation for excavating in rock item 1.03(Provisional)	M3	0		
	<b><u>Hardcore filling as per specifications</u></b>				
1.05	Provide, place and compact hardcore of approved quality 500mm thick to make up levels.	M3	25		
1.06	Blind the surface of the hardcore using, 50mm layer of 1:4:8 concrete mix to make up levels under floor slab.	M3	2.5		
1.07	Provide and place 500gauge polythene sheet to the surface of blinded hardcore.	M2	26		
1.08	Ditto to roof cover slab.	M2	26		
	<b><u>Concrete works.</u></b>				
1.09	<b>Provide materials, handle, mix and place.</b> Vibrated 1:2:4 concrete mix as described to 150mm thick floor slab.	M3	7		
1.10	Ditto to 150mm thick roof slab	M3	6		
1.11	Ditto to outlet/inlet pipes anchorage including inlet and outlet valve chambers and column.	M3	0.5		

<b>Sub-Total carried to Summary</b>					

**BILL NO.1 50m3 CAPACITIES GROUND MASONRY WATER TANK  
BILL OF QUANTITIES**

Item	Description	Unit	Qty	Rate	Amount
	<b><u>Reinforcement Bars</u></b> <b>Provide, handle, cut, bend and fix in position the following reinforcement bars as per the bending schedule.</b>				
1.12	12mmΦ high yielding reinforcement bars to the roof slab and column	M	520		
1.13	Ditto to the floor slab.	M	460		
1.14	8mmΦ mild steel circumferential bars bent to average radius of 2875mm.	M	864		
1.15	10mmΦ mild steel reinforcement bars to valve chamber cover slabs	M	72		
1.16	Allow for binding wire to items 6.12,6.13,6.14 and 6.15	Kg	50		
	<b><u>Shuttering/Formwork</u></b>				
1.17	Provide sawn timber form work to soffit of roof slab including the inlet /outlet valve chambers and columns	M2	36		
1.18	Provide, cut and fix ply wood to the edges of 150mm thick floor slab	M2	3.6		
1.19	Ditto to edges of roof slab	M2	3.4		
1.20	Sawn timber formwork 150mm wide to the edges of manhole opening including the outlet and inlet valve chambers.	M	10		
1.21	Provide and place good quality timber struts/poles support to roof slab average size 100mmΦ and 3000mm long	No	75		
<b>Sub-Total carried to Summary</b>					

**BILL NO.1 50m3 CAPACITY MASONRY WATER TANK**  
**BILL OF QUANTITIES**

Item	Description	Unit	Qty	Rate	Amount
1.22	<b><u>Concrete block walling</u></b> Provide all materials, handle, mix mortar as per specification and construct the following. 225mm thick concrete block walling in 1:1:3 cement: water proof cement: sand mortar ratio between the joints.	M2	68		
1.23	Provide and install bondex seal in the joints as per the instructions	Item	Ls	-	
1.24	Install a double layer of bitumen coat between surface of masonry wall and floor/roof slab	Item	Ls	-	
1.25	Construct and complete valve chamber in concrete masonry block measuring 1500mmx 1500mmx1000mm deep complete with steel plate cover including locking device.	No	1		
1.26	<b><u>FINISHES</u></b> Provide all materials ,handle, mix and apply 20mm thick 1:3 cement :sand mortar screed including water proof cement to floor slab	M2	20		
1.27	Ditto rendering to the interior surface of the concrete block walls	M2	48		
1.28	Ditto to the exterior surface of the block walls excluding water proof cement	M2	52.4		
1.29	20mm thick 1:3 cement: sand mortar screed to the exterior surface of the roof slab.	M2	24		
1.30	<b>Metal work and miscellaneous Items</b> Supply and install internal and external tank ladder fabricated on stainless steel tubing and include provision and fixing of 25mm G.S pipes extension of ladder top as directed by the Engineer.	No	2		

1.31	Supply and install tank manhole cover size 600x450mm fabricated on 3mm thick steel plate including locking device and good quality padlock.	No	2		
1.32	Supply and install 100mmΦ bend G.S pipe to air vent as per the drawing	No	3		
1.33	100mmΦ G.S pipe threaded on one side and one side lugged and fixed to the top concrete cover slab	M	1		
<b>Sub-Total carried to Summary</b>					

### BILL NO.1 50m3 CAPACITY MASONRY WATER TANK

#### BILL OF QUANTITIES

Item	Description	Unit	Qty	Rate	Amount
1.35	Provide and tie mosquito gauze to the G.S bend opening to air vents above the tank roof cover slab.	No	3		
	<b>Tank – Associated pipe work</b>				
	<b>Provide, handle, cut and fix the following pipes and fittings as per the drawing.</b>				
	<b>Intake.</b>				
1.36	50mmΦ G.I pipe	No	12		
1.37	50mmΦ G.I bend	No	3		
1.38	50mm Φ G.I socket	No	1		
1.39	50mmΦ G.I nipple	No	1		
1.40	50mm Φ G.I socket	No	1		
	<b>Off take</b>				
1.41	50mmΦ G.I pipe	M	6		
1.42	50mmΦ G.I tee	No	2		
1.43	50mmΦ bend	No	2		
1.44	50mm Φ plain screwed flanges	No	2		
1.45	3mm thick rubber gasket	No	1		
1.46	50mm x 40mmΦ G.I reducing bush	No	3		
1.47	50mmΦ Pegler gate valve	No	3		
	<b>Overflow pipe</b>				
1.48	50mmΦ G.I pipe	M	1		
1.49	50mmΦ G.I socket	No	1		
1.50	50mmΦ G.I plain flange	No	1		

1.51	50mmΦ G.I bend	No	1		
	<b>Scour pipe</b>				
1.52	50mmΦ G.I pipe	M	6		
1.53	50mmΦ plain G.I flange	No	1		
1.54	50mmΦ G.I nipple	No	2		
1.55	50mmΦ G.I bend	No	1		
1.56	50mmΦ G.I socket	No	2		
1.57	50mmΦ G.I union	No	1		
1.58	50mmΦ Pegler gate valve	No	1		
<b>Sub-Total carried to Summary</b>					
<b>SUMMARY OF ITEMS</b>					
<b>A</b>	<b>Tank Construction</b>				
<b>B</b>	<b>Pipeline</b>				
<b>C</b>	<b>Project Supervision</b>				<b>100,000</b>
<b>D</b>	<b>Project Signage</b>				
<b>GRAND TOTAL CARRIED TO FORM OF TENDER</b>					

**AMOUNT IN WORDS (KSHS).....**  
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**CONTRACTOR'S NAME.....**

**ADDRESS.....**

**SIGN.....**

**STAMP.....**