

BILL OF QUANTITIES FOR THE CONSTRUCTION OF MASONRY WATER TANK AND PUMP HOUSE FOR GITARU SWITCH YARD WATER HYDRANT SYSTEMS

BILL No.1					
40m³ MASONRY STORAGE TANK					
Item No.	Description	Unit	Quantity	Rate Kshs.	Amount Kshs.
1	SETTING OUT AND EARTH WORKS				
1.1	General site clearance and setting out	m ²	25		
1.2	Excavate over site 200mm to remove vegetable soil and remove from site.	m ²	25		
1.3	Excavate pit foundation to a depth not exceeding 1m.	m ³	16		
1.4	Extra over excavation for excavating in rock	m ³	3		
1.5	Backfill with selected excavated material as directed	m ³	17		
1.6	Dispose excavated material as directed	m ³	8		
2	TANK CONSTRUCTION				
2.1	Supply materials, transport to site, fill and compact 300mm thick approved hardcore materials on tank foundation base.	m ³	1.6		
2.2	Supply materials, transport, and place and compact 50mm thick concrete class 15 blinding to hardcore.	m ²	6		
2.3	Supply, transport, cut, bend and fix Y-10 bars in floor slab.	Kg	175		
2.4	Supply materials, transport, place and compact concrete class 25 in tank floor slab 150mm thick.	m ³	1.5		
2.5	Supply materials and construct 225mm circular masonry wall in 1:3 sand/cement mortar finished with steel finished on one side.	m ²	40		
2.6	Supply, transport, cut, and fix BRC A98 type in wall.	m ²	40		

BILL OF QUANTITIES FOR THE CONSTRUCTION OF MASONRY WATER TANK AND PUMP HOUSE FOR GITARU SWITCH YARD WATER HYDRANT SYSTEMS

2.7	Supply, transport, cut, bend and fix Y-10 bars in wall.	Kg	90		
2.8	Supply materials and construct formwork to soffit of roof slab exceeding 3.5m in height.	m ²	15		
2.9	Supply materials and construct formwork to sides of roof slab 200mm thick exceeding 3.5m in height.	m	9		
3	Supply, transport, cut, bend and fix Y- 16 bars to roof slab	Kg	240		
3.1	Supply, transport, cut, bend and fix Y- 8 bars to roof slab	Kg	16		
3.2	Supply material and place concrete class 25 150mm tick to roof slab. Include fixing 24" x 24" steel manhole cover with frame.	m ³	1.2		
3.3	Allow for application of three coats of approved bitumen paint to 300mm thick walling line on floor slab	m	8		
3.4	Allow for application of three coats of approved bitumen paint to 225m thick walling top before placing of roof slab	m	8		
3.5	Allow for application of 25x 25mm bondex at the corner between the wall base and the floor slab	m	19		
3.6	Supply material and place 25mm thick cement sand 1:2 screed with steel float finish. Mix to include approved water proof cement in the ratio of 1kg water proof to 50kg ordinary portland cement.	m ²	8		
3.7	Supply material and plaster internal tank surfaces with 25mm thick cement sand 1:2 screed with steel float finish. Mix to include approved water proof cement in the ratio of 1kg water proof to 50kg ordinary portland cement.	m ²	40		

BILL OF QUANTITIES FOR THE CONSTRUCTION OF MASONRY WATER TANK AND PUMP HOUSE FOR GITARU SWITCH YARD WATER HYDRANT SYSTEMS

3.8	Supply material and render external tank surfaces with 25mm thick cement sand 1:2 screed with wooden float finish.	m2	40		
3.9	Supply material and place cement sand 1:2 screed with wooden float finish to top of roof slab rising from 15mm at the edge of roof slab to 25mm at the centre of roof slab	m2	15		
4	All pipes to be Galvanised Iron with Screw unless specified otherwise				
4.1	Inlet				
4.2	80mm Ø drilled Flange complete with bolts,nuts and gasket	No	4		
4.3	80mm Ø Sluice valve complete with bolts nuts and gasket	No	1		
4.4	80mm Ø 90° GI bend	No.	2		
4.5	80mm Ø long G.I barrel nipple	No.	1		
4.6	80mm ball valve	No.	1		
4.7	80mm Ø G.I socket	No	1		
4.8	80mm G.I medium grade Pipe	No	15		
4.9	Off Take				
5	150 x 100mm G.I reducing socket	No	1		
5.1	100mm Ø drilled Flange complete with bolts,nuts and gasket	No	4		
5.2	100mm Ø Sluice valve complete with bolts nuts and gasket	No	1		
5.3	100mm Ø 90° GI bend	No.	2		
5.4	100mm Ø long G.I barrel nipple	No.	1		
5.5	100mm Ø G.I socket	No	1		
5.6	100mm G.I medium grade Pipe	No	1		
5.7	Scour	No.	1		
5.8	150 x 100mm G.I reducing socket	No	1		
5.9	100mm Ø drilled Flange complete with bolts,nuts and gasket	No	4		
6	100mm Ø Sluice valve complete with bolts nuts and gasket	No	1		
6.1	100mm Ø 90° GI bend	No.	2		
6.2	100mm Ø long G.I barrel nipple	No.	1		

BILL OF QUANTITIES FOR THE CONSTRUCTION OF MASONRY WATER TANK AND PUMP HOUSE FOR GITARU SWITCH YARD WATER HYDRANT SYSTEMS

6.3	100mm Ø G.I socket	No	1		
6.4	100mm G.I medium grade Pipe	No	1		
6.5	Overflow				
6.6	150 x 100mm G.I reducing socket	No	1		
6.7	100mm Ø drilled Flange complete with bolts,nuts and gasket	No	2		
6.8	100mm Ø 90º GI bend	No	3		
6.9	100mm Ø long G.I barrel nipple	No	2		
7	100mm Ø G.I socket	No	2		
7.1	100mm G.I Medium grade Pipe	No	1		
7.2	Vents 4No				
7.3	100mm Ø 90º G.I Elbow	No	4		
7.4	100mm Ø long G.I barrel nipple with wall purrs welded as directed	No	4		
7.5	100mm G.I Hexagonal nipple	No	4		
7.6	100mm Ø 90º GI Elbow with mosquito wire fixed to one end	No	4		
8	MISCELLANEOUES				
8.1	Supply materials, fabricate, and fix to wall and floor a 40mm dia. GI class B pipe ladder with 25mm G.I class B rungs at 300mm c/c welded to pipes	No	2		
8.2	Allow for restoring the site after construction of tank	Item			
8.3	Allow for connection of inlet and outlet to rising main and distribution main	Item			
8.4	Allow for testing of tank water tightness	Item			
8.5	Supply material and construct masonry valve chamber of internal plan dimensions 1.0 x 1.0 x 1.5m	No	3		
	Total Bill No. 1- 40m³ tank				

BILL OF QUANTITIES FOR THE CONSTRUCTION OF MASONRY WATER TANK AND PUMP HOUSE FOR GITARU SWITCH YARD WATER HYDRANT SYSTEMS

BILL No.2					
PUMP HOUSE					
Item No.	Description	Unit	Quantity	Rate Kshs.	Amount Kshs.
1	Sub structure				
	(All Provisional)				
1.1	Allow for keeping the whole of excavation free from all water including spring and running water.	Item	1		
1.2	Allow for maintaining and upholding the sides of excavations and keeping excavations free from all fallen materials,rubbish,etc.	Item	1		
1.3	Excavate over site average 200 mm deep, remove vegetable soil and deposit as directed.	m ²	12		
1.4	Excavate foundation trench not exceeding 1.5 m deep.	m ³	9.72		
1.5	Approved 300mm thick hardcore fillings consolidated and rammed in 150mm thick layers to make up levels under slab base	m ²	9		
1.6	Treat the surface of hardcore with approved insecticide	m ²	9		
1.7	Concrete (1:3:6) to 450 x 150mm strip foundation	m ³	1		
1.8	Concrete (1:4:8) in 50 mm thick blinding.	m ²	9		
1.9	Concrete (1:3:6) 100 mm thick in floor slab	m ²	11		
	Walling and roofing				
2.10	150mm wide Bituminous damp proof course along external wall.	m	13.2		
2.11	Dressed solid natural stone wall bedded and jointed in sand:cement (1:3) 150 mm thick walling.	m ²	8		

BILL OF QUANTITIES FOR THE CONSTRUCTION OF MASONRY WATER TANK AND PUMP HOUSE FOR GITARU SWITCH YARD WATER HYDRANT SYSTEMS

	Dressed Vent block wall bedded and jointed in sand: cement (1:3) 150 mm thick walling.	m ²	30		
2.12	V.R.C (1:2:4) in 150 mm x 225 mm ring beam	m	13.2		
	Roof				
2.14	Slanting roof 0.3m height. The trusses shall be made of timber size 3"x2" and shall be properly strutted and brazed and fixed at 1.5 m centre to centre. The purlins shall be 4No. of timber 3"x 2".(All treated with approved wood preservative)	No.	1		
2.15	Pre-painted 28g corrugated roofing sheets fixed on timber purlins as described	m ²	17		
2.16	Fix 200 mm wide fascia board	m	17		
2.17	Fix single flap steel door 1m x 2.1m	No.	1		
	Plastering				
2.19	12 mm thick two coat gauged plaster in cement:sand to walls internally	m ²	15		
2.2	Key finish to external wall joints as directed.	m ²	8		
2.21	12 mm thick two coat gauged plaster in cement:sand to floor	m ²	9		
	Reinforcement				
	Steel reinforcement cut, bend & place in position, unit price to include cutting, bending & placing in position with binding wire and concrete seats				
2.26	10mm diameter high tensile steel in foundation wall	m	53		
2.27	8mm diameter high tensile steel in foundation wall	m	43		
2.28	12mm diameter high tensile steel in ring beam	m	51		
2.29	8mm diameter high tensile steel in ring beam	m	53		

BILL OF QUANTITIES FOR THE CONSTRUCTION OF MASONRY WATER TANK AND PUMP HOUSE FOR
GITARU SWITCH YARD WATER HYDRANT SYSTEMS

	Paint work				
2.31	Apply 3 coat paint on internal walls	m ²	25		
2.32	Apply 3 coat paint on 200mm fascia board with approved paint	m	17		
2.33	Apply 3 coat paint on steel door 1m x 2.1m with approved paint	m ²	2.4		
	Total Bill No. 2- Pump house				

SUMMARY		
ITEM	DESCRIPTION	AMOUNT (KSHS)
1	MASONRY STORAGE TANK	
2	PUMP HOUSE	
TOTAL CARRIED TO MAIN TENDER		