

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	kapchemutwa Ward				
	BILL OF QUANTITIES				
	<u>225 Cubic Meter TANK</u>				
	<u>Excavation</u>				
A	To reduce levels commencing at stripped level not exceeding 4.0 m deep	m ³	106		-
D	Allow for maintaining and supporting sides of excavations and keeping from fallen material as described	item			
	<u>Disposal</u>				
E	Return, fill in and ram excavated material around foundations	m ³	60		
F	Load and cart away surplus spoil	m ³	16		
	<u>Hardcore filling</u>				
A	Provide and hardpack 300mm layer of hardcore.the source and the material has to be approved by the engineer	m ³	22		
	<u>Concrete works</u>				
	<u>Plain concrete Class 15 in:-</u>				
H	75 mm Blinding under floor slab	m ³	5		
	<u>Vibrated reinforced insitu concrete class 25/20; with minimum cube crushing strength of 25N/mm² at 28 days as specified; in</u>				
I	Columns : 0.25 m ³	m ³	Item		
J	Beam : 200mm x 100mm	m ³	4		
J	Floor slab; 200 mm thick	m ²	14		
K	E.O slab thicknesing 750 mm wide x 200 mm thick	m	31		
L	E.O slab thicknesing 1000 mm wide x 200 mm thick	m	1		
M	Roof slab; 150 mm thick	m ³	10		
	<u>Walling</u>				
N	<u>Shaped quarry stones bedded and jointed in cement and sand (1:3) mortar and reinforced with 3/2No. Y8 bars on each course:</u>				
	300mm/250mm Thick Walling	m ²	125		

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Extra over for finishing one side with struck joints both horizontally and vertically	m ²	125		-
	Steel ladder as drawing or directed by Engineer	nr	2		-
	Carried Forward				-

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Brought Forward				-
	<u>Water Tanks (Cont'd)</u>				
	Reinforcement				
	<u>High yield deformed steel bar reinforcement to BS 4461</u>				
A	8 mm diameter bars	kg	1,232		
B	10 mm diameter bars	kg	1,524		
C	12 mm diameter bars	kg	2,635		
	Sawn formwork to:				
F	Columns	m ²	6		
G	Floor slab	m ²	6		
H	Soffits of Roof slab	m ²	61		
J	Edges of roof slab, etc. 150 - 225 mm high	m ²	31		
K	Ditto to edges of thickening : 150 - 225 mm high	m	83		
	<u>15 mm Thick plaster (1:3) as described to:-</u>				
L	Applied on walls	m ²	117		
M	Ditto on concrete floor	m ²	71		
N	Ditto to Column	m ²	5		
O	Roof Slab	m ²	71		
	<u>Waterproofing plaster to surfaces of concrete using Pudlo cement or other equal and approved surface applied agent applied by an approved and experienced persons:</u>				
P	Applied on walls	m ²	111		
Q	Ditto on concrete floor	m ²	68		
R	Ditto to Column	m ²	5		
	Carried Forward				

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Brought Forward				-
	<u>Water Tanks (Cont'd)</u>				
	Alluminium paint				
	<u>Prepare and paint as per manufacturers instruction approved equivalent to exposed roof slab:</u>				
A	Roof slab	m ²	71		
	100mm thick gravel packing on roof slab	m ³	1		-
	Joint sealant from approved manufacturer				
C	20x20 mm thick bulb type PVC or Rubber approved joint sealer	m	63		
	Overflow				
D	100 mm diameter galvanised mild steel pipe complete with pipe support brackets	m	5		
	<u>Supply, deliver and install Class 'C' galvanised mild steel tubing to BS 1387 with screwed & socketed joints.</u>				
	Outlet pipe				
	Provide materials and install the following to the approval of engineer.pipes and fitting to be approved by engineer				
E	100 mm diameter flanged bell mouth	no	1		
F	100 mm diameter 90 ⁰ flanged bend	nr	1		
G	100 mm diameter puddle flange	m	1		
H	100mm dia. Sluice valve complete with bolts and nut	nr	1		
I	100 dia Double flange GI Pipe length	no	1		
	Inlet Pipe				
	Provide materials and install the following to the approval of engineer.pipes and fitting to be approved by engineer				
J	100 mm dia Double flange G.I pipe length	m	6		
K	100 mm diameter 90 ⁰ flanged bend	nr	1		
L	100 mm diameter puddle flange	m	2		
M	100 mm diameter puddle flange (0.45 m length)	m	1		
N	100 mm diameter puddle flange	m	1		

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Carried Forward				

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Brought Forward				-
	<u>Water Tanks (Cont'd)</u>				
	Vent Pipe				
A	100 mm diameter equal tee complete with 100 mm diameter nipple, 100 mm diameter 90 ⁰ bend and mosquito wire gauge with clamp as approved by Engineer.	nr	4		
	Outlet Valve Chamber				
	Excavations				
B	Excavate for 2200 x 2200 x 1150 mm deep outlet valve chamber including maintaining sides and keeping bottoms free from water, mud and fallen materials, grading bottoms, and carting away surplus excavated material	m ³	6		
	Concrete				
	<u>Vibrated reinforced insitu concrete class 25/20; with minimum cube crushing strength of 25N/mm² at 28 days as specified; including formwork and reinforcement</u>				
C	To floor slab	m ²	3		
D	To roof slab	m ²	2		
	Blockwork				
E	200 mm thick natural stone walling to chamber	m ²	6		
	Cover				
F	Medium duty air-tight single seal flat type lockable inspection cover and frame to BS 497 Table 6 Grade 0 and bedding frame in cement mortar and setting cover in grease to opening size 600 x 450mm	nr	1		
G	Construct reinforced concrete pillar class20 size 400mm x400mm x 4.370m high at the tank centre for roof support as instructed by engineer.	m3	1		
H	Construct reinforced concrete pillar class20 size 200mm x200mm x 4.370m high in side tank to support roof slab as per engineers specifications	m3	3		
	Carried Forward				

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Brought Forward				-
	WASHOUT/OVERFLOW				
	Excavations				
B	Excavate for 2200 x 2200 x 1150 mm deep outlet valve chamber including maintaining sides and keeping bottoms free from water, mud and fallen materials, grading bottoms, and carting away surplus excavated material	nr	1		
C	Ditto to sump	nr	1		
	Concrete				
	<u>Vibrated reinforced insitu concrete class 25/20; with minimum cube crushing strength of 25N/mm² at 28 days as specified; including formwork and reinforcement</u>				
D	To floor slab	m ²	3		
E	To roof slab	m ²	2		
	Blockwork				
F	200 mm thick natural stone walling to chamber	m ²	6		
	Cover				
G	Medium duty air-tight single seal flat type lockable inspection cover and frame to BS 497 Table 6 Grade 0 and bedding frame in cement mortar and setting cover in grease to opening size 600 x 450mm	nr	1		
	Cover				
H	Medium duty air-tight single seal flat type lockable inspection cover and frame to BS 497 Table 6 Grade 0 and bedding frame in cement mortar and setting cover in grease to opening size 600 x 450mm	nr	1		
	<u>15 mm Thick plaster (1:2) as described to:-</u>				
I	Applied on concrete walls	m ²	5		
J	Ditto on concrete floor	m ²	1		
	Carried Forward				

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	Brought Forward				
	WASHOUT/OVERFLOW				
	<u>Waterproofing to surfaces of concrete using Xypex or other equal and approved surface applied agent applied by as approved by Engineer</u>				
A	Applied on concrete walls	m ²	5		
B	Ditto on concrete floor	m ²	1		
C	75 x 6 mm thick GS Bracket Support Strap: 400 mm long	nr	2		
	<u>Supply, deliver and install Class 'C' galvanised mild steel tubing to BS 1387 with screwed & socketed joints.</u>				
D	150 mm diameter GMS tubing	m	9		
	Extra-over gms tubing for the following:-				
E	100mm dia. Sluice valve complete with bolts and nut	nr	1		
F	100 mm diameter flanged 90 ⁰ short radius bend	nr	2		
G	100 mm diameter puddle flange	nr	7		
	Testing & Commissioning				
H	Allow for setting to work, testing and commissioning of all water reticulation installations.	Item	1		
I	Sign post	nr	1		
J	Supervision, monitoring and evaluation	Item	l/s	150,000	150,000.00
	WATER TANK: TOTAL CARRIED TO GRAND SUMMARY				