

COUNTY
SUB-COUNTY
WARD
PROJECT
DESCRIPTION
COMPLETION

NAKURU
RONGAI
SOLAI WARD
LOWER SOLAI WATER PROJECT
WATER RESERVOIR AND PIPING
FY 2017/2018

Item No.	Description	Unit	Qty	Rate Ksh	Amount Ksh
1	Pipe work (Rising main 1)				
1.1	Clear 1m width of pipeline route of all bushes, grass, roots and trees n.e 600mm girth	m ²	881		
1.2	Excavate trench in common soil with hard rocks for 4" diameter GI pipes average depth 300mm.	Rm	881		
	Supply, deliver to site, store, handle, lay and perform hydraulic tests, flush and sterilize the following. Include for all the necessary fittings				
1.3	4" diameter GI class B pipes. Include for sockets	No	150		
1.4	4" diameter GI socket	No	4		
1.5	4" diameter GI nipple	No	4		
1.6	4" diameter GI socket union	No	2		
1.7	4" diameter GI equal Tee	No	1		
1.8	4" diameter GI non return valve (pegler original) threaded	No	1		
1.9	4" diameter GI sluice valve (pegler original) threaded	No	2		
1.10	With the provided GI pipes fabricate 4" diameter bends of various angles to suit site conditions	No	10		
1.11	4" diameter GI VJ coupling	No	20		
	Sub-total for pipes and fittings				
2	50m³ Masonry Storage Tank				
2.1	General site clearance and setting out	m ²	31		
2.2	Excavate over site 150mm to remove vegetable soil and remove from site	m ²	31		
2.3	Excavate pit foundation to a depth n.e 1m	m ²	31		
2.4	Supply materials, transport to site, fill and compact 225mm thick approved hardcore materials on tank foundation base	m ³	7		
2.5	Ditto 50 mm thick concrete 1:4:8 mix blinding layer	m ³	1.3		

2.6	Supply, transport, cut, bend and fix Y10 bars in floor slab at 150mm c/c both ways	Kg	212		
2.7	Ditto and construct formwork to sides of floor slab 200mm thick	m ²	3.6		
2.8	Supply materials, transport, place and compact concrete class 20/20 in tank slab	m ³	5.2		
2.9	Ditto and plaster tank wall base surfaces with 1 coats of 10mm thick screed c/s.	m ²	4		
2.10	Ditto and allow for application 3 coats of bituminous paint along the wall base	m ²	4		
2.11	Supply materials and construct 225 mm circular masonry wall	m ²	53		
2.12	Ditto and fix Y 8 bars in wall	Kg	263		
2.13	Ditto and plaster internal tank surfaces with 3 coats of 10mm thick screed c/s. Allow for water proofing	m ²	50		
2.14	Ditto and plaster floor slab with 25mm thick c/s screed. allow for water proofing	m ²	20		
2.15	Ditto and construct formwork to soffit of roof slab	m ²	20		
2.16	Ditto and construct formwork to sides of roof slab	m ²	2.6		
2.17	Ditto and fix Y12 bars to roof slab	Kg	300		
2.18	Ditto and fix circumferential Y10 bars to roof slab	Kg	22		
2.19	Ditto and fix Y10 bars to roof slab manhole	Kg	7.4		
2.20	Ditto and place concrete class 20 to roof slab	m ³	3.5		
2.21	Ditto and fix 18" x 24" manhole cover with frame to roof slab (lockable), consisting of 16g, 25mm square steel hollow section framing, 16g steel plate. Include for painting with metal primer 2 coats and gloss paint 2 coats and 45 ⁰ welded wall pass	No	1		
2.22	Ditto and allow for application of 15x15mm bondex at the corner between the wall base and the floor slab	Lm	17		
2.23	Ditto and plaster external tank surfaces with 15mm thick screed c/s.	m ²	56		
2.24	Ditto and plaster roof slab with 25mm thick c/s screed. allow for water proofing	m ²	24		
	Supply materials, transport to site and fix the following in vent pipes				
2.25	2" diameter hexagonal nipple	No	4		
2.26	Coffee tray wire gauze plastic	Rm	0.25		

2.27	350mm long, 2" diameter GI pipe, include for welding wall pass at one end and threading the other end.	No	4		
2.28	2" diameter GI elbow	No	8		
2.29	3" diameter tightening strip	No	4		
	Supply materials, transport to site and fix the following in scour pipe				
2.30	3" diameter GI gate valve (pegler)	No	1		
2.31	3" x4" diameter reducing socket	No	1		
2.32	3" diameter GI pipe class 'B'	No	1		
2.33	3" diameter 90 ⁰ GI bend	No	1		
2.34	3" diameter GI socket union	No	2		
2.35	3" diameter GI plain socket	No	2		
2.36	3" diameter nipple hex.	No	3		
2.37	3" diameter flanges	No	1		
	Supply materials, transport to site and fix the following in overflow pipe				
2.38	3" x 2" diameter GI reducing socket	No	1		
2.39	450mm long, 2" diameter GI pipe, include for welding wall pass at centre and threading both ends.	No	1		
2.40	2" diameter GI elbow	No	2		
2.41	2" diameter GI nipple	No	2		
	Supply materials, transport to site and fix the following in outlet pipe				
2.42	3"x2" diameter GI red. socket	No	1		
2.43	2" diameter GI barrel nipple	No	3		
2.44	2" diameter GI Gate valve pegler original	No	1		
2.45	2" diameter GI plain socket	No	2		
2.46	2" diameter 90 ⁰ GI bend	No	1		
2.47	2" diameter GI flanges	No	2		
2.48	2" diameter GI pipe class 'B'	No	1		
2.49	2" diameter GI socket union	No	1		
	Supply materials, transport to site and fix the following in inlet pipe				
2.50	4" diameter GI elbow	No	2		
2.51	4" diameter GI plain socket	No	2		
2.52	4" diameter GI pipe	No	0.5		
	Valve chamber				
2.53	Excavate over site soil material to reduce levels not exceeding 225mm deep and cart away	m ²	2.6		
2.54	Excavation for raft foundation not exceeding 1.0 metres deep starting from reduced levels.	m ³	2.6		

2.55	In situ reinforced concrete:(mix 1:2:4) grade 20(20mm aggregate):vibrated in foundation strip 150mm thick	m ³	0.3		
2.56	Approved local stone; squared; and rough chisel dressed one side, bedding and jointing in cement mortar (1:3) in Walls 150mm Thick	m ²	5.5		
2.57	Plaster; 25mm with cement sand mortar 1:3 mix internally	m ²	4.8		
2.58	Plaster; 25mm with cement sand mortar 1:3 mix externally height 1m	m ²	5.2		
2.59	Fabricate and install a 1.15mx1.15m lockable	No	1		
Sub-Total for 50m³ tank					
3	Pipe work (rising main line 2)				
3.1	Clear 1m width of pipeline route of all bushes, grass, roots and trees n.e 600mm girth	m ²	363		
3.2	Excavate trench in common soil with hard rocks for 4" diameter GI pipes average depth 300mm.	Rm	363		
	Supply, deliver to site, store, handle, lay and perform hydraulic tests, flush and sterilize the following. Include for all the necessary fittings				
3.3	4" diameter GI class B pipes. Include for sockets	No	61		
3.9	With the provided GI pipes fabricate 4" diameter bends of various angles to suite site conditions	No	5		
3.10	4" diameter GI VJ coupling	No	10		
Sub-total for pipes and fittings					

Cost Estimate Summary

Item No.	Description	Amount
		Ksh
1	Pipe work and fittings (Rising main 1)	
2	50m ³ masonry storage tank	
3	Pipe work and fittings (Rising main 2)	
	Sub Total	
	Add 7% supervision and monitoring	
	Sub Total	
	Add 16% VAT	
	Grand Total	