

BILL OF QUANTITIES FOR NAIKENYUA WATER PAN (25,000M3)CAPACITY-SAMBURU COUNTY						
ITEM		DESCRIPTION	UNIT	QTY	UNIT PRICE (KSH)	VALUE (KSHS)
		BILL NO. 1: PRELIMINARY AND GENERAL ITEMS(provisional Sums)				
		<u>sign board</u>				-
	1.1	Provide, install and maintain for the entire contract period a contract two steel signboard on 1.3m x 1m metal sheet appropriately secured on a 19mm steel frame at least 1.8m above the ground level to the satisfaction of the Engineer or his appointed representative. see drawing	No.	2	25,000.00	50,000.00
		Labour camp and site storage area				-
	1.3	Provide for establishment temporary Labour camps and site storage with necessary facilities to minimize transportation cost to site	Item	1	100,000.00	100,000.00
		Mobilization and demobilization of machinery				-
	1.4	Allow for Mobilization and Demobilization of machinery and equipment	Item	1	200,000.00	200,000.00
		Security				-
	1.5	The Allow for provision and facilitation of security personnel to secure site , materials and works during the entire construction period.	Item	1	100,000.00	100,000.00
		Setting out , supervision, EIA and Conservation activities				-
	1.6	Provide for technical services of setting out of Pan, Survey and Supervision of Pan construction by a qualified	Item	1	150,000.00	150,000.00

		Engineer/Surveyor approved by the Employer				
	1.7	Provide provisional sum for EIA, planting grass, around embankment and environmental conservation as directed by the project manager(to be undertaken in conjunction with client's technical team on environment)	Item	1	350,000.00	350,000.00
		Sub Totals Bill 1carried to Main Summary				950,000.00
		BILL NO. 2: EARTH WORKS				
	2.1	Clear site of all trees, tree stumps, shrubs and grass commencing from ground level n.e. 300mm deep and dispose-off the construction site as directed.	m2	12,500		
	2.2	Commence reservoir excavation from the stripped level and n.e average depth of 2.5m, cart away to form the embankment or dispose as may be directed by the water Engineer	m3	20,000		
	2.3	Construct Embankment using selected excavated materials other than Top soil and rocks as per designed drawing plans and sections with side slopes of 2:1 upstream and 2:1 downstream with suitable selected materials. The material should be hauled through the buffer zone that is specified in the design drawings as may be directed by the water Engineer. Embankment filling shall be compacted in layers of 150mm thick to achieve Maximum Dry Density.	m3	12,000		

	2.4	Provide for the hauling of excess/required material to spoil and dispose it to an identified site n.e 100m from the pan as may be directed by the engineer	m3	7,000.00		
	2.5	Excavate in normal soil to create silt trap with outer dimensions 25m X 20m X 2.0m depth	m3	1000		
	2.6	Excavate the collection trenches and spill way to the required formation level and gradient,the spillway dimensions;70m long 3m wide 2m wall side sloping 1:2	M3	600		
		TOTAL FOR BILL NO.2 CARRIED TO SUMMARY PAGE				
		BILL NO.3: DRAW-OFF SYSTEM				
	2.7	Excavate trench from bottom of pan reservoir to depth of 4m below design pan water level and maintain 0% slope to 200m away from pan reservoir as directed by engineer(ref drawing)	M3	350		
	2.8	Supply and install outlet pipe 280m ,100mm diameter with the GI pipe class B welded with anti-seepage steel collars placed at 3m c/c for 30m ,the cost to include installation of GI 'T' c/w 100mm diameter sluice as wash out with all necessary fittings.	Item	1		
	2.9	Provide for formwork and cast plain concrete class 15/20 to provide support to collars for offtake/ draw off pipes at intervals of 3m.	m3	3		
	2.10	Construct reinforced concrete intake chamber with lockable strainer of R10 bars with 2mm slot size with gravel pack material of grain size 2mm-4mm	Item	1		

2.11	Valve chamber; Allow for excavation , provide for materials and construct lockable masonry chambers with internal dimensions1200mm x1200mm x 2000 mm as indicated in the drawings and as directed by the Engineer. Rates to include formwork and all required maerials	Item	1		
2.12	Provide ,install 18m GI Pipe 50mm Diameter "B" as an off-take to 10m x 1m cattle trough and 24m GI pipe 20mm diameter off-take to CWP c/w all valves and fittings to a 3 taps for community water point as directed.	Item	1		
	TOTAL FOR BILL NO.3 CARRIED TO SUMMARY PAGE				
	BILL 4;OTHER WATER- PAN ANCILLARIES				
	Spillway sill & Ripraps				
3.1	Allow for excavation and construction of spillway concrete sill 7.0m x 0.6m x 0.3m across the whole span of spillway mouth comprising of Reinforced concrete class 20/20 and including 10mm Re-Bars And its associated formwork.	M3	1.5		
3.2	Excavate for and lay stone filled gabion boxes upstream of spillway sill ,to protect the sill from erosion	M3	5		
3.3	Supply 150mm average size hard boulders, Prepare surface, compaction, build, and joining with mortar 1;3 a 150mm Thick spillway riprap to the satisfaction of the Engineer.	M2	700		
	<u>Community water point and Cattle trough</u>				
	Cattle Trough and Cattle ramp Cattle trough				

3.4	Construct 10m long x 1m wide 0.7m high cattle trough located n.e 30m from the community water point as designed to detail with all plumbing works from the community water point incorporating a 2" ball valve and 30m long Upvc Pipe class C with all fittings to trough. Include for 75 mm thick concrete slab for manhole cover as per attached drawing				
3.5	Clear and Excavate over site soil material to reduce levels not exceeding 225mm deep and cart away	m2	10		
3.6	Excavation for raft foundation n.e 0.6m deep starting from the reduced level	m3	6		
3.7	Place 300mm thick approved hard-core, well compacted in layers not exceeding 150mm and blinded using 50mm marram/quarry dust Plain concrete class 15/40 vibrated in foundation base 125mm thick on BRC A 142.	m2	6		
3.8	Construct with approved local stone; squared and rough chisel dressed on one side, bedding and jointing in cement mortar (1:3) in walls 200mm thick. Provide for 1.5ft long 2" dia. GI pipe class A as scour with end cap.	m2	22		
3.9	Plaster; 25mm with cement, Water proofing and sand mortar 1.1:3 mix internally, externally and floor height 1.1M	m2	50		
3.10	Provide for thick stone pitching protection to cattle ramp 15m wide 25m long and 300mm thickness with natural hard stones material as shall be directed by engineer.	m3	115		

	3.12	Provide community water point; Construct apron using approved stone ; squared and rough chisel dressed on one side, bedding and jointing in cement mortar (1:3) in walls 300mm thickness c/w plaster, to hold 3 taps 3/4 " each to serve as community water point.The apron to measure 2.5 m long x1.2m high. Footing ne 0.6 m depth.	Item	1		
		TOTAL FOR BILL NO.4 CARRIED TO SUMMARY PAGE				
		SUMMARY PAGE				
BILL NO		ITEM				
1		PRELIMINARY AND GENERAL ITEMS(provisional)				950,000.00
2		EARTH WORKS				
3		DRAW-OFF SYSTEM				
4		OTHER PAN AUXILLARIES				
SUB- TOTAL (KSHS)						
Add 2% Contingency						
TOTAL						
NB:All rates are inclusive of 16% VAT						