County Government of Kwale

Water Services Department

Proposed Desilting and Expansion of Ziya Rasa Water Pan in Ndavaya Ward

Bill No.2 Site Clearance & Earthworks

Item	Description	Unit	Quantity	Rate (Kes)	Amount (Kes)
	Notes				
	i. All earthworks shall be carried out as per the drawings which will be provided after survey				
	ii. Jointly step by step verification of works to be done at every stage of the construction process to ensure quality				
	Earthworks				
	Site clearence				
2.01	Clear site off all tress less than 500mm diameter), bushes, shrubs including stubs removal around the Embankment area and at the Reservoir area and dispose off as directed by the Project Manager	sm	8,800		-
					-
	Topsoil stripping				-
2.02	Allow for grubbing around the embankment to a depth not exceeding 300mm deep and preparing the surface to appropriate slopes and cart away to spoil as shall be directed by the Project Manager	cm	2640		-
					-
	Reservoir				-
2.03	Excavation in silt to desilt the existing pan to an average depth not exceeding 2m, load and cart away to spoil all unsuitable material at a location downstream of pan as directed by the Project manager.	cm	6000		-
2.04	Excavation in soft to expand the existing pan to an average depth not exceeding 2m, load and cart away to spoil all unsuitable material at a location downstream of pan or stockpile for use in embankment construction as directed by the Project manager.	cm	4800		-
					-
	Embankment Construction				-
2.05	Excavate, move & spread suitable stockpiled material in 300mm layers while compacting not less than 10 Bulldozer/roller runs to achieve required compaction level to form/raise the embankment fill with crest width of 3m and embankment slopes of 2.5:1 upstream and 2:1 downstream as shall be as directed by the Project manager	cm	1,920		-
					-
	Silt Trap				-
2.06	Excavation in normal soil for Silt-Trap to an average depth not exceeding 1.5m with side slopes of 2:1, load and stockpile suitable fill material for re-use in embankment construction, cart away to spoil any excess or unsuitable material as directed by the Project manager.	cm	300		-
					-
	Spillway				-
	Excavation				-
2.07	Excavation in normal soil for spillway and stockpile for reuse or cart away to spoil as directed by the Project manager. Rates to include trimming of the spillway bank slopes and spillway channel slopes to required grades.	cm	440		-
					-
	Concrete Spillway Sill				-
2.08	Spillway sill; Reinforced concrete Class 15/20 to sill as directed on site by the Project manager	cm	8		-
					-
	Rip-Rap				-
2.09	Before and after the stilling basin of average diameter 300mm as directed by the Project manager	cm	22.5		-
2.10	To the sides of spillway slopes 1V:1H using suitable material, bonded by 1:3 mortar as shall be directed on site by the Project manager	sm	30		-
	Sub-total for Bush Clearance & Earthworks Carried forward to Summary Page				-