Republic of Uganda

MINISTRY OF WATER AND ENVIRONMENT

IRRIGATION SCHEMES DEVELOPMENT PROJECT

CONSTRUCTION OF UNYAMA IRRIGATION INFRASTRUCTURE AND FACILITIES IN GULU/AMURU.

MWE/WRKS/22-23/00012

Volume 2 – Bills of Quantities

December 2024

UNYAMA IRRIGATION SCHEME INFRASTRUCTURE AND FACILITIES		
GRAND SUMMARY		
BILL NO.	DESCRIPTION	AMOUNT
1	PRELIMINARIES AND GENERAL ITEMS	-
2	DAM AND APPURTENANT	-
3	MAIN CANAL	-
4	SECONDARY CANALS	-
5	TERTIARY CANALS	-
6	SECONDARY DRAIN	-
7	TERTIARY DRAIN	-
8	FLOOD PROTECTION WORKS	-
9	STEEL WORK/HYDRO MECHANICAL GATES	-
10	ACCESS AND SCHEME ROADS	-
11	IRRIGATION INFRASTRUCTURE FACILITIES	-
12	SCHEME BUILDING AND FACILITIES	-
	SUM TOTAL	-
	CONTINGENCY(5%)	-
	TOTAL	-

UNYAMA IRRIGATION SCHEME INFRASTRUCTURE AND FACILITIES		
BILL SUMMARY		
BILL NO.	**DESCRIPTION**	**AMOUNT**
1	**PRELIMINARIES AND GENERAL ITEMS**	
1.1	Contractual requirements	-
1.2	Specified requirements	-
1.3	Services for the Engineers staff	-
1.4	Equipment for the Engineers staff	-
1.5	Testing materials and temporary works	-
1.6	Method related charges	-
1.7	Provisional sum	-
1.8	Ground investigations	-
1.9	Environmental and Social Mitigation Activities	-
1.10	Health and Safety Protection / Mitigation Activities	-
	Total, Preliminaries and General Items	**-**
2	**DAM AND APPURTENANT**	
2.1	Dam Embankment	-
2.2	Intake Structure	-
2.3	Spillway Structure	-
2.4	Conduit Structure	-
2.5	Exit Channel	-
2.6	Eletro Mechanical works	-
	Total, Dam and Appurtenant structures	**-**
3	**MAIN CANALS**	
3.1	Lined Canal	-
3.2	Structures and associated works	
3.2.1	Drop Structures	-
3.2.2	Cross Regulator and Head Regulator Structures	-
3.2.3	Main Canal Crossing Structures	-
3.2.4	Invetred Syphon	-
3.2.5	Drain Aqeduct	-
	Total, Main Canal	**-**
4	**SECONDARY CANALS**	
4.1	Lined Canal	-
4.2	Structures and associated works	
4.2.1	Drop structures	-
4.2.2	Cross and Head regulator structures	-
4.2.3	Secondary Canal Crossing Structures	-
	Total, Secondary Canals	**-**
5	**TERTIARY CANALS**	
5.1	Land levelling	
5.2	Unlined Canal	-
5.3	Structures and Associated works	
5.3.1	Turnout structures	-
5.3.2	Drop structures	-
	Total, Tertiary Canals	**-**
6	**SECONDARY DRAIN**	
6.1	Unlined drain	-
6.2	Structures and associated works	
6.2.1	Drop structures	-
6.2.2	Pipe Culvert Structures	-
	Total, Secondary Drain	**-**

UNYAMA IRRIGATION SCHEME INFRASTRUCTURE AND FACILITIES		
BILL SUMMARY		
7	**TERTIARY DRAIN**	
7.1	Unlined drain	-
7.2	Structures and Associated works	
7.2.1	Outfall structures	-
	Total, Tertiary Drain	**-**
8	**FLOOD PROTECTION WORKS**	
8.1	Flood Protection Dyke	-
8.2	Interceptor Drain	-
8.3	Structures and Associated works	
8.3.1	Drop structures	-
8.4	Escape Canal	-
8.5	River Dredging	-
	Total, Flood Protection Works	**-**
9	**STEEL WORK/HYDRO MECHANICAL GATES**	
9.1	Dam Outlet Gates	-
9.2	Main Canal Gates	-
9.3	Secondary-(4-6) Gates	-
9.4	Secondary-(17-20) Gates	-
9.5	Secondary-(21-24) Gates	-
9.6	Secondary-(25-27) Gates	-
9.7	Secondary-(28-30) Gates	-
9.8	Secondary-(31-32) Gates	-
9.9	Field Turnout Gates	-
	Total, Steel Work/Hydro Mechanical Gates	**-**
10	**ACCESS AND SCHEME ROADS**	
10.1	Access Road	-
10.2	Main and Secondary Canal Road	-
10.3	Pipe Culvert Structures	-
	Total, Access and Scheme Roads	**-**
11	**IRRIGATION INFRASTRUCTURE FACILITIES**	
11.1	Livestock Watering (6 no.)	-
11.2	Sanitation Facility (10 no.)	-
11.3	Farm Shed (10 no.)	-
11.4	Guard House (2 no.)	-
11.5	Scheme equipment	-
11.6	Boundary and Irrigation Mark Stones, Staff Gauge	-
	Total, Irrigation Infrastructure Facilities	**-**
12	**SCHEME BUILDING AND FACILITIES**	
12.1	Office Block	-
12.2	Residential Building	-
12.3	Storage Building	-
12.4	Compound Work	-
12.5	Water Supply and Sanitary	-
12.6	Electrical Work	-
12.7	Rice Drying Platform (1 no.)	-
	Total, Scheme Building and Facilities	**-**
	SUM TOTAL	**-**
	CONTINGENCY(5%)	**-**
	TOTAL	**-**

BILL NO. 1: PRELIMINARIES & GENERAL ITEMS		BOQ			
Bill No.	**DESCRIPTION**	**UNIT**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
1.1	**CONTRACTUAL REQUIREMENTS**				
1.1.1	Performance security clause	sum	1.00		
1.1.2	Advance payment guarantee	sum	1.00		
1.1.3	Insurance of works	sum	1.00		
1.1.4	Third party insurance	sum	1.00		
1.1.5	Insurance of Contractors Plant/equipment	sum	1.00		
Total carried to summary page					**-**
1.2	**SPECIFIED REQUIREMENTS**				
	Site Offices and Housing				
1.2.1	Provision of rented office accommodation for the Engineer's staff	month	24.00		
1.2.2	Maintenance of offices for the Engineer's staff	month	24.00		
1.2.3	Rental residential accommodation for the Engineer's staff (3No. Units)	month	24.00		
1.2.4	Maintenance of housing accommodation for the Engineer's staff (3No. Units)	month	24.00		
Total carried to summary page					**-**
1.3	**SERVICES FOR THE ENGINEERS STAFF**				
1.3.1	Services for the Engineer's Staff; Transport Vehicles; Station Wagon Transport Vehicle - Purchase costs to technical specifications	sum	1.00		
1.3.2	Services for the Engineer's Staff; Transport Vehicles; Pick-up transport vehicle - Purchase costs to technical specifications	sum	1.00		
1.3.3	Services for the Engineer's Staff; Transport Vehicles; Station Wagon Transport Vehicle - running costs	km	159,000		
1.3.4	Services for the Engineer's Staff; Transport Vehicles; Pick-up transport vehicle - running costs	km	318,000		
	Communication				
1.3.5	Establish communication system and dedicated email (wireless or leased line) system for the Engineer's office	sum	1.00		
1.3.6	Maintenance of communication system and dedicated email (wireless or leased line) system for the Engineer's office	month	24.00		
Total carried to summary page					**-**

1.4	**EQUIPMENT FOR USE BY THE ENGINEERS STAFF**				
1.4.1	Provision of office furniture & equipment for the Engineer's staff to technical specifications	sum	1.00		
1.4.2	Provision of personal office computers with a printer for each computer for use by the Engineer to technical specifications	sum	1.00		
1.4.3	Provide laptops for supervision staff use as per technical specification	sum	1.00		
1.4.4	Provision of 20.1 mega pixels digital camera with 32GB memory card of approved make for the entire project to technical specifications	sum	1.00		
1.4.5	Maintenance of Engineer's office including office furniture & equipment	month	24.00		
1.4.6	Provision of surveying equipment; Differential GPS - Leica Viva GS 16, for use by the Client/Engineer according to the technical specifications.	Nr.	1.00		
	Attendance upon the Engineer's staff				
1.4.7	Unskilled labour	month	24.00		
1.4.8	Technician/Draftsman	month	12.00		
1.4.9	Secretary	month	24.00		
Total carried to summary page					**-**
1.5	**TESTING MATERIALS AND WORKS**				
1.5.1	Provision of a site laboratory room including all furniture and apparatus/equipment with a full time laboratory Technician for undertaking the following day to day on-site quality control tests for the whole project excution period: (a) In-situ density using the sand replacement method done to BS 1377:1975 of the compacted dam fill material per layer during construction (b) Moisture Content; done to specification in contract document (c) Permeability tests done to BS 5930, 1981, use of constant head permeameter for fine and coarse grained soils (d) Compaction Standard compaction tests by proctor - Use of a 2.5kg rammer to BS 1377 - Use of a 4.5kg rammer to BS 1377 (e) Testing of Clay and Gravel (murram) material from different Borrow Pits prior to approval for use by the Engineer performing the following tests: (i) Atterbergs Limits (ii) Sieve Analysis (iii) Natural Moisture Content (iv) Hydrometer Analysis for fine materials (v) Compaction [standard proctor] (MDD and OMC) (vi) Un-drained Shear Strength test at MDD (vii) Permeability test at MDD (viii) Direct Shear test at MDD (ix) CBR (x) Plastic and Liquid Limit (f) Provision for testing of concrete works before, during and after construction in accordance with the specification (i) Comprehensive Strength tests	Sum	1.00		

1.5.2	Permeability: All tests done to BS 5930, 1981, use of constant head permeameter for fine and coarse grained soils	NR	50.00		
1.5.3	Compaction: Standard compaction tests by protor				
1.5.4	Compaction: Use of a 2.5kg rammer to BS 1377	NR	50.00		
1.5.5	Compaction: Use of a 4.5kg rammer to BS 1377	NR	50.00		
1.5.6	Pressure testing of 315mm HDPE pipe PN20	KM	1.25		
1.5.7	Pressure testing of 63mm HDPE pipe PN10	KM	1.00		
1.5.8	Comprehensive Strength tests	NR	50.00		
1.5.9	Slump tests	NR	50.00		
1.5.10	Material Tests from Borrow Pits: Testing Murram from different Borrow Pits	NR	20.00		
1.5.11	Testing clay Borrow pits	NR	20.00		
	Temporary Works				
1.5.12	Establishment, maintenance and removal of site sign-boards to the Engineer's satisfaction, spec	Nr	5.00		
1.5.13	Dewatering of sites and work areas	sum	1.00		
1.5.14	Control and diversion of water from site and work areas to ensure the works are completed as specified. Rate to include removal of all temporary facilities after construction	sum	1.00		
1.5.15	Restoration of borrow sites, access ways and all sites and work areas to original site in compliance with Social Requirements and Environmental Regulations	sum	1.00		
1.5.16	Construction and maintenance of access roads to borrow sites and all sites and work areas	km	20.00		
Total carried to summary page					**-**
1.6	**METHOD RELATED CHARGES**				
1.6.1	Allow for contractor's mobilisation and demobilisation	sum	1.00		
1.6.2	Provisonal sum for Client's administration and supervision expenses	month	24.00	8,500,000	
1.6.3	Provisional Sum to cover the Employer's portion (50%) of fees and expenses of the Dispute Avoidance and Adjudication Board (DAAB)	P.sum	1.00	200,000,000	
1.6.4	Production of As-built drawings as specified (4 sets)	L.sum	1.00		
1.6.5	Allow for site handover	P.sum	1.00	21,000,000	
1.6.6	Allow for Technical Commissioning	P.sum	1.00	30,000,000	
1.6.7	Provisional sum for post construction and defects liability period	Month	6.00	8,500,000	
1.6.8	Contractor's handling charge on all provisional sums under 1.6.2, 1.6.3, 1.6.5, 1.6.6 & 1.6.7 above.	%	10.00	-	
Total carried to summary page					**-**

1.7	**PROVISIONAL SUMS**				
1.7.1	Emergency compensation payments to land or property owners made on behalf of the employer with approval from the Client.	P.sum	1.00	300,000,000	
1.7.2	Allow for topographical surveys as ordered by the Engineer	P.sum	1.00	70,000,000	
1.7.3	Contractor's handling charges on all provisional sums under 1.7.1 & 1.7.2 above.	%	10.00	-	
Total carried to summary page					**-**
1.8	**GROUND INVESTIGATIONS**				
	TRIAL PITS AND TRENCHES				
1.8.1	Number of material other than rock maximum depth 3-5m	NR	50.00		
1.8.2	Number of material which includes rock. Maximum depth 3-5m	NR	25.00		
	SAMPLES				
1.8.3	From the surface or trial pits and trenches. Undisturbed soft material	NR	50.00		
1.8.4	From the surface or trial pits and trenches. Disturbed soft material	NR	50.00		
1.8.5	From the surface or trial pits and trenches. Rock	NR	50.00		
1.8.6	From the surface or trial pits and trenches. Ground water	NR	50.00		
	Site Tests and Observations				
1.8.7	Ground water level	NR	20.00		
1.8.8	Standard penetration	NR	50.00		
1.8.9	Plate bearing	NR	20.00		
1.8.10	California bearing ratio	NR	20.00		
1.8.11	In situ density using the sand replacement method done to BS 1377: 1975 of the compacted dam fill	NR	20.00		
	Laboratory Tests				
1.8.12	Classification - moistrure content	NR	10.00		
1.8.13	Classification - Atterberg limits	NR	10.00		
1.8.14	Classification - specific gravity	NR	10.00		
1.8.15	Classification - particle size analysis by sieve	NR	10.00		
1.8.16	Classification - particle size analysis by pipette or hydrometer	NR	10.00		
1.8.17	Chemical content - organic matter	NR	10.00		
1.8.18	Chemical content - sulphate	NR	10.00		
1.8.19	Chemical content - PH value	NR	10.00		
1.8.20	Chemical content - contaminants	NR	10.00		
1.8.21	Compaction - standard	NR	100.00		
1.8.22	Compaction - heavy	NR	100.00		
1.8.23	Compaction - vibratory	NR	100.00		
1.8.24	Compaction - triaxial cell	NR	10.00		
1.8.25	Soil strength	NR	10.00		
	Professional Services				
1.8.26	Technician Engineer	HR	200.00		
1.8.27	Engineer or geologist - Principal or Consultant	HR	200.00		
1.8.28	Visits to the site	HR	240.00		
1.8.29	Overnight stays in connection to visits to the site	HR	240.00		
Total carried to summary page					**-**

1.9	**Environmental and Social Mitigation Activities**				
1.9.1	Develop and operationalize a strict recruitment plan and code of conduct for employees and workers; Develop a communication and sensitization plan for employees, workers and general public about HIV/AIDS, accident prevention, child abuse and gender-based violence including the use of IEC material.	sum	1.00		
1.9.2	Provide free HIV/AIDS testing, counselling and condom distribution on a monthly basis.	sum	1.00		
1.9.3	Develop and implement a vegetation cover and drainage management plan for all sites where excavation and landfill will take place to prevent soil erosion and degradation.	sum	1.00		
1.9.4	Installation of silencers / sound attenuation canopies for equipment that emit excessive noise. Installation and maintenance of noise measuring equipment to measure the level of noise at specific sites during noise generating activities. Ensure availability of earmuffs at the site for worker and visitors.	sum	1.00		
1.9.5	Sprinkle water on all excavated sites and dusty vehicle pathways and limit vehicle speeds. Provide tarpaulin covers for vehicles while hauling dust generating materials. Provide dust masks for all workers and visitors, as required during the project period.	sum	1.00		
Total carried to summary page					**-**
1.10	**Health and Safety Protection / Mitigation Activities**				
1.10.1	Store and dispose off hazardous wastes and raw material (e.g.fuel or chemicals) - storage of hydrocarbons (disposal charge per quarter)	sum	1.00		
1.10.2	Confine access to restricted work sites (including hoarding, hiring of security guards)	sum	1.00		
1.10.3	Preparation, approval and implementation of the Traffic Management Plan (TMP)	sum	1.00		
1.10.4	Preparation, approval and implementation of Fire Management Plan	sum	1.00		
1.10.5	Installation of a fully equiped first aid room	sum	1.00		
1.10.6	Hire of a trained Nurse and Social Development Expert for the duration of the project	sum	1.00		
1.10.7	Signing of an MOU with a referral hospital to provide ambulance services and handling severe cases /emergencies	sum	1.00		
1.10.8	Purchase and maintenance of drinking water dispensers	sum	1.00		
1.10.9	Installation and maintenance of hand washing facilities with soap and water at all project sites	sum	1.00		
1.10.10	Provision of appropriate and safe transportation for all workers to, from and within work sites. Transportation vehicle should not be an open top vehicle. There should be provision for sitting, or supported standing, and protection from whether and environment elements, i.e. sunshine, rain and dust for the duration of the project	sum	1.00		

1.10.11	Provision to undertake safe guards complaince in accordance with section 2.7 safety precautions and section 3 Environmental protection and waste disposal under the technical specifications	Sum	1.00		
Total carried to summary page					**-**

BILL NO. 2 DAM AND APPURTENANT STRUCTURE		BOQ			
Bill No.	**Description**	**Unit**	**Quantity**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
2.1	**EMBANKMENT DAM**				
	Earth works				
2.1.1	Clearing and stripping of along the Dam axis to formation level on completion and disposal of surplus in spoil tips including placing up to 500m	m^2	65,769.00		
2.1.2	Excavation of embankment foundation to technical specifications and as directed by the Engineer	m^3	98,654.00		
2.1.3	Excavation in rock for embankment foundation to technical specifications and as directed by the Engineer	m^3	1,000.00		
2.1.4	Excavation for cutoff trench to technical specifications and as directed by the Engineer	m^3	121,660.00		
2.1.5	Excavation in rock for cutoff trench to technical specifications and as directed by the Engineer	m^3	5,000.00		
2.1.6	Clean up rock surface in cutoff trench debth	m^2	33,940.50		
2.1.7	Cement slurry treatment of rock surface in cutoff trench as directed by the Engineer	m^3	50.00		
2.1.8	Provide, place and compact clay to 95% AASHTO T99 Density of the Clay in layers not exceeding 150mm in accordance with technical specifications and as directed by the Engineer	m^3	260,962.00		
2.1.9	Provide, place and compact gravel to 95% AASHTO T99 Density of the gravel fill in layers not exceeding 150mm in accordance with technical specifications and as directed by the Engineer	m^3	297,552.00		
2.1.10	Provide and place toe rock fill and Horizontal Drainage Blanket to technical specifications and as directed by the Engineer	m^3	14,784.00		
2.1.11	Provide and place compacted backfill with free draining granular material in the downstream of part of dam below ground surface to technical specifications and as directed by the Engineer	m^3	11,525.00		
2.1.12	Provide and place fine sand for Filter to technical specifications and as directed by the Engineer	m^3	14,925.00		
2.1.13	Provide and place coarse sand for Filter to technical specifications and as directed by the Engineer	m^3	14,925.00		
2.1.14	Provide and place riprap from quarry on the Upstream Slope to technical specifications and as directed by the Engineer	m^3	33,185.00		
2.1.15	Shape and compact dam crest	m^3	4,712.76		
2.1.16	Provide and place crushed aggregate 10-30mm diameter from quarry on the Upstream Slope to technical specifications and as directed by the Engineer	m^3	8,296.00		
2.1.17	Provide and place crushed aggregate 40-60mm diameter from quarry on the Upstream Slope to technical specifications and as directed by the Engineer	m^3	8,296.00		
2.1.18	Provide and place top blacksoil 250mm and grass turfing on the downstream embankment slope to technical specifications and as directed by the Engineer	m^3	7,064.00		
2.1.19	Provide for manufacture, installation and supervision of Standard boundary mark stones, engraved with project name on both side of the road as directed by the Engineer	No.	400.00		
2.1.20	4m wide gravel access track downstream of the toe of the dam	m	553.50		
2.1.21	Masonry drain (h = toe drain = 0.30m)	m	487.69		
2.1.22	Masonry drain (h = Catch drain = 0.30m)	m	588.09		
Total carried to summary page					-

Bill No.	Description	Unit	Quantity	Unit Rate (UGX)	AMOUNT (UGX)
2.2	**DAM OUTLET ARRANGEMENT**				
2.2.1	**APPROACH CHANNEL**				
	Earth Work				
2.2.1.1	Clearing and stripping of along the formation level on completion and disposal of surplus in spoil tips including placing up to 500m	m^2	1,733.75		
2.2.1.2	Excavate to Inlet Channel to the design level on completion and disposal of surplus in spoil tips including placing up to 500m away				
	a) Common excavation in open cut to any depth	m^3	4,708.50		
	b) Rock excavation in open cut to any depth	m^3	3,139.00		
	Structural works				
2.2.1.3	Blinding concrete: Class C20 (2500mm deep)	m^3	910.53		
2.2.2	**INTAKE TOWER**				
	Earth Work				
2.2.2.1	Excavate to Intake Tower foundation floor to formation level on completion and disposal of surplus in spoil tips including placing up to 500m away	m^3	581.10		
2.2.2.2	Backfill and compaction of selected material at pier and below dumped rock riprap area on completion	m^3	260.53		
	Concrete Work				
2.2.2.3	Form Work provide cut and fix in position				
2.2.2.4	Oridinary formwork Type "F2",	m^2	434.09		
2.2.2.5	Oridinary formwork Type "F3",	m^2	651.13		
2.2.2.6	Mild steel reinforcement bars	Kg	47,997.84		
2.2.2.7	Blinding concrete: Class C20 (2500mm deep)	m^3	101.20		
2.2.2.8	Concrete Class C-40 to bed Floor, trash rack support, left and right side walls, bulk head gate maintenance and dock chamber, Intake structure operating room and gate walls	m^3	611.44		
2.2.2.9	Second Stage Concrete C-30 to high pressure emergency gate and bulk head gate side walls	m^3	14.11		
	Steel Work				
2.2.2.10	Support columns and beams for overhead gantry crane, Emergency Gate Operating Gear, including associated connections to Intake Tower concrete.	LS	1.00		
	Access Stairs to tower				
2.2.2.11	Satinless ladder	m	8.00		
	Safety Hand Rail to Tower and Varandah				
2.2.2.12	Circular tube for stairs, nominal size 75mm and thickness 4mm	m	29.00		
	Miscellaneous				
2.2.2.13	Supply and fix 230 mm PVC hydrofoil water-stops	m	950.00		
2.2.2.14	Two coats of Bituminous paint to surface of contraction Joints	m^2	20.53		
2.2.2.15	300mm dia. steel vent pipe.	m	10.00		
2.2.2.16	Cement grouting to constructing joints	LS	1.00		
	Foot Bridge				
	Earth Work				
2.2.2.17	Clearing and Stripping the construction area	m^2	95.88		
2.2.2.18	Excavate to abutment and intermediate piers footing to the design level on completion and disposal of surplus in spoil tips including placing up to 500m away	m^3	26.45		
2.2.2.19	Backfill and compaction of selected material at pier and below dumped rock riprap area on completion	m^3	19.84		
	Concrete Work				
	Form Work provide cut and fix in position				
2.2.2.20	Oridinary formwork Type "F2", as detailed in the specification, to Class-30 Concrete pier, girder, slab and at second stage concrete floor bed	m^2	230.12		

Bill No.	Description	Unit	Quantity	Unit Rate (UGX)	AMOUNT (UGX)
2.2.2.21	Mild steel reinforcement bar	Kg	18,064.03		
2.2.2.22	Lean concrete 100mm thick (C-15)	m^3	194.38		
2.2.2.23	Concrete Class C-30 to abutment, pier, and slab	m^3	119.03		

Bill No.	Description	Unit	Quantity	Unit Rate (UGX)	AMOUNT (UGX)
	Steel Work				
2.2.2.24	Supply and install galvanized mild steel handrail to footbridge including galvanized holding down bolts, base plate and grouting.	m	27.00		
					-
2.3	**SPILLWAY**				
2.3.1	**APPROACH CHANNEL**				
	Earth Work				
2.3.1.1	Clearing and Stripping the construction area	m^2	6,482.27		
2.3.1.2	Residual soil excavation to max depth of 5m	m^3	4,668.54		
2.3.1.3	Soft formation excavation in open cut to max depth of 5m	m^3	7,161.00		
2.3.1.4	Hard rock formation excavation in open cut to max depth of 5m	m^3	5,173.82		
2.3.1.5	Free drain backfill	m^3	3,695.59		
2.3.1.6	Back filling using selected material	m^3	1,379.13		
2.3.1.7	Disposal of surplus in spoil tips including placing up to 500m away	m^3	10,230.00		
	Concrete work				
2.3.1.8	Plane Vertical: Formwork: Class F3	m^2	1,134.48		
2.3.1.9	Mild steel reinforcement bars	Kg	42,547.00		
2.3.1.10	Reinforced concrete: Class C25	m^3	541.88		
2.3.1.11	100mm lean concreate bedding 100mm (C-10)	m^2	79.69		
	Miscellaneous				
2.3.1.12	Supply and fix 230 mm PVC hydrofoil water-stops	m	129.09		
2.3.1.13	Two coats of Bituminous paint to surface of contraction Joints	m^2	187.50		
2.3.2	**OGEE CONTROL STRUCTURE**				
	Earth Work				
2.3.2.1	Clearing and Stripping the construction area	m^2	78.66		
2.3.2.2	Residual soil excavation to max depth of 5m	m^3	209.67		
2.3.2.3	Soft formation excavation in open cut to max depth of 5m	m^3	183.46		
2.3.2.4	Hard rock formation excavation in open cut to max depth of 5m	m^3	131.04		
2.3.2.5	Free drain backfill	m^3	43.50		
2.3.2.6	Back filling using selected material	m^3	57.20		
2.3.2.7	Disposal of surplus in spoil tips including placing up to 500m away	m^3	174.73		
	Concrete work				
2.3.2.8	Plane Vertical: Formwork: Class F3	m^2	574.03		
2.3.2.9	Mild steel reinforcement bars	Kg	21,477.60		
2.3.2.10	Reinforced concrete: Class C-30	m^3	273.60		
2.3.2.11	Cyclopean concrete at ogee/crest and glacious (60% coble stone and 40% concrete C-30)	m^3	65.63		
	Concrete Finishing				
2.3.2.12	Surface finish : Class U4 to spillwier crest.	m^2	117.13		
	Miscellaneous				
2.3.2.13	Semi circular concrete collecter drain pipe ø500	m	20.00		
2.3.2.14	Supply and fix 230 mm PVC hydrofoil water-stops	m	40.00		
2.3.2.15	Two coats of Bituminous paint to surface of contraction Joints	m^2	60.00		

Bill No.	Description	Unit	Quantity	Unit Rate (UGX)	AMOUNT (UGX)
2.3.3	**Chute and Transition**				
	Earth Work				
2.3.3.1	Clearing and Stripping the construction area	m^2	10,093.75		
2.3.3.2	Residual soil excavation to max depth of 5m	m^3	27,107.22		
2.3.3.3	Soft formation excavation in open cut to max depth of 5m	m^3	23,718.82		
2.3.3.4	Hard rock formation excavation in open cut to max depth of 5m	m^3	13,913.89		
2.3.3.5	Free drain backfill	m^3	6,221.48		
2.3.3.6	Back filling using selected material	m^3	4,851.17		
2.3.3.7	Masonry darinage collector canal	m^3	1,450.00		
2.3.3.8	Disposal of surplus in spoil tips including placing up to 500m away	m^3	67,768.05		
	Concrete				
2.3.3.9	Reinforced concrete: Class C-30	m^3	9,992.45		
2.3.3.10	Mild steel reinforcement bars	Kg	779,411.10		
2.3.3.11	Lean concrete Class C-10	m^2	681.75		
	Concrete Finishing				
2.3.3.11	Surface finish: Class U3 to spillway chute	m^2	10,531.68		
2.3.3.12	Plane Vertical: Formwork: Class F3	m^2	1,959.70		
	Miscellaneous				
2.3.3.14	Supply and fix 230 mm PVC hydrofoil water-stops	m	852.19		
2.3.3.15	Two coats of Bituminous paint to surface of contraction Joints	m^2	852.19		
2.3.4	**Basin**				
	Earth Work				
2.3.4.1	Clearing and Stripping the construction area	m^2	184.92		
2.3.4.2	Common excavation in open cut to any depth	m^3	94,407.39		
2.3.4.3	Rock excavation in open cut in to any depth	m^3	82,606.47		
2.3.4.4	masonry darinage collector canal	m^3	26,224.28		
2.3.4.5	Free draining backfill to walls	m^3	62.50		
2.3.4.6	Back filling using selected material	m^3	55.00		
	Concrete				
2.3.4.7	Mild steel reinforcement bars	Kg	28,230.54		
2.3.4.8	Reinforced concrete: Class C-30	m^3	361.93		
2.3.4.9	Lean concrete C-15 per 100mm thickness	m^2	36.25		
	Formwork				
2.3.4.9	Plane Vertical: Formwork: Class F3	m^2	266.00		
2.3.4.10	Mild steel reinforcement bars	Kg	20,881.00		
	Miscellaneous				
2.3.4.11	Supply and fix 230 mm PVC hydrofoil water-stops	m	15.00		
2.3.4.12	Two coats of Bituminous paint to surface of contraction Joints	m^2	15.00		
2.3.4.13	250 mm uPVC slotted longitudinal collector drain pipes	m	50.00		
2.3.5	**Exit channel**				
	Earth Work				
2.3.5.1	Clearing and Stripping the construction area	m^2	2,187.19		
2.3.5.2	Common excavation in open cut to any depth	m^3	3,268.12		
2.3.5.3	Compacted rockfill, riprap (rate includes blasting, hauling, spreading and compacting)	m^3	750.75		
	Drainage collector pipe				
2.3.5.4	Drainage juction box C-20	m^3	69.00		
	150mm drainage collector pipe	m	929.65		
Total carried to summary page					**-**

Bill No.	Description	Unit	Quantity	Unit Rate (UGX)	AMOUNT (UGX)
2.3.6	**CONDUIT**				
	Earth Work				
	Excavate to Inlet Channel to the design level on completion and disposal of surplus in spoil tips including placing up to 500m away				
2.3.6.1	Common excavation in open cut to any depth	m^3	1,738.34		
2.3.6.2	Rock excavation in open cut to any depth	m^3	1,043.01		
2.3.6.3	Compacted back fill with selected material	m^3	3,939.61		
	Concrete Work				
2.3.6.4	Concrete Class C-30 to floor and ceiling for outlet entrance and encase outlet steel pipe	m^3	219.38		
2.3.6.5	Surface finish: Class U3	m^2	494.00		
2.3.6.6	Formwork for curved section	m^2	156.00		
2.3.6.7	Mild steel reinforcement to structure	Kg	17,270.00		
	Steel work				
2.3.6.8	Conduit concrete pipe internal steel lining withØ 2.7m	m^2	585.00		
Total carried to summary page					-
2.3.7	**TERMINAL STRUCTURES**				
	Earth Work				
	Excavate to Inlet Channel to the design level on completion and disposal of surplus in spoil tips including placing up to 500m away				
2.3.7.1	Common excavation in open cut to any depth	m^3	1,218.71		
2.3.7.2	Rock excavation in open cut to any depth	m^3	812.48		
2.3.7.3	Compacted back fill with selected material	m^3	531.88		
	Concrete Work				
2.3.7.4	Concrete Class C-30 to floor and ceiling for outlet entrance and encase outlet steel pipe	m^3	628.19		
2.3.7.5	Formwork	m^2	714.39		
2.3.7.6	Mild steel reinforcement to structure	Kg	49,312.72		
	Steel work				
2.3.7.7	Supply and install galvanized mild steel handrail to opration platform including galvanized holding down bolts, base plate and grouting.	m^2	19.32		
	Exit channel				
2.3.7.8	Clearing and Stripping the construction area	m^2	3,398.73		
2.3.7.9	Common excavation in open cut to any depth	m^3	3,979.05		
2.3.7.10	Compacted rockfill, riprap (rate includes blasting, hauling, spreading and compacting)	m^3	1,390.77		
Total carried to summary page					-
2.3.8	**Submerged wheel gate (WxH)m & Embedded part**				
2.3.8.1	Net opening 1.5mx1.5m and designed head 8.5m, complete with operating mechanism and Hoisting seat (Main Service gate)	Nr	1.00		
2.3.8.2	Net opening 1.5mx1.5m and designed head 8.5m, complete with operating mechanism and Hoisting seat(For Emergency gate)	Nr	1.00		
2.3.8.3	Net opening 1.5mx1.5m and Manufacturing height 9.9m, complete with 10mm thickness steel plate (Gate frame for Service & Emergency)	Nr	2.00		
2.3.8.4	Motor and manual screw hoist with 100KN capacity for service gate	Nr	1.00		
2.3.8.5	Movable rope winch (over crane) with 50KN capacity for Installation and maintenance & emergency gate	Nr	1.00		
	Track Rack & Embedded part				
2.3.8.6	Fixed trash rack with Net opening (1.6m x 2.5m) vertical installation	Nr	1.00		
2.3.8.7	Embedded part including support beams	Nr	1.00		
2.3.8.8	Balance covered gate with dia. 0.3m (By-pass type)	Nr	1.00		
Total carried to summary page					-

BILL NO. 3 MAIN CANAL		BOQ			
Bill No.	**Description**	**Unit**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
3.1	**LINED MAIN CANALS about 14.8 Km**				
	Earth works				
3.1.1	Clearing and stripping of along the main canal to formation level on completion and disposal of surplus in spoil tips including placing up to 500m away	m^2	128,803.76		
3.1.2	Excavate of ordinary soil to main canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	118,859.09		
3.1.3	Provide and transport, spread, shape, water and compact selected material in layers not exceeding 200mm thickness to atleast 98% MOD AASHTO for main canal earth bunds to achieve design/formation levels	m^3	22,022.28		
3.1.4	Extra over all excavation and earthworks for breaking up rock at any point (0-2m depth)	m^3	6,743.09		
	Canal lining				
3.1.5	Provide all materials and construct canal base and side walls in concrete C25 75mm thick as per the drawings, including A142 BRC, blinding and steel formwork for reuse as required.	m^3	7,122.21		
3.1.6	5mm thick 1:3 cement sand plaster to excavated canal surfaces	m^2	94,962.79		
3.1.7	Provide vertical & horizontal joints in floor slab with waterstop, joint filler, sealing strip etc complete, as directed by the Engineer	m^2	183.20		
	FENCING				
3.1.18	Concrete post and wire fence including chainlink, mesh, intermediate, corner and bracing posts in accordance with the drawings.	m	800.00		
Total carried to summary page					**-**

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
3.2	**STRUCTURES AND ASSOCIATED WORKS**				
3.2.1	**Drop Structures 3No.**				
	Earth work				
3.2.1.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	305.04		
3.2.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	766.14		
3.2.1.3	Fill with selected material excavated from borrow pits, transported and compacted in accordance with the specifications and satisfaction of the Engineer	m^3	341.29		
3.2.1.4	Provide and fill hard core base 300mm as directed by the Engineer	m^3	119.45		
3.2.1.5	Provide and fill well compacted and blinded with mixed sand and gravel under masonry floor to approach channel side and floor and structure floor	m^3	32.23		
	Structural work				
3.2.1.6	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	167.34		
3.2.1.7	20mm thick 1:3 cement sand plaster to stone masonary drop structure	m^2	83.87		
3.2.1.8	Mass concrete class C-25 to				
3.2.1.9	Masonry coping	m^3	1.07		
3.2.1.10	Floor cover	m^3	2.96		
Total carried to summary page					**-**

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
3.2.2	**Cross Regulator and Head Regulator Structures**				
	Earth work				
3.2.2.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	1,561.56		
3.2.2.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	1,592.72		
3.2.2.3	Fill with selected material excavated from borrow pits, transported and compacted in accordance with the specifications and satisfaction of the Engineer	m^3	199.85		
3.2.2.4	Provide and fill hard core base 300mm as directed by the Engineer	m^3	129.90		
	Structural works				
3.2.2.5	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	580.18		
3.2.2.6	Providing and Placing in position High Yield Strength ribbed reinforcement bars including cutting, bending, binding and welding joints where necessary, hooking etc. complete as per drawing	Kg	2,200.97		
3.2.2.7	20mm thick 1:3 cement sand plaster to stone masonary	m^2	472.58		
3.2.2.8	To provide cut and fix in position smooth finish form work	m^2	242.25		
3.2.2.9	Lean concrete class C-15, 75mm thick blinding as specified in the Drawing	m^2	71.55		
3.2.2.10	Concrete class C-25 to gate top slab and post	m^3	31.88		
3.2.2.11	Precast concrete pipe diameter and thickness as mentioned in the drawing				
	Diameter 600 mm	m	120.00		
	Diameter 750 mm	m	75.00		
	Diameter 1200 mm	m	60.00		
Total carried to summary page					**-**

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
3.2.3	**Main Canal Crossing Structures (2 NO.)**				
	Earth work				
3.2.3.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	242.00		
3.2.3.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	158.40		
3.2.3.3	Fill with selected material excavated from borrow pits, transported and compacted in accordance with the specifications and satisfaction of the Engineer	m^3	63.36		
3.2.3.4	Provide and fill hard core base 150 mm as directed by the Engineer	m^3	15.84		
3.2.3.5	**Structural works**				
3.2.3.6	To provide cut and fix in position smooth finish form work	m^2	850.56		
3.2.3.7	Lean concrete class C-15, 50mm thick blinding	m^3	105.60		
3.2.3.8	Provide reinforced concrete class C25	m^3	258.77		
3.2.3.9	Providing and Placing in position High Yield Strength ribbed reinforcement bars including cutting, bending, binding and welding joints where necessary, hooking etc. complete as per drawing	Kg	18,780.07		
Total carried to summary page					**-**

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
3.2.4	**Inverted Syphon**				
	Earth work				
3.2.4.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	420.00		
3.2.4.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	2,152.20		
3.2.4.3	Fill with selected material excavated from borrow pits, transported and compacted in accordance with the specifications and satisfaction of the Engineer	m^3	645.66		
3.2.4.4	Provide and fill hard core base 300mm as directed by the Engineer	m^3	102.30		
	Structural works				
3.2.4.5	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	22.36		
3.2.4.6	Concrete class C-20 to the base	m^3	50.94		
3.2.4.7	Concrete class C-25 to the Chamber, Operating Slab, Collar and thrust block	m^3	33.62		
3.2.4.8	Lean concrete class C-10, 50mm thick blinding as specified in the Drawing	m^3	11.05		
3.2.4.9	To provide cut and fix in position smooth finish form work	m^2	1,159.44		
3.2.4.10	Providing and Placing in position High Yield Strength ribbed reinforcement bars including cutting, bending, binding and welding joints where necessary, hooking etc. complete as per drawing	Kg	5,688.50		
3.2.4.11	Primary bedding of fine sand surround the Pipe as specified by the Engineer	m^3	178.34		
3.2.4.12	500 mm Embedment Murrum mixed with 5% cement as specified by the Engineer	m^3	106.32		
3.2.4.13	Supply and fix 800 mm dia Double wall PE pipe to the satisfaction of the Engineer	m	34.00		
3.2.4.14	Supply and install galvanized mild steel handrail to footbridge including galvanized holding down bolts, base plate and grouting as specified in the drawing to the satisfaction of the Engineer	m	20.00		
Total carried to summary page					**-**

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
3.2.5	**Drain Aqueduct**				
	Earth work				
3.2.5.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	6,968.00		
3.2.5.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	10,688.91		
3.2.5.3	Fill with selected material excavated from borrow pits, transported and compacted in accordance with the specifications and satisfaction of the Engineer	m^3	3,288.90		
	Structural works				
3.2.5.4	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	564.25		
3.2.5.5	Lean concrete class C-10, 50mm thick blinding as specified in the Drawing	m^3	142.04		
3.2.4.7	Concrete class C-25 to the box culvert, Collar and thrust block	m^3	776.83		
3.2.5.6	Providing and Placing in position High Yield Strength ribbed reinforcement bars including cutting, bending, binding and welding joints where necessary, hooking etc. complete as per drawing	Kg	35,653.47		
3.2.5.7	20mm thick 1:3 cement sand plaster to stone masonary	m^2	1,689.60		
3.2.5.8	To provide cut and fix in position smooth finish form work	m^2	1,281.78		
Total carried to summary page					**-**

BILL NO. 4 SECONDARY CANALS		BOQ			
Bill No.	**Description**	**Unit**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
4.1	**LINED SECONDARY CANALS about 13 km**				
	Earth Work				
4.1.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	90,315.84		
4.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	36,451.04		
4.1.3	Provide and transport, spread, shape, water and compact selected material in layers not exceeding 200mm thickness to atleast 98% MOD AASHTO for the canal earth bunds to achieve design/formation levels	m^3	18,318.21		
4.1.4	Extra over all excavation and earthworks for breaking up rock at any point (0-2m depth)	m^3	1,347.06		
	Canal Lining				
4.1.5	Provide all materials and construct canal base and side walls in concrete C25 75mm thick as per the drawings, including A142 BRC, blinding and steel formwork for reuse as required.	m^3	4,553.72		
4.1.6	5mm thick 1:3 cement sand plaster to excavated canal surfaces	m^2	60,716.21		
4.1.7	Provide vertical & horizontal joints in floor slab with waterstop, joint filler, sealing strip etc complete, as directed by the Engineer	m^2	119.04		
Total carried to summary page					**-**
4.2	**STRUCTURES AND ASSOCIATED WORKS**				
4.2.1	**Drop structures**				
	Earth work				
4.2.1.1	Clearing and stripping to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	24,168.71		
4.2.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	89,610.27		
4.2.1.3	Fill with selected material obtained from excavated borrow pits and transported soil to masonry wall and floor foundation working space compacted in accordance with the specifications to satisfaction of the Engineer	m^3	29,210.79		
4.2.1.4	Provide and fill hard core base 300mm as directed by the Engineer	m^3	934.75		
4.2.1.5	Provide and fill well compacted and blinded sand and gravel mix under masonry floor to approach channel side and floor and structure floor	m^3	1,439.17		
	Structural work				
4.2.1.6	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	20,234.71		
4.2.1.7	20mm thick 1:3 cement sand plaster to stone masonary drop structure	m^2	16,014.77		
	Mass concrete class C-25 to				
4.2.1.8	Masonry coping	m^3	76.05		
4.2.1.9	Floor cover	m^3	319.28		
Total carried to summary page					**-**

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
4.2.2	**Cross Regulator and Head Regulator Structures**				
	Earth work				
4.2.2.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	4,251.43		
4.2.2.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	2,487.98		
4.2.2.3	Fill with selected material excavated from borrow pits, transported and compacted in accordance with the specifications and satisfaction of the Engineer	m^3	1,032.33		
4.2.2.4	Provide and fill hard core base 300mm as directed by the Engineer	m^3	361.32		
	Structural works				
4.2.2.5	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	1,344.78		
4.2.2.6	Providing and Placing in position High Yield Strength ribbed reinforcement bars including cutting, bending, binding and welding joints where necessary, hooking etc. complete as per drawing	Kg	7,743.62		
4.2.2.7	20mm thick 1:3 cement sand plaster to stone masonary	m^2	1,371.66		
4.2.2.8	To provide cut and fix in position smooth finish form work	m^2	894.77		
4.2.2.9	Lean concrete class C-15, 75mm thick blinding as specified in the Drawing	m^3	417.86		
4.2.2.10	Concrete class C-25 to gate top slab and post	m^3	108.27		
4.2.2.11	Precast concrete pipe diameter and thickness as mentioned in the drawing				
	Diameter 450 mm	m	1,400.00		
	Diameter 600 mm	m	100.00		
	Diameter 900 mm	m	50.00		
Total carried to summary page					**-**
4.2.3	**Secondary Canal Crossing Structures**				
	Earth work				
4.2.3.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	858.00		
4.2.3.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	561.60		
4.2.3.3	Fill with selected material excavated from borrow pits, transported and compacted in accordance with the specifications and satisfaction of the Engineer	m^3	5,304.00		
4.2.3.4	Provide and fill hard core base 150 mm as directed by the Engineer	m^3	56.16		

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
	Structural works				
4.2.3.5	To provide cut and fix in position smooth finish form work	m^2	2,052.64		
4.2.3.6	Lean concrete class C-15, 50mm thick blinding	m^3	374.40		
4.2.3.7	Provide reinforced concrete class C25	m^3	639.22		
4.2.3.8	Providing and Placing in position High Yield Strength ribbed reinforcement bars including cutting, bending, binding and welding joints where necessary, hooking etc. complete as per drawing	Kg	49,115.86		
Total carried to summary page					**-**

BILL NO. 5 TERTIARY CANALS		BOQ			
Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
5.1	**FARM CLEARANCE AND LEVELLING**				
5.1.1	Clear the area of the command area from bush, trees, anthills and shrubs as directed by the Engineer	PS	1	1,000,000,000	
5.1.2	Contractor's handling charge on provisional sum under item 5.1.1 above.	%	10	-	-
5.2	**UNLINED TERTIARY CANALS**				
	Earth Works				
5.2.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	59,186.48		
5.2.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	2,428.65		
5.2.3	Fill with selected material obtained from excavated borrow pits and transported soil(75%) plus 25% gravel materials after blending to form earth bund compacted to satisfaction of the Engineer	m^3	18,307.82		
Total carried to summary page					-
5.3	**STRUCTURES AND ASSOCIATED WORKS**				
5.3.1	**Turnout Structures**				
	Earth work				
5.3.1.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	5,028.09		
5.3.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	1,348.45		
5.3.1.3	Back Fill with excavate material to working space compacted to satisfaction of the Engineer	m^3	519.15		
	Structural work				
5.3.1.4	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	1,037.54		
5.3.1.5	Provide and fill Cyclopean concrete with Cement to Hard core ratio of (40:60)% using concrete class of C-20	m^3	175.11		
5.3.1.6	Concrete class C-25 to gate post and columns	m^3	18.94		
5.3.1.7	To provide cut and fix in position smooth finish form work to masonry coping	m^2	2,004.28		
5.3.1.8	Providing and Placing in position High Yield Strength ribbed reinforcement bars including cutting, bending, binding and welding joints where necessary, hooking etc. complete as per drawing	Kg	3,353.42		
Total carried to summary page					-

BILL NO. 5 TERTIARY CANALS		BOQ			
5.3.2	**Drop Structures**				
	Earth work				
5.3.2.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	431.66		
5.3.2.2	Excavate of soil to approach channel canal, masonry wall and floor foundation to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^3	1,450.14		
5.3.2.3	Earth fill with selected material obtained from excavated borrow pits and transported soil to masonry wall and floor foundation working space compacted to satisfaction of the Engineer	m^3	359.93		
5.3.2.4	Provide and fill well compacted and blinded with mixed sand and gravel under masonry floor to approach channel side and floor and structure floor	m^3	18.33		
	Structural work				
5.3.2.5	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	348.09		
5.3.2.6	Mass concrete class C-25 to				
5.3.2.7	Masonry coping	m^3	1.07		
5.3.2.8	Floor cover	m^3	4.26		
Total carried to summary page					-

BILL NO. 6 SECONDARY DRAIN		BOQ			
Bill No.	**Description**	**Unit**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
6.1	**UNLINED SECONDARY DRAINS**				
	Earth Work				
6.1.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	26,391.27		
6.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	22,643.78		
Total carried to summary page					**-**
6.2	**STRUCTRES AND ASSOCIATED WORKS**				
6.2.1	**Drop Structures**				
	Earth work				
6.2.1.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	7,231.05		
6.2.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	3,805.39		
	Structural work				
6.2.1.3	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	1,864.61		
6.2.1.5	Provide and pointing with cement mortar to the stone masonry sides and floor	m^2	3,639.00		
6.2.1.6	Masonry coping with C25	m^3	102.91		
Total carried to summary page					**-**
6.2.2	**Pipe Culvert Structures**				
	Earth work				
6.2.2.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	623.70		
6.2.2.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	221.13		
6.2.2.3	Earth fill with selected material obtained from excavated borrow pits and transported soil to masonry wing walls floor foundation working space compacted to satisfaction of the Engineer	m^3	793.80		
	Structural work				
6.2.2.4	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	284.45		
6.2.2.5	Mass concrete class C20	m^3	137.19		
6.2.2.6	To provide cut and fix in position smooth finish form work to masonry coping	m^2	317.52		
6.2.2.7	Lean concrete class C-15, 70mm thick blinding under the pipe floor bedding	m^3	340.20		
6.2.2.8	20mm thick 1:3 cement sand plaster to stone masonary drop structure	m^2	427.84		
	Precast concrete pipe and thickness as mentioned in the drawing				
6.2.2.9	Diameter 1000 mm	m	180.00		
6.2.2.10	Diameter 1200 mm	m	180.00		
Total carried to summary page					**-**

BILL NO. 7 TERTIARY DRAIN		BOQ			
Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
7.1	**UNLINED TERTIARY DRAINS**				
	Earth Work				
7.1.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	23,149.01		
7.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	12,212.60		
Total carried to summary page					-
7.2	**STRUCTURES AND ASSOCIATED WORKS**				
7.2.1	**Outfall Structures to Secondary Drain**				
	Earth work				
7.2.1.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	1,696.17		
7.2.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	944.14		
7.2.1.3	Earth fill with selected material obtained from excavated borrow pits and transported soil to stone masonry foundation working space compacted to satisfaction of the Engineer	m^3	368.22		
7.2.1.4	Provide and fill well compacted and blinded with mixed sand and gravel under stone masonry floor to drain side and floor	m^3	116.61		
	Structural work				
7.2.1.5	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	546.96		
7.2.1.6	Mass concrete class C-20 to masonry coping	m^3	92.49		
7.2.1.7	Provide and pointing with cement mortar to the stone masonry sides and floor	m^2	869.94		
Total carried to summary page					-

BILL NO. 8 FLOOD PROTECTION WORKS		BOQ			
Bill No.	**Description**	**Unit**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
8.1	**FLOOD PROTECTION DYKE**				
	Earth work				
8.1.1	Clearing and stripping of along the Dyke to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	28,400.00		
8.1.2	Fill with selected material obtained from excavated borrow pits and transported soil(75%) plus 25% gravel materials after blending to form earth bund compacted to satisfaction of the Engineer	m^3	10,981.59		
Total carried to summary page					**-**
8.2	**INTERCEPTOR DRAIN**				
8.1	**Earth work**				
8.2.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	46,350.00		
8.2.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	43,172.60		
Total carried to summary page					**-**
8.3	**STRUCTRES AND ASSOCIATED WORKS**				
8.3	**Drop Structures**				
	Earth work				
8.3.1.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	2,722.79		
8.3.1.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	2,350.58		
	Structural work				
8.3.1.3	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	883.61		
8.3.1.4	Provide and pointing with cement mortar to the stone masonry sides and floor	m^2	1,748.99		
8.3.1.5	Masonry coping with C25	m^3	25.29		
Total carried to summary page					**-**
8.4	**ESCAPE CANAL**				
	Earth work				
8.4.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	12,900.00		
8.4.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	6,811.00		
Total carried to summary page					**-**
8.5	**RIVER DREDGING**				
	Earth work				
8.5.1	River Dredging, Widening,Shaping and disposal of spoil material as directed by the Engineer	m^3	21,056.00		
Total carried to summary page					**-**

Bill no. 9 STEEL WORK/HYDRO MECHANICAL GATES		BOQ			
Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
9.1	**DAM OUTLET GATE**				
	Steel work				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 60mm as specified in the Drawing				-
9.1.1	2000*1500 (mm)	Nr	4		
Total carried to summary page					**-**
9.2	**MAIN CANAL GATE**				
	Steel work				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 60mm as specified in the Drawing				
9.2.1	2000*1200 (mm)	Nr	6		
Total carried to summary page					**-**
9.3	**SC-(4-6) CANAL CR & HR GATE**				
	Secondary Canal-(4-6)				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 50mm as specified in the Drawing				
9.3.1	1000~600*580~480 (mm)	Nr	18		
	Tertiary Canals within SC-(4-6)				
9.3.2	Single leaf metal sheet Vertical hand lifted sliding gate with chain and pin lock with 0.4mX0.35m ~0.45m x0.45m as shown on the drawings ana as directed by the Engineer	Nr	25		
Total carried to summary page					**-**
9.4	**SC-(17-20) CANAL CR & HR GATE**				
	Secondary Canal-(17-20)				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 50mm as specified in the Drawing				
9.4.1	1000~650*560~400(mm)	Nr	15		
	Tertiary Canals within SC-(17-20)				
9.4.2	Single leaf metal sheet Vertical hand lifted sliding gate with chain and pin lock with 0.4mX0.35m ~0.45m x0.45m as shown on the drawings ana as directed by the Engineer	Nr	25		
Total carried to summary page					**-**
9.5	**SC-(21-24) CANAL CR & HR GATE**				
	Secondary Canal-(21-24)				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 50mm as specified in the Drawing				
9.5.1	1000~650*560~400(mm)	Nr	14		
	Tertiary Canals within SC-(21-24)				
9.5.2	Single leaf metal sheet Vertical hand lifted sliding gate with chain and pin lock with 0.4mX0.35m ~0.45m x0.45m as shown on the drawings ana as directed by the Engineer	Nr	28		
Total carried to summary page					**-**

Bill No.	Description	Unit	QTY	Unit Rate (UGX)	AMOUNT (UGX)
9.6	**SC-(25-27) CANAL CR & HR GATE**				
	Secondary Canal-(25-27)				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 50mm as specified in the Drawing				
9.6.1	1000~650*560~400(mm)	Nr	11		
	Tertiary Canals withinSC-(25-27)				
9.6.2	Single leaf metal sheet Vertical hand lifted sliding gate with chain and pin lock with 0.4mX0.35m ~0.45m x0.45m as shown on the drawings ana as directed by the Engineer	Nr	18		
Total carried to summary page					**-**
9.7	**SC-(28-30) CANAL CR & HR GATE**				
	Secondary Canal-(28-30)				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 50mm as specified in the Drawing				
9.7.1	1000~650*560~400(mm)	Nr	8		
	Tertiary Canals withinSC-(28-30)				
9.7.2	Single leaf metal sheet Vertical hand lifted sliding gate with chain and pin lock with 0.4mX0.35m ~0.45m x0.45m as shown on the drawings ana as directed by the Engineer	Nr	22		
Total carried to summary page					**-**
9.8	**SC-(31-32) CANAL CR & HR GATE**				
	Secondary Canal-(31-32)				
	Provide for the manufacturing, installation and supervision of gates including hoisting device with a capacity 8 Tons and a spindle diameter of 50mm as specified in the Drawing				
9.8.1	1000~650*560~400(mm)	Nr	9		
	Tertiary Canals withinSC-(31-32)				
9.8.2	Single leaf metal sheet Vertical hand lifted sliding gate with chain and pin lock with 0.4mX0.35m ~0.45m x0.45m as shown on the drawings ana as directed by the Engineer	Nr	15		
Total carried to summary page					**-**
9.9	**TURN OUT FIELD GATE CONCRETE TYPE**				
	Tertiary Turn out				
	Provide for manufacture, installation and supervision of single leaf concrete vertical hand lifted sliding gate with concrete frame as specified in the drawing (AIP/TCFCHR/DG-109-114) and as directed by the Engineer				
9.9.1	450*450(mm)	Nr	1,450		
Total carried to summary page					**-**

BILL NO. 10 ACCESS AND SCHEME ROADS		BOQ			
Bill No.	**Description**	**Unit**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
10.1	**ACCESS ROAD**				
10.1.2	Grade the District roads to appropriate camber and long slope filling depresions with approved material and provide road drains where appropriate	km	15		
10.1.3	Provide and haul gravel material/murram spread, shape, watering and compact in layers not exceeding 150mm thickness to atleast 95% MoD AASHTO to the existing surface material (through a section of 300mm thickness and width of 4.5m)	m^3	20,250		
Total carried to summary page					**-**
10.2	**MAIN & SECONDARY CANAL SCHEME ROAD**				
	Earth work				
10.2.1	Clearing and stripping of construction area of access road along the Main and Secondary canals to formation level on completion and disposal of surplus in spoil tips including placing up to 500 m away	m^2	250,616		
10.2.2	Excavation for the road foundation on completion including treaming for v shaped side ditches	m^3	41,769		
	Sub base gravel material material				
10.2.3	Provide and haul gravel material/murram spread, shape, watering and compact in layers not exceeding 150mm thickness to atleast 95% MoD AASHTO to the existing surface material (through a section of 300mm thickness and width of 4.5m)	m^3	56,389		
Total carried to summary page					**-**
10.3	**CULVERT CROSSING STRUCTURES**				
	Earth work				
	Pipe Culvert Structures				
	Earth work				
10.3.1	Clearing and stripping of along the canal to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^2	880.00		
10.3.2	Excavate of ordinary soil to formation level on completion and disposal of surplus in spoil as directed by Engineer	m^3	312.00		
10.3.3	Earth fill with selected material obtained from excavated borrow pits and transported soil to masonry wing walls floor foundation working space compacted to satisfaction of the Engineer	m^3	1,120.00		
	Structural work				
10.3.4	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	401.35		
10.3.5	Mass concrete class C20	m^3	193.57		
10.3.6	To provide cut and fix in position smooth finish form work to masonry coping	m^2	448.00		
10.3.7	Lean concrete class C-15, 70mm thick blinding under the pipe floor bedding	m^2	480.00		
10.3.8	20mm thick 1:3 cement sand plaster to stone masonary drop structure	m^2	603.65		
	Precast concrete pipe and thickness as mentioned in the drawing				
10.3.9	Diameter 1200 mm	m	112.00		
Total carried to summary page					**-**

BILL NO. 12 SCHEME FACILITIES		BOQ			
Bill No.	**Description**	**UNIT**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
11.1	**LIVESTOCK WATERING**				
	Type 1 three (3 no.) Cattle Troughs on SC				
	Earth Work				
11.1.1	Clearing and stripping of the structures area to formation level on completion and disposal of surplus in spoil tips including placing up to 300m away	m^2	150		
11.1.2	Compacted back fill with selected material	m^3	36		
11.1.3	Structural work				
11.1.4	2 inch GS Inlet Pipe (Size;50mm)	m	48		
11.1.5	Compacted Selected Granular materal	m^3	25		
11.1.6	Provide and fill with hard basaltic or equivalent stone, in sand mortar 1:3	m^3	73		
11.1.7	Stone Rip-Rap of Bedding	m^3	56		
Total for 3no. Type 1 cattle troughs					**-**

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
	Type 2 three (3 no.) Cattle Troughs on SC				
	SITE CLEARANCE				
11.1.8	General site clearance for trough sites	ha	0.15		
	EXCAVATION				
	Top soil for disposal & cart to spoil 300m away from site				
11.1.9	Depth not exceeding 0.3m	m^3	60.00		
	Ordinary soil for disposal & cart to spoil 500mand spread as instructed				
11.1.10	Depth not exceeding 0.25m - 0.5m	m^3	90.00		
	BASE SLAB (PLATFORM)				
11.1.11	Place 200mm thick approved hardcore bed & well compacted	m^2	135.00		
	Murram Blinding				
	Supply and place well compacted murram of the following thickness				
11.1.12	50mm thick blinding	m^3	12.00		
	REINFORCED CONCRETE				
	Supply and cast well vibrated reinforced concrete, class C25 of the following thickness				
11.1.13	Base slab thickness not exceeding 150mm	m^3	21.00		
11.1.14	Trough base not exceeding 50mm and Walls of thickness not exceeding 100mm	m^3	2.10		
	Reinforcement				
11.1.15	Supply and fix a BRC (Wire mesh) of size A193	m^2	135.00		
11.1.16	Supply and fix high yield bars of size Y12 (see drawing)	kg	600.00		
	CONCRETE ANCILLARIES				
	Form work; fair finish				
	Plane and Vertical formwork for trough base slab				
11.1.17	Width 0.3m	m^2	90.00		
	Plane and sloping formwork for trough walls				
11.1.18	Height 1.0m	m^2	60.00		
	PIPEWORK				
	Trench excavation and pipe installation				
	Plastic Pressure Pipes				
	(All pipes and fittings flanged and adapted as required including relevant bolts, nuts and washers or other specified interconnections)				
	Excavate pipe trenches depth not exceeding in ordinary soil, lay, join and backfill pipeline of the following sizes				
11.1.19	OD 50 mm HDPE, PN 10	m	300.00		
	GI Pipes				
	Supply and fix 40mm GI pipes for the cattle watering troughs inlet				
11.1.20	Supply and fix 40mm GI pipes for the cattle watering troughs inlet	m	45.00		
11.1.21	Ditto, 50mm for cattle watering troughs washouts	m	36.00		
	Fitting installation				
	Supply and install fittings for the pipework to PN 10 of the following sizes				
11.1.22	40 mm GI elbows	Nr	45.00		
11.1.23	90X11/2" saddle clamp	Nr	12.00		
11.1.24	40mm unions	Nr	30.00		
11.1.25	40mm nipples	Nr	30.00		
11.1.26	40 mm Gate valves	nr	12.00		
Total for 3 no. type 2 cattle trough					-
Total carried to summary page					-

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
11.2	**SANITATION FACILITIES (10 No.)**				
	SUB STRUCTURE				
11.2.1	General Site clearence	Ha	0.48		
	Excavation				
11.2.2	Excavate oversite average depth 150mm to remove the vegetable soil and deposit in heaps 300m away from site in an appropriate place to Engineer's satisfaction	m²	38.50		
11.2.3	Excavation for foundations, in material other than top soil, rock or artificial hard material, commencing surface is the stripped ground level depth 0.25 - 1.5	m³	3.13		
11.2.4	Ditto for vault ground level depth 2-5.	m³	22.48		
11.2.5	Return fill and Ramp to back fill	m³	1.47		
	Approved Hardcore filling as described;				
11.2.6	Lay, compact and level well approved hardcore bed 200mm thick	m³	0.78		
11.2.7	Blind the hardcore With 50mm sand	m²	3.87		
11.2.8	Approved Damp proof membrane as described;				
11.2.9	1000 Gauge horizontal polythene sheeting laid with 450mm laps as joints	m²	3.87		
	Designed mix, grade C20 concrete, to BS 5328, with ordinary Portland cement to BS 12, 20mm aggregate to BS882, for the following aggregate sizes				
11.2.10	150mm thick foundation well compacted with a vibrator and cured to the satisfaction of the Engineer	m³	0.39		
11.2.11	100mm thick foundation well compacted with a vibrator and cured to the satisfaction of the Engineer	m³	0.59		
11.2.12	provide a pre cast concrete cover for the drainage opening for the pit	nr	1.00		
11.2.13	BRC Mesh A142 with over laps 150mm	m³	5.84		
	Approved brickwall in cement-mortar (1:4)				
11.2.14	Erect 200mm thick brick wall up to a height as indicated in the drawings for the pit. Leave provisions for drainage	m²	31.06		
11.2.15	Ditto but 150mm thick brick wall from strip foundation concrete	m²	5.64		
11.2.16	Apply 2 coats of bituminous paint to plinth wall	m²	5.64		
	Sawn formwork as described to;				
11.2.17	sides of concrete columns	m²	2.89		
11.2.18	Sides and soffites of the ground beam and the intermediate beam	m²	8.21		
11.2.19	Sides and soffites of the slab with squat holes	m²	2.75		
11.2.20	Sides of Foundations	m²	40.50		
11.2.21	Sides and soffites of the slab at the bottom of the pit	m²	0.85		
	Designed mix, grade C25 concrete, to BS 5328, with ordinary Portland cement to BS 20, 12mm aggregate to BS882, for the following;				
11.2.22	200mm thick reinforced concrete intermendiate and ground beam	m³	0.68		
11.2.23	200mm reinforced concrete columns	m³	0.29		
11.2.24	175mm thick, reinforced concrete slab, well compacted with a vibrator and cure to the satisfaction of the Engineer. Leave provisions for squat holes and vents	m³	0.76		

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
	Reinforcement bars to BS 4449 as described in reinforced concrete slab				
	175mm thick ground slab with				
11.2.25	Y10mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	24.46		
	Ground beams and intermediate beams				
11.2.26	Y10mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	41.91		
11.2.27	8mm mild round steel links at ditto	kg	8.09		
	Columns				
11.2.28	Y10mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	17.93		
11.2.29	8mm mild round steel links at ditto	kg	6.62		
	SUPERSTRUCTURE				
11.2.30	Approved brickwall in cement-mortar (1:4)				
11.2.31	Approved brickwall (150mm thick) in cement-mortar (1:4)	m²	21		
11.2.32	Sawn formwork as described to;				
11.2.33	Sides and soffites of reinforced concrete beam	m²	4		
11.2.34	Reinforced concrete 1:2:4 in:				
11.2.35	200mm reinforced concrete ring beam	m³	0.27		
	Reinforcement bars to BS 4449 as described in reinforced concrete ring beam				
11.2.36	10mm cold worked square twisted high yield steel bars including bends and hooks to Engineer's Approval	kg	23		
11.2.37	8mm mild round steel links at 200 c/c ditto	kg	14		
11.2.38	Pompei Clay Grille				
11.2.39	150mm thick pompei Clay Grille in Cement and Sand Mortar (1:3)	m²	1		
	Roofing				
11.2.40	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, and all roofing timber with wood protection coat, gauge 28 blue prepainted Galvanized Iron sheeting and ridges	m²	11		
	PVC Fascia Board				
	Light weight, self extinguishing and non-flammable pre-painted approved pvc as described;				
11.2.41	225mm x 9mm pvc fascia board	m	14		

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
	FINISHING				
	Cement Sand (1:4) plaster as described;				
11.2.42	Plaster the internal walls and finish smooth ready to receive paint	m²	15		
11.2.43	Ditto the external wall but finish with wooden float	m²	17		
11.2.44	Cement-sand Rough cast as described;				
11.2.45	Rough cast the external walls	m²	17		
11.2.46	Cement-sand screed (1:3) as described;				
11.2.47	20mm cement:sand screed 1:3 Floor finish to the floor of the vaults and ramp, and finish smooth with a steel float using cement grout	m²	9		
	PAINTING				
11.2.48	Apply one under coat and two coats finnishing of vinyl silk emulsion paint to the surface brick plastered	m²	15		
11.2.49	Ditto the external wall	m²	17		
	DOORS AND IRON MONGERY				
	Doors				
	Supply and fix hardwood frame and panel door, including a door frame made of hardwood timber with vent on door lintel complete with iorn mongery and of the following sizes				
11.2.50	40mm thick single leaf hardwood frame and panel door, size 800 x 1800mm high, including a door frame made of 150x50mm hardwood timber to Engineer's satisfaction	nr	2		
11.2.51	50 x 100mm mahogany timber - frames	nr	2		
11.2.52	Ironmongery Hinges	nr	6		
11.2.53	150mm tower blots	nr	2		
11.2.54	2kg padlock	nr	2		
Total of one two stance lined pit latrine					**-**
Total carried to summary page (10 no.)					**-**

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
11.3	**FARM SHED (10no.)**				
	SUB STRUCTURE				
	Excavation				
11.3.1	Excavate oversite average depth 150mm to remove the vegetable soil and deposit in heaps 300m away from site in an appropriate place to Engineer's satisfaction	m²	15.54		
11.3.2	Excavation for foundations, in material other than top soil, rock or artificial hard material, commencing surface is the stripped ground level depth 0.25 - 1.5	m³	10.20		
11.3.3	Return fill and Ramp to back fill	m³	8.64		
11.3.4	**Approved Hardcore filling as described;**				
11.3.5	Approved anti termite treatement aplied to sides and bottoms of all excavations,top of hardcore etc	SM	5.94		
11.3.6	Lay, compact and level well approved hardcore bed 200mm thick	m³	3.60		
11.3.7	Blind the hardcore With 50mm sand	m²	5.94		
	Approved Damp proof membrane as described;				
11.3.8	1000 Gauge horizontal polythene sheeting laid with 450mm laps as joints	m²	7.50		
	Designed mix, grade C20 concrete, to BS 5328, with ordinary Portland cement to BS 12, 20mm aggregate to BS882, for the following aggregate sizes				
11.3.9	100mm thick foundation well compacted with a vibrator and cured to the satisfaction of the Engineer	m³	2.05		
11.3.10	BRC Mesh A142 with over laps 150mm	m³	15.54		
	Approved brickwall in cement-mortar (1:4)				
11.3.11	200mm thick of blocks in 1:4 cement sand mortar for plinth wall including reinforcement with mansory anchors using galvanised mild steel ties BS 4360 (hoop iron)every two courses	SM	25.30		
11.3.12	Apply 2 coats of bituminous paint to plinth wall	m²	25.30		
11.3.13	Concrete blinding in pad foundation 75mm thick	SM	4.68		
	Sawn formwork as described to;				
11.3.14	sides of concrete columns	m²	5.60		
11.3.15	Sides and soffites of the slab	m²	3.30		
11.3.16	Sides of Foundations	m²	3.20		
	Columns				
11.3.17	Y16mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	90.60		
11.3.18	8mm mild round steel links at ditto	kg	20.90		
11.3.19	Concrete footing of columns	CM	3.10		
11.3.20	Concreting to stub columns	CM	1.20		

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
	SUPERSTRUCTURE				
	Approved brickwall in cement-mortar (1:4)				
11.3.21	230mm thick masonry using solid block wall,mild steel laid to form alternate courses of headers and stretchers,laid on and incl.mortar ratio 1:3	SM	10.10		
11.3.22	**Sawn formwork as described to;**				
11.3.23	Sides and soffites of reinforced concrete beam	m²	1.56		
11.3.24	**Reinforced concrete 1:2:4 in:**				
11.3.25	200mm reinforced concrete ring beam	m³	0.23		
	Reinforcement bars to BS 4449 as described in reinforced concrete ring beam and column				
11.3.26	Y16mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	139.06		
11.3.27	8mm mild round steel links at ditto	kg	42.46		
	Roof slab				
11.3.28	Sides and soffites of the slab	m²	15.54		
	Reinforcement bars to BS 4449 as described in reinforced concrete slab				
11.3.29	Y8mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	89.00		
11.3.30	100mm thick, reinforced concrete slab, well compacted with a vibrator and cure to the satisfaction of the Engineer.	m³	1.55		
11.3.31	Concreting to columns	CM	0.34		
	FINISHING				
	Cement Sand (1:4) plaster as described;				
11.3.32	20mm thick 1:3 cement sand plaster on internal walls (internal surfaces)	m²	20.00		
11.3.33	20mm thick 1:3 cement sand plaster on external walls (external surfaces)	m²	25.60		
11.3.34	**Cement-sand screed (1:3) as described;**				
11.3.35	20mm cement:sand screed 1:3 Floor finish to the floor of the vaults and ramp, and finish smooth with a steel float using cement grout	m²	15.54		
	PAINTING				
11.3.36	Apply one under coat and two coats finishing of vinyl silk emulsion paint to the surface brick plastered including celling paint	m²	50.65		
11.3.37	Ditto the external wall	m²	30.50		
Total of One Farm shed					**-**
Total carried to summary page (10 no.)					**-**

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
11.4	**GUARD HOUSE (2no.)**				
	SUB STRUCTURE				
	Excavation				
11.4.2	Excavate oversite average depth 150mm to remove the vegetable soil and deposit in heaps 300m away from site in an appropriate place to Engineer's satisfaction	m²	15.54		
11.4.3	Excavation for foundations, in material other than top soil, rock or artificial hard material, commencing surface is the stripped ground level depth 0.25 - 1.5	m³	10.20		
11.4.5	Return fill and Ramp to back fill	m³	8.64		
	Approved Hardcore filling as described;				
11.1.15	Approved anti termite treatement aplied to sides and bottoms of all excavations,top of hardcore etc	SM	5.94		
11.4.6	Lay, compact and level well approved hardcore bed 200mm thick	m³	3.60		
11.4.7	Blind the hardcore With 50mm sand	m²	5.94		
11.4.8	**Approved Damp proof membrane as described;**				
11.4.9	1000 Gauge horizontal polythene sheeting laid with 450mm laps as joints	m²	7.50		
	Designed mix, grade C20 concrete, to BS 5328, with ordinary Portland cement to BS 12, 20mm aggregate to BS882, for the following aggregate sizes				
11.4.11	100mm thick foundation well compacted with a vibrator and cured to the satisfaction of the Engineer	m³	2.05		
11.4.13	BRC Mesh A142 with over laps 150mm	m³	15.54		
	Approved brickwall in cement-mortar (1:4)				
11.1.19	200mm thick of blocks in 1:4 cement sand mortar for plinth wall including reinforcement with mansory anchors using galvanised mild steel ties BS 4360 (hoop iron)every two courses	SM	25.30		
11.4.16	Apply 2 coats of bituminous paint to plinth wall	m²	25.30		
11.1.27	Concrete blinding in pad foundation 75mm thick	SM	4.68		
	Sawn formwork as described to;				
11.4.17	sides of concrete columns	m²	5.60		
11.4.19	Sides and soffites of the slab	m²	3.30		
11.4.20	Sides of Foundations	m²	3.20		
	Columns				
11.4.28	Y16mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	90.60		
11.4.29	8mm mild round steel links at ditto	kg	20.90		
11.1.29	Concrete footing of columns	CM	3.10		
11.1.30	Concreting to stub columns	CM	1.20		

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
	SUPERSTRUCTURE				
	Approved brickwall in cement-mortar (1:4)				
11.1.40	230mm thick masonry using solid block wall,mild steel laid to form alternate courses of headers and stretchers,laid on and incl.mortar ratio 1:3	SM	17.74		
11.4.32	**Sawn formwork as described to;**				
11.4.33	Sides and soffites of reinforced concrete beam	m²	1.56		
11.4.34	**Reinforced concrete 1:2:4 in:**				
11.4.35	200mm reinforced concrete ring beam	m³	0.23		
	Reinforcement bars to BS 4449 as described in reinforced concrete ring beam and column				
11.4.36	Y16mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	139.06		
11.4.37	8mm mild round steel links at ditto	kg	42.46		
	Roof slab				
11.4.21	Sides and soffites of the slab	m²	15.54		
	Reinforcement bars to BS 4449 as described in reinforced concrete slab				
11.4.36	Y8mm diameter cold worked square twisted bars at including bends, hooks, binding wire in the beam to Engineer's Approval	kg	89.00		
11.4.24	100mm thick, reinforced concrete slab, well compacted with a vibrator and cure to the satisfaction of the Engineer.	m³	1.55		
11.1.30	Concreting to columns	CM	0.34		
	FINISHING				
	Cement Sand (1:4) plaster as described;				
11.1.41	20mm thick 1:3 cement sand plaster on internal walls (internal surfaces)	m²	27.64		
11.1.42	20mm thick 1:3 cement sand plaster on external walls (external surfaces)	m²	33.24		
11.4.46	**Cement-sand screed (1:3) as described;**				
11.4.47	20mm cement:sand screed 1:3 Floor finish to the floor of the vaults and ramp, and finish smooth with a steel float using cement grout	m²	15.54		
	PAINTING				
11.4.48	Apply one under coat and two coats finishing of vinyl silk emulsion paint to the surface brick plastered including celling paint	m²	51		
11.4.49	Ditto the external wall	m²	31		
	Semisolid Door as per drawing including paint	No	1		
	Metallic bugler Window including paint	No	2		
Total of one Guard house					**-**
Total carried to summary page (2 no.)					**-**

Bill No.	Description	UNIT	QTY	Unit Rate (UGX)	AMOUNT (UGX)
11.5	**SYSTEMS TECHNICAL SUPPORT AND SCHEME EQUIPMENT**				
11.5.1	Supply of motor bikes	Nr	2.00		
11.5.2	Supply of bicycles	Nr	5.00		
11.5.3	Provide personal office computers for scheme use as per technical specification	Nr	2.00		
11.5.4	Supply office printer for the use of the scheme as per technical specifications	Nr	2.00		
11.5.5	Supply of Workshop equipment and tools as ordered by the Engineer.	P.Sum	1.00	20,000,000	
11.5.6	Provisional sum for technical training	P.Sum	1.00	25,000,000	
11.5.7	Provisional sum for systems support and technology transfer	P.Sum	1.00	360,000,000	
11.5.8	Contractor's handling charge on all provisional sums under 11.5.5, 11.5.6 and 11.5.7 above	%	10.00	-	-
Total carried to summary page					**-**
11.6	**BOUNDARY AND IRRIGATION BLOCK MARK STONES, MEASURING STAFF GAUGE**				
11.6.1	Provide for manufacture, installation and supervision of Standard boundary mark stones, engraved with project name as directed by the Engineer	Nr	90		
11.6.2	Provide for manufacture, installation and supervision of Irrigation block mark stones, engraved with the block name as specified in the drawing as directed by the Engineer	Nr	43		
11.6.3	Provide for manufacture, installation and supervision of concrete staff gauge with paint gradation as directed by the Engineer	Nr	5		
Total carried to summary page					**-**

BILL NO 12 SCHEME BUILDINGS		BOQ			
Bill No.	**Description**	**Unit**	**QTY**	**Unit Rate (UGX)**	**AMOUNT (UGX)**
12.1	**OFFICE BLOCK**				
	Earthwork & Masonry Foundation				
12.1.1	Strip top soil to an average depth of 200mm.	m^2	320		
12.1.2	Common excavation in Stone Masonry foundation trench to a depth not greater than 2.0 meters. The work includes dewatering, protection and all necessary works	m^3	160		
12.1.3	Bulk Excavation in normal soil	m^3	272		
12.1.4	Extra over for item 1.2 to 1.3for Excavation in soft rock.	m^3	42		
12.1.5	Extra over for item 1.2 to 1.3for Excavation in hard rock.	m^3	42		
12.1.6	Cart away all surplus excavated material from site to a distance not less than one kilometer.	m^3	400		
12.1.7	Fill and compact selected granular material for 95% of proctor density layer by layer and each compacted layer shall be 200mm thick.	m^3	170		
12.1.8	Anti-termite treatment on tops of hardcore surfaces and sides and bottoms of excavation	m^2	175		
12.1.9	250 mm thick basaltic stone or equivalent hard core filling over the selected fill, compaced and blinded with crushed stones.	m^2	175		
12.1.10	500mm thick Stone masonry Wall costruction	m^3	55		
	Concrete Work				
12.1.11	Cut, Place in position and tie deformed reinforcement bars as per the drawing and the minimum tensile yeilding strength of the reinforcement bars shall be 400MPA.	Kg	1750		
12.1.12	Placing formwok for for grade beam, top tie beam, column, edge of slab etc,	m^2	130		
12.1.13	100mm thick Class C-10 lean concrete over the hard core incl below foundation.	m^2	233		
12.1.14	150mm thick Class C-25 Concrete in floor slab	m^2	170		
12.1.15	RC concrete Class C-25 in beams and column	m^3	15.2		
12.1.16	Damp proof membrane of 500 gauge polythene damp proof membrane including 300mm laps	m^2	200		
12.1.17	Bituminous felt damp proof course: 150mm wide, 200mm laps	lm	110		
	WALL				
12.1.18	Supply and Place 200mm thick HCB for External Wall, as shown in the drawing . The binding material shall be cement sand mortar in the ratio of 1:3.	m^2	170		
12.1.19	Supply and Place 150mm thick HCB for partion Wall, as shown in the drawing . The binding material shall be cement sand mortar in the ratio of 1:3.	m^2	110		
	Floor and Wall Finishing Work				
12.1.20	Two Coats of Plastering and one coat rendering or smooth finish to external wall as directed	m^2	170		
12.1.21	Three coats of wall plastering to internal walls in smooth finish	m^2	400		
12.1.22	Prepare surfaces: apply three Coats"Sadolin" or any approved Synthetic paint to externa wall	m^2	170		
12.1.23	Prepare surfaces: apply three Coats "Sadolin" or any approved silk vinyl paint to internal wall	m^2	400		
12.1.24	Three coats of ceiling paint "Sadolin" or any approved water paint in smooth finish with all necessary works including fascia board.	m^2	180		
12.1.25	PVC 3mm thick Tile floor finish layed over 48mm thick cement screed	m^2	170		
12.1.26	Supply & Fix in position for Terarazzo Tile Window Sill, Cross Sectional area of the tile is 250mmx25.	ml	19.7		
	Pavement & Drainage Ditch around the Building				
12.1.27	Construction of 600mm wide pavement (splash apron) around the building, the work shall include excavation, 200mm selected material placing & compaction, 250mm hard core above the selected fill and 100mm thick C-15 concrete including BRC A252 welded mesh in top. The work shall also include smooth finishing work with 25mm thick cement mortar screeding and construct drainage ditch around the end of the pavement	m^2	52		

	Door , Widow and Roofing Works				
	Door and Window				
12.1.28	Supply and Fix in Position door, D2 (900 mm x 2800 mm) solid wodden or equivalent including frame, architrave and all necessary work as described in the drawing and schedule and approved by the Engineer.	No.	12		
12.1.29	Supply and Fix in Position door, D3 (1000 mm x 2800 mm) solid wodden or equivalent including frame, architrave and all necessary works as described in the drawing and schedule and approved by the Engineer.	No.	3		
12.1.30	Supply and Fix in Position window, W1 (2530x1600mm) LTZ framed, grilled and glazed with 4mm glass as described in the drawing and schedule and approved by the Engineer.	No.	12		
12.1.31	Rofing & Ceiling				
12.1.32	Supply and fix roof truss for two block offices constructed out of timber of main & horizontal rafter 6x2inch, diagonal 4x2inch and 70mmx50mm purlin as per the drawing and the truss members shall be made well seasoned to avoid warping because of unsatifactory seasoning time. The Work shall include all necessary work to fix the truss and purlin in position.	LS	1		
12.1.33	Supply and fix 8mm thick chipwood ceiling including 50mmx40mm battens at a spacing of 600mm in both directions.	m^2	170		
12.1.34	Supply and fix G-28, pre-painted galvanized iron sheet roofing cover including fixing to the truss members, ridges and valleys.	m^2	260		
12.1.35	Supply and Fix Timder Facia Board of Size 250x25mm including oil paint to prevent twisting and cracking.	m	90		
12.1.36	Supply and fix Fix Gutter & Down Pipe for two office blocks manufactured out of Gage -30 galvanized sheet metal including all accessories and welding for fixing in position.	LS	1		
Total carried to summary page					**-**
12.2	**RESIDENTIAL BUILDING**				
	Earthwork & Masonry Foundation				
12.2.1	Strip top soil to an average depth of 200mm.	m^2	750		
12.2.2	Common excavation in Stone Masonry foundation trench to a depth not greater than 2.0 meters. The work includes dewatering, protection and all necessary works	m^3	200		
12.2.3	Bulk Excavation in normal soil	m^3	260		
12.2.4	Extra over for item 1.2 to 1.3for Excavation in soft rock.	m^3	50		
12.2.5	Extra over for item 1.2 to 1.3for Excavation in hard rock.	m^3	50		
12.2.6	Cart away all surplus excavated material from site to a distance not less than one kilometer.	m^3	550		
12.2.7	Fill and compact selected granular material for 95% of proctor density layer by layer and each compacted layer shall be 200mm thick.	m^3	170		
12.2.8	Anti-termite treatment on tops of hardcore surfaces and sides and bottoms of excavation	m^2	175		
12.2.9	250 mm thick basaltic stone or equivalent hard core filling over the selected fill, compaced and blinded with crushed stones.	m^2	170		
12.2.10	500mm thick Stone masonry Wall costruction	m^3	66		

	Concrete Work				-
12.2.11	Cut, Place in position and tie deformed reinforcement bars as per the drawing and the minimum tensile yeilding strength of the reinforcement bars shall be 400MPA.	Kg	2200		
12.2.12	Placing formwok for for grade beam, top tie beam, column, edge of slab etc,	m^2	130		
12.2.13	100mm thick Class C-10 lean concrete over the hard core incl below foundation.	m^2	170		
12.2.14	150mm thick Class C-25 Concrete in floor slab	m^2	165		
12.2.15	RC concrete Class C-25 in beams and column	m^3	18.5		
12.2.16	Damp proof membrane of 500 gauge polythene damp proof membrane including 300mm laps	m^2	225		
12.2.17	Bituminous felt damp proof course: 150mm wide, 200mm laps	lm	130		
	WALL				
12.2.18	Supply and Place 200mm thick HCB for External Wall, as shown in the drawing . The binding material shall be cement sand mortar in the ratio of 1:3.	m^2	125		
12.2.19	Supply and Place 150mm thick HCB for partion Wall, as shown in the drawing . The binding material shall be cement sand mortar in the ratio of 1:3.	m^2	68		
	Floor and Wall Finishing Work				
12.2.20	Two Coats of Plastering and one coat rendering or smooth finish to external wall as directed	m^2	130		
12.2.21	Three coats of wall plastering to internal walls in smooth finish	m^2	270		
12.2.22	Prepare surfaces: apply three Coats"Sadolin" or any approved Synthetic paint to externa wall	m^2	130		
12.2.23	Prepare surfaces: apply three Coats "Sadolin" or any approved silk vinyl paint to internal wall	m^2	270		
12.2.24	Three coats of ceiling paint "Sadolin" or any approved water paint in smooth finish with all necessary works including fascia board .	m^2	165		
12.2.25	PVC 3mm thick Tile floor finish layed over 48mm thick cement screed	m^2	165		
12.2.26	Supply & Fix in position for Terarazzo Tile Window Sill, Cross Sectional area of the tile is 250mmx25.	ml	30		
12.2.27	Provide and fix ceramic floor tile for toilets with all necessary work. The ceramic floor tiles : bedded and jointed in approved adhesive : pointed with approved coloured grout : to with all necessary work	m^2	14		
12.2.28	Provide and fix Non slip ceramic wall tile upto 1.5m height for toilets. The ceramic floor tiles : bedded and jointed in approved adhesive : pointed with approved coloured grout : to with all necessary work	m^2	33		
	Walkway, Pavement & Drainage Ditch				
12.2.29	Construction of 600mm wide pavement (splash apron) around the building, the work shall include excavation, 200mm selected material placing & compaction, 250mm hard core above the selected fill and 100mm thick C-15 concrete including BRC A252 welded mesh in top. The work shall also include smooth finishing work with 25mm thick cement mortar screeding and construct drainage ditch around the end of the pavement	m^2	65		

12.2.30	Construction of 1200mm widewalkway connecting the accomodations, the work shall include excavation, 200mm selected material placing & compaction, 250mm hard core above the selected fill and 100mm thick C-15 concrete including 8mm reiforcement bar mesh at a spacing of 200mm c/c. The work shall also include smooth finishing work with 25mm thick cement mortar screeding and construct drainage ditch at the side of the walkway	m^2	40		
12.2.31	Provide truss and supply and fix gauge-28 galvanised iron sheet roofing for walkway including 4x2inch rafterand 70mmx50mm purlin as shown in the drawing& specification and directed by the Engineer.	m^2	40		
	Door , Widow and Roofing Works				
12.2.32	Supply and Fix in Position door, D1 (2000 x 2800 mm) solid wodden or equivalent including frame, architrave and all necessary works as described in the drawing and schedule and approved by the Engineer.	No.	2		
12.2.33	Supply and Fix in Position door, D2 (900 x 2800 mm) solid wodden or equivalent including frame, architrave and all necessary works as described in the drawing and schedule and approved by the Engineer.	No.	11		
12.2.34	Supply and Fix in Position door, D4 (700x2800mm) solid wodden or equivalent including frame, architrave and all necessary works as described in the drawing and schedule and approved by the Engineer.	No.	5		
12.2.35	Supply and Fix in Position window, W3 (2000x1600mm) LTZ framed, grilled and glazed with 4mm glass as described in the drawing and schedule.	No.	11		
12.2.36	Supply and Fix in Position window, W5 (600x750mm) LTZ framed and glazed with 4mm glass as described in the drawing and schedule.	No.	5		
	Roof and Ceiling				
12.2.37	Supply and fix roof truss for two block offices constructed out of timber of main & horizontal rafter 6x2inch, diagonal 4x2inch and 70mmx50mm purlin as per the drawing and the truss members shall be made well seasoned to avoid warping because of unsatifactory seasoning time. The Work shall include all necessary work to fix the truss and purlin in position.	LS	1		
12.2.38	Supply and fix 8mm thick chipwood ceiling including 50mmx40mm battens at a spacing of 600mm in both directions.	m^2	165		
12.2.39	Supply and fix G-28, pre-painted galvanized iron sheet roofing cover including fixing to the truss members, ridges and valleys.	m^2	280		
12.2.40	Supply and Fix Timder Facia Board of Size 250x25mm including oil paint to prevent twisting and cracking.	m	115		
12.2.41	Supply and fix Fix Gutter & Down Pipe for two office blocks manufactured out of Gage -30 galvanized sheet metal including all accessories and welding for fixing in position.	LS	1		
Total carried to summary page					**-**

12.3	**STORAGE BUILDING**				
	EARTHWORK				
12.3.1	Site clearance of construction area	m^2	2000		
12.3.2	Exacavate to reduce levels average 200mm deep to remove vegetable soil and cart away from site	m^3	1275		
12.3.3	Exacavate to reduce levels average 2meter deep to remove vegetable soil and cart away from site	m^3	1580		
12.3.4	Excavate pit for 45 in No.base column footings (pad foundation)not exceeding 1.50 metres deep from reduced / ground level (slanting/ Vertical columns)	m^3	105		
12.3.5	Allow for keeping the whole of the excavation and foundation free from rain, spring or underground water and mud or silt by bailing, pumping or otherwise	Item	1		
12.3.6	Approved anti termite treatement aplied to sides and bottoms of all excavations,top of hardcore etc	m^2	1275		
12.3.7	Return, fill with murram around foundation footings and under the slab well ram in layers (well compacted) not exceeding 230mm thick to receive hardcore under a concrete slab	m^3	525		
12.3.8	Remove surplus excavated materials from site to where irected as per the regulations of the council.	m^3	100		
12.3.9	200mm thick levelled compacted hardcore filling	m^2	850		
12.3.10	50mm thick sand Blinding	m^2	850		
12.3.11	G 1000 gauge microslip membrane (DPM) with 200mm laps	m^2	850		
	Concrete				
12.3.12	Reinforcement Diameter 10 @c/c 20cm bothways on floor slab	Kgs	200		
12.3.13	150mm thick C-25 concrete floor slab	m^2	850		
12.3.14	Concrete 5-10 blinding in pad foundation 75mm thick	m^2	54		
12.3.15	RC Concrete C-25 to foundation footing	m^3	15.5		
12.3.16	RC Concret C-25 to footing columns	m^3	8.25		
12.3.17	Concreting C-25 to grade beam	m^3	12.5		
12.3.18	Sawn formwwork to footng, column, grade beam & edge of slb	m^2	155		
12.3.19	Mild BS 4483 and High tensile steel BS 4464 reinforcement bars with binding wire as described:				
a	8mm	Kgs	375		
b	10mm	Kgs	460		
c	14mm	Kgs	550		
d	16mm	Kgs	700		
	SUPERSTRUCTURE				
	STRUCTURAL WORKS				
12.3.20	Framed structural steel work Comprising portal frames (columns & rafters), purlins, rafter bracings, column bracings, cleader angles, 12mm diameter antisag bars (2 per bay) including all fixtures necessary for erection as per details given in the drawing, instruction and approved by the Engineer and as described below a) 45 number IPE 400-section columns bolted to the foundation using 16mm thick base plate (500x350mm) with 4mm fillet weld all around column and 4no soft 20mm foundation bolts b) IPE 330-section rafters cut to the required angles on top and bottom and jointed with 2nos of 12mm thick 350x130mm steel plates bolted with 8nos of M20 G8-8bolts on webs per given detail and all fillet welding shall be as mentioned. c) C- purlin or 130mm x 50mm x 20mm x2mm (Ref.ZP 30) steel Zed-purlins bolted to top chord through 100x100x4mm L-cleats including all necessary bolts and nuts to Structural Engineer's approval for roofing and clad sheeting	m^2	855		

	ROOFING				
12.3.21	26 Gauge,Blue painted Super Eco profile roofing sheets,fixed to Z-Purlins frame with and including approved J-hook bolts,nuts and washers,fixed in accordance with the engineer's instructions and drawings. The work includes placing Ridge caps, roof screws and all necessary fittings	m^2	1000		
12.3.22	Cladding Sheeting Comprising 26 gauge pre-painted Super Eco profile sheets to sides and gables with fiberglass wool, purlin top hats, self drilling screws, flashings and all fixtures necessary for erection. It also comprise of cladding rails, anti-sag bars and including all fixtures necessary for erection	m^2	675		
12.3.23	Fascia boards 4m length (190mmx30mmx1mm)	LM	110		
12.3.24	Supply and fix 8mm thick chipwood ceiling including 50mmx40mm battens at a spacing of 600mm in both directions.	m^2	50		
12.3.25	Provide Rainwater harvesting Comprising eaves gutters made from 1.5mm thick pre galvanized plates, PVC down pipes, gutter brackets and all fixtures necessary for erection	LS	1		
12.3.26	Allow a sum for fibre Glass Translucent Sheets comprising 1 sheet per slope per 2 bay in 1mm thick fiberglass UV protected 3.5m long milky finish type (Subject to slight tint variations) translucent sheets, and all fixtures necessary for erection. Safety Frames under each translucent sheet, comprising round bars welded together to fit under roofing sheet profile to provide additional safety. The work will be done only if instructed and approved by the Engineer.	LS	1		
12.3.27	Allow a sum of Roof Ventilator comprising CYCLONE 600 Series (1 No. per 4 bays) near the apex consisting of galvanized steel components including all fixtures necessary for erection	LS	1		
	BLOCK WORK				
12.3.28	230mm thick using solid block wall,mild steel laid to form alternate courses of headers and stretchers,laid on and incl.mortar ratio 1:3, Th	m^2	250		
12.3.29	150mm thick using solid block wall,mild steel laid to form alternate courses of headers and stretchers,laid on and incl.mortar ratio 1:3, Th	m^2	17.5		
	WALL FINISHES				
12.3.30	20mm thick 1:3 cement sand plaster on internal walls (internal surfaces)	m^2	305		
12.3.31	20mm thick 1:3 cement sand plaster on external walls (external surfaces)	m^2	250		
12.3.32	12mm cement sand (1:4) screeds to smooth finished	m^2	850		
12.3.33	Prepare surfaces: apply three Coats"Sadolin" or any approved Synthetic paint to externa wall	m^2	250		
12.3.34	Prepare surfaces: apply three Coats "Sadolin" or any approved silk vinyl paint to internal wall	m^2	305		
12.3.35	Three coats of ceiling paint "Sadolin" or any approved water paint in smooth finish with all necessary works including fascia board .	m^2	50		
12.3.36	Two Tier of of 200mm thick concrete louver vents	m^2	40		

	DOORS and WINDOWS				
12.3.37	Supply and Fix in position fabricatel sliding steel shutter door of 3000mm x 2500mm height for the main store. The work includes sliding frames and fittings, hinges, necessary paints, steel shutter and all necessary fittings and materials to fix and erect the slidng gate and make it operational as per the instruction and approval given by the Engineers	No.	3		
12.3.38	Supply and Fix in Position door, D1 (900 mm x 2100 mm) solid wodden or equivalent including frame, architrave and all necessary works as described in the drawing and schedule and approved by the Engineer.	No.	8		
12.3.39	Supply and Fix in Position door, D2 (700 mm x 1000 mm) door or equivalent including frame, architrave and all necessary works as described in the drawing and schedule and approved by the Engineer.	No.	4		
12.3.40	Supply and Fix in Position window, W1 (1800x1200mm) LTZ framed, grilled and glazed with 4mm glass as described in the drawing and schedule and approved by the Engineer.	No.	1		
12.3.41	Supply and Fix in Position window, W2 (1250x1200mm) LTZ framed, grilled and glazed with 4mm glass as described in the drawing and schedule and approved by the Engineer.	No.	4		
12.3.42	Supply and Fix in Position window, W3 (600x1200mm) LTZ framed, grilled and glazed with 4mm glass as described in the drawing and schedule and approved by the Engineer.	No	3		
	WATER SUPPLY and SANITORY WORKS				-
12.3.43	Allow a sum for water supply includung the internal plumbing system, sanitary fittings (four WC, three Handwash basin, two water points), all necessary plumbing works, connection to the water tank and all necessary as directed and approved by the Engineer	LS	1		
12.3.44	Allow a sum for Sanitory fittings and waste water line. The work includes supply and fix four WC & three Hand Wash basin, internal plumbing system, two water point, waste water connection, connection to the water tank and septic tank and all necessary works as directed and approved by the Engineer	LS	1		
12.3.45	Allow a sum for water tank stand and water tank of 2000lt capacity including inlet, outlet, float valve and connection to the main line and all necessary plumbing works and materials necessary as directed and approved by the Engineer	LS	1		
12.3.46	Supply all materials and construct one septic tank according to drawing. Include for water proof cement rendering, benching, fittings and smoothening of channels etc as specified and directed on site. The work includes construction of soakpit	LS	1		
	ELECTRICAL INSTALLATION			-	
12.3.47	Allow a sum for electrical installation. The work includes wiring, placing lightining fixtures, sockets, switches, security lights, consumer units and all necessary electical fixtures and material to make the light system operational as directed and approved by the Engineer	LS	1		
12.3.48	Allow a sum for exetension of the power line to main government line	LS	1		
	GENERAL				
12.3.49	Allow a sum for supply and erect Chain link of gauge 10 pitch size 50x50mm fencing consists of 2.5 mm barbed on top of the chain link fixed to 11/2inch GI pipe posts spaced every 2.5m. The work includes supply and erect of 7m width steel gate and all necessary works to put the fence and gate as directed and approved by the Engineer.	LS	1		
Total carried to summary page					**-**

	Water Tank Stand				-
12.4.1	Supply and installation of steel structure for water tank of 20,000lt capacity stand as per the drawing. Including all required steel plates and bolts for anchorage to foundations or in the structure, weld works, materials and equipment for the completion in all respect.Including installation the two 10,000lt capacity water tank and fixing outlet, inlet aand overflow. Including all necesary stairs, security handrails and platforms as per the drawing and instructed by the Engineer in charge	No.	1		
12.4.2	Providing, mixing, laying, vibrating and curing reinforced concrete (25N/mm2) for foundations (column 0.2x0.3*1m, footing1x0.5x0.3m & Ground beam 0.3x0.2m) for water tank structure including earthwok. Including all necessary materials and equipment for the completion in all respect as per the drawing and directed by the Engineer in charge	m^3	2.84		
	Septic Tank				-
12.4.3	Supply and construct 10,500lt capacity septic tank as per the drawing specification and directed by the Engineer in charge. The work includes earthwork, concrete work, cutting and placing reinforcement, formwork for the work, construction of manholes and cover. Including construction of soak pit & drain pipe trenches. including steel plates and bolts for manhole and other work if need be, weld works, materials and equipment for the completion in all respect, and all necessary works as per the drawing and instructed by the Engineer in charge	LS	1		
	Toilet at Block E				
12.4.4	Construct four toilet rooms at block E as per the drawing and instructed & directed by the Engineer. The work includes necessary earth work, Foundation masonry wall, Grade beam, hardcore, slab, wall, 3 coat of plastering, 3 coat of painting, ceiling, Roof work, and all necessary work as per the drawing.	LS	1		
12.4.5	Provide and fix ceramic floor tile for toilets with all necessary work. The ceramic floor tiles : bedded and jointed in approved adhesive : pointed with approved coloured grout : to with all necessary work	m^2	20.2		
12.4.6	Provide and fix Non slip ceramic wall tile upto 1.5m height for toilets. The ceramic floor tiles : bedded and jointed in approved adhesive : pointed with approved coloured grout : to with all necessary work	m^2	46		
Total carried to summary page					**-**

12.5	**WATER SUPPLY AND SANITARY**				
	Water Supply				
	Carry out bore hole siting ,Mobilise drilling equipment, personel and materials to and from site, Borehole Drilling and installation of 5" casings to the the bottom of 60m also perform test pumping 48hrs + 2hr step tests Supply and installation 5" pedestal plus a motorized pump platform				
	Construct pump house complete as given in the drawings; include all earthwork, building work, concrete works, plumbing, drains e.t.c as detailed.				
	Supply and install submersible solar pump with required out put of Q = 10m^3/day. and H=100m, complete with dry running protection.				
	AC pump controller to run the pump with Q = 10m3/day. and H=100m.				
	330Wp Mono crystalline Solar Panel, optimum voltage 34 – 38V, current 8-9 Amps				
	SOLAR PANEL MOUNTING GALVANIZED STRUCTURE complete with Metallic structures and civil platforms, 3 m off the ground for solar panels.				
	AUXILLIARY LIGHTING SYSTEM WITH 75Wp,panel, 5Amp Regulator, 55AH Battery, 3LED Lights, Battery Box, Panel mount frame, light fixtures and cabling and accessories				
	DROP CABLE 4mm^2×4CORE,FLAT CABLE				
	ELECTRODES (PAIR)				
	0.75mm^2 ELECTRODE CABLE				
	2" GI Pipe				
	EARTHING SYSTEM (25mm2 earth wire, copper mat, copper clamp, concrete earth pit & conductivity improvement materials)				
12.5.1	ELECTRICAL ACCESSORIES FOR INSTALLATION: cable tray Trunking about 5m, 6mm2 Underground (U/G) cable 40m includes all electricals for generator installations	P.SUM	1	250,000,000	
	Fittings (4no. 2"GI bends, 4 no. 2"GI nipples, 4no. GI Tees, 1 No. 2"water meter (dry type), 3 No. 2"HDPE adapters, 1no. 2"Air valve, 3no. 2"GI unions, 2 no. Global valve, 1 no.1/2" pressure gauge, 1 no. pressure sensor complete with switch.				
	Provide and lay machine crushed stone aggregate of size 25mm for a layer of thickness 50mm placed on top of gauge 1000dpm within the area covered by solar array.				
	Internal Plumbing				
	Supply and instal all necessary pipe works for accomodation block, canten kitchen & toilet and toilet at block E. All pipe work shall be PPR PN 20, all diameters below are internal pipe works shall be complete with fittings such as bends elbows, tees, gate valve, union etc. and all accessories and shall be inclusive of all builder's work.				
	1/2inch GI pipe or PPR cold water Pipe work complete.				
	3/4inch GI pipe or PPR cold water Pipe work complete.				
	External Plumbing				
	Supply and instal all necessary pipe works to connect to the internal plumbing line. All pipe work shall be PPR diameters of 3/4inch or 1inch as instructed by th Engineer. All external pipe works shall be complete with fittings such as bends elbows, tees, gate valve, union etc. and all accessories and shall be inclusive of all builder's work.				
	HDPE or other approved pipe PN16 water supply line from government water main complete up to the water tank with all accessories, fittings.				
	Supply line of 3/4inch or 1inch as approved by the Engineer from the water tank to the required places (kitchen, toilets, garden, at necessary points)				
12.5.2	Water points around the compound including taps, gatevalves and all necessary works as approved by the Engineer	No.	5		

	Water Tank				
12.5.3	Supply and Install two10,000 litre PVC tank, as CRESTANK or equal approved, complete with tank cover, 150mm ball valve for 25mm inlet, 50mm overflow, 50mm wash out with sluice valve, mounted on stell water tank stand complete with all accessories. The work includes connecting the two tanks and all necessary to make the water tanks operational.	LS	1		
	Waste Line				-
12.5.4	Supply and Fix PVC pipe lines for sewarage disposal system from toilet and bath rooms to septic tank incuding excavation, backfilling, connecting manholes and all necessary fixtures i.e tee, y-branch elbow, union etc		1		
	110mm heavy duty PVC soil waste pipe in ground to manholes.				
12.5.5	50mm PVC .	m	100		
12.5.6	110mm PVC	m	35		
	Sanitory Fittings				
12.5.7	Supply & fix 600x400mm ceramic hand wash basin including all accessories and fittings	No.	13		
12.5.8	Supply & fix flush type ceramic WC. Incuding all accessories & fittings	No.	13		
12.5.9	White enamelled fireclay shower tray 800x780x110mm as TWYFORDS CALYPSO 2 800 complete with chrome plated shower pipe concealed in wall complete with 100mm diameter fixed shower head , control valve and bib tap and complete with all accessories.	No.	9		
12.5.10	Toilet roll holder complete with fixing to the wall.	No.	13		
12.5.11	6mm glass plate mirror size 610x475mm with bevelled edges complete.	No.	5		
12.5.12	6mm glass plate mirror size 400x475mm with bevelled edges complete.	No.	4		
12.5.13	Kitchen Sink double bowl single drain stainless steel for mounting in worktop, complete with bottle trap, bib tap and all accessories.	No.	2		
12.5.14	Chrome plated rail 600mm long, 20mm diameter complete with fixing to the wall to approval	No.	9		
12.5.15	Soap dish	No.	9		
12.5.16	Contractor's handling charge on all provisional sums under items 12.5.1 and 12.5.2 above	%	10.00		
Total carried to summary page					-
12.6	**ELECTRICAL WORK**				
12.6.1	Supply, install, connect, test and commission set to work the following all as described in the Specifications and Drawings.	P.SUM	1	50,000,000	
12.6.2	Supply, install, connect, test and commission Solar lighting set for the entire administration and accommodation area	P.SUM	1	100,000,000	
12.6.3	Metal cased with lockable hinged door, 4 - Way SPN, MCB type flush mounted Consumer Unit with 100A DP integral Main Isolator, busbar, Neutral and Earth Terminal Blocks, complete with ten out going MCB's as per the drawing all as to L & T or equal approved.	No.	6		
12.6.4	3 core x 16mm^2 PVC/SWA/PVC copper cables from Meter box to the Consumer unit ofeach block, laid in ducts, complete with terminating lugs, glands and all fittings and accessories (Route length).	m	100		
12.6.5	Wiring and Installation of light point, from the respective consumer unit using 3 x 1.5 mm^2 PVC/PVC/CU cable drawn through securely fixed concealed PVC conduit as shown in layout drawings and with all necessary work. Conduit to be used should be PVC 25mm2 and conduit within the ceiling should be flexible and the one running along wall should be rigid type and concealed	No.	20		
12.6.6	Supply and installation of 4 x 14 W T5 fluorescent lamp fitting with parabolic mirror louver	No.	50		
12.6.7	Ceiling light of 40W	No.	20		

12.6.8	Supply and Installation of switch outlet fixed on wall, wired in ring circuit from the respective Consumer Unit using 3 x 1.5 mm^2 PVC/PVC/Cu cable as shown in layout drawing with all necessary to fix the switch. Conduit to be used should be PVC 25mm2 and conduit within the ceiling should be flexible and the one running along wall should be rigid type and concealed. For the following switches				
12.6.9	6A 1 gang 2 way moulded switch as MK or equal approved.	No.	12		
12.6.10	6A 2 gang 2 way moulded switch as MK or approved equal.	No.	15		
12.6.11	6A 1 gang 1 way moulded switch as MK or equal approved.	No.	20		
12.6.12	6A 2 gang 1 way moulded switch as MK or equal approved.	No.	3		

12.6.13	Supply and Installation of socket outlet fixed on wall, wired in ring circuit from the respective Consumer Unit using 3 x 2.5 mm^2 PVC/PVC/Cu cable as shown in layout drawing with all necessary to fix the socket drawings. Conduit to be used should be PVC 25mm2 and conduit within the ceiling should be flexible and the one running along wall should be rigid type and concealed. For the following socket	No.	75		
12.6.14	13A 1gang socket outlet as MK or equal complete with all accessories on walls or Trunking.	No.	75		
12.6.15	Internet/Telephone points in 25mm PVC conduits from one Central point complete (Conduit wolrk only).	No.	9		
12.6.16	Wiring to cooker control unit by 3 × 6 mm2 PV-CL copper cables in concealed conduits complete with cooker control unit as MK and all accessories	No.	1		
12.6.17	Contractor's handling charge on all provisional sums under items12.6.1 and 12.6.2 above	%	10.00	-	-
Total carried to summary page					**-**
12.7	**DRYING PLATFORM (1 NO.)**				
	EARTH WORK				
12.7.1	Excavation in ordinary soil and cart to spoil	m^3	138.6		
12.7.2	Excavation for strip foundation	m^3	28.416		
	CONCRETE WORK				
	Plain Concrete				
12.7.3	Provide and place well vibrated reinforced concrete grade C15 for strip foundation blinding (50mm thick)	m^3	1.776		
12.7.4	Provide and place well vibrated reinforced concrete grade C25 for strip foundation (200mm thick)	m^3	7.104		
12.7.5	Reinforced concrete				
12.7.6	Provide and place well vibrated reinforced concrete grade C25 for slab (150mm thick)	m^3	30		
	Masonry				
12.7.7	Erect 200mm thick approved brick wall in Cement sand mortar (1:4) up to a height as indicated in the drawings for the rice drying platform	m^2	47.36		
12.7.8	Provide masonry anchors every two courses using galvanised mild steel ties to BS1243,1978	Rmt	119.2		
	Backfill				
12.7.9	Supply and place well compacted murram	m^3	112.448		
	Sand blinding				
12.7.10	Provide and place 50mm sand blinding	m^3	9.408		
12.7.11	1000 Gauge horizontal polythene sheeting laid with 450mm laps as joints	m^2	203.508		
	Reinforcement				
12.7.12	Supply and fix a BRC (Wire mesh) of size A142	m^2	206		
	CONCRETE ANCILLARIES				
12.7.13	Form work; fair finish				
12.7.14	Plane and Vertical formwork for slab edges				
12.7.15	Width 0.2m	m^2	12		
	Plaster Finishes				
12.7.16	20mm thick 1:3 Cement Sand Plaster on External walls (External Surfaces)	m^2	48.16		
Total carried to summary page (1 No.)					**-**