



REPUBLIC OF UGANDA
MINISTRY OF WATER AND ENVIRONMENT

INTEGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT

PROJECT ID NO: P163782

CONSTRUCTION OF BUSIA WATER SUPPLY AND SANITATION PROJECT

INTERNATIONAL COMPETITIVE BIDDING

MWE/WRKS/19-20/00003

BIDDING DOCUMENTS

VOLUME 2 - BILLS OF QUANTITIES

INTEGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT (IWMDP)

BUSIA MUNICIPALITY WATER SUPPLY AND SANITATION SYSTEM

**BILLS OF QUANTITIES
GRAND SUMMARY**

BILL NO.	DESCRIPTION	AMOUNT (UGX)
	GENERAL	
BUS G-1	General Items	-
BUS G-2	Dayworks	-
BUS G-3	Method Related Charges	-
	WATER SUPPLY - BUSIA	
	Storage Reservoirs and Pipeline Mains	
BUS W-1	Clear Water Pumping Main	-
BUS W-2	Reservoir Site Works	-
BUS W-3	Storage Reservoirs	-
BUS W-4	Booster Station	-
BUS W-5	Distribution Network	-
BUS W-6	Intensification Network	-
	Intake and Water Treatment Plant and Equipment	
BUS W-7	Intake Structure Works	-
BUS W-8	Raw Water Pumping Mains	-
BUS W-9	Treatment Plant Site Works	-
BUS W-10	Aerator and Flocculator	-
BUS W-11	Clarifier	-
BUS W-12	Rapid Gravity Filters	-
BUS W-13	Clear Water Tank	-
BUS W-14	Chemical House	-
BUS W-15	Sedimentation Filter Wash Water Structure	-
BUS W-16	Sludge Drying Channel	-
BUS W-17	Sludge Drying Buffer	-
BUS W-18	Office and Workshop	-
	Electrical Mechanical Works	
BUS E-1	Electrical Works	-
BUS M-1	Mechnaical Works	-
	SANITATION - BUSIA	
BUS S-1	Faecal Sludge Treatment Plant Site Works	-
BUS S-2	Screen and Grit Channel	-
BUS S-3	Planted Drying Beds	-
BUS S-4	Constructed Wetland	-
BUS S-5	Horizontal Rock Filter	-
BUS S-6	13 Stance Waterborne Public Toilets- Front to Front Type	-
BUS S-7	3 Stance Water Borne Toilet- Busia Health Centre	-
BUS S-8	6 Stance Single Vault VIP School Toilets- Boys	-
BUS S-9	6 Stance Single Vault VIP School Toilets- Girls	-
	SANITATION - KUMI-NYERO-NGORA	
KUM S-1	Faecal Sludge Treatment Plant Site Works	-
KUM S-2	Screen and Grit Channel	-
KUM S-3	Planted Drying Beds	-
KUM S-4	Constructed Wetland	-
KUM S-5	Horizontal Rock Filter	-
KUM S-6	6 Stance Single Vault VIP School Toilets- Boys	-
KUM S-7	6 Stance Single Vault VIP School Toilets- Girls	-
	Sub-Total 1	-
	Allow for 5% contingency	-
	Sub- Total 2	-
	Allow for 18% VAT	-
	GRAND TOTAL	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-1

DESCRIPTION: GENERAL ITEMS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Contractual Requirements</u>				
BUS G-1.1	Performance security	sum	1		-
BUS G-1.2	Advance payment guarantee	sum	1		-
BUS G-1.3	Insurance cover for the works covering all installations during and up to 28 days after the end of the defects liability period	sum	1		-
BUS G-1.4	Third party insurance	sum	1		-
BUS G-1.5	Insurance cover for Contractor's Equipment	sum	1		-
BUS G-1.6	Insurance cover for workers	sum	1		-
	<u>Specified Requirements</u>				
	<u>Site Offices and Housing</u>				
BUS G-1.7	Establishment including installation of fixtures and removal of offices for the Project Manager and the client's representatives	sum	1		-
BUS G-1.8	Provision of 2 rented residential house units, of 3 bedrooms each to the Engineer's approval for the Project Manager and his staff and the Client's representatives, including requirements as stated in the Technical Specifications	month	20		-
BUS G-1.9	Provision and Maintenance of offices to the Engineer's approval for the Project Managers and client's representatives including provision and payment of utility services (water, electricity, internet) and security	month	20		-
BUS G-1.10	Maintenance of 2 residential house units including provision and payment of utility services (water, electricity, TV services) and security.	month	20		-
	<u>Services for the Project Manager and Client's staff</u>				
	<u>Site Transport Vehicles as per Clause 10.13 of the Technical Specifications</u>				
BUS G-1.11	Provision of New Station Wagon transport vehicle as specified by the Project Manager complete with full registration, licensing and comprehensive insurance for the duration of the project for use by the Project Manager and his staff to the requirements as stated in the Technical Specifications	nr	1		-
BUS G-1.12	Station Wagon transport vehicle (1No.) - running costs (including fuelling, period servicing, tyre changes and repairs) upto 72,000 km	sum	1		-
BUS G-1.13	Provision of New Double Cabin Pick-up transport vehicle as specified by the Contract Manager complete with full registration, licensing and comprehensive insurance for the duration of the project and defects liability period for use by the Client's field staff and representatives to the requirements as stated in the Technical Specifications	nr	2		-
BUS G-1.14	Double Cabin Pick-up transport vehicle (2No.) - running cost (including fuelling, periodic servicing, tyre changes and repairs) upto 72,000 km	sum	2		-
	<u>Communication</u>				
BUS G-1.15	Establish communication system and dedicated email (mobile, wireless or leased line) system for the Office	sum	1		-
BUS G-1.16	Maintenance of communication system and dedicated email (mobile, wireless or leased line) system for the Office	month	20		-
	<u>Equipment for use by the Engineer's staff</u>				
BUS G-1.17	Provision of office furniture (4 work stations set, 3 locable file cabinets) & equipment (1 laser jet 3-in-1 heavy duty color printer, 2 Desktop computer sets, water dispenser) as specified by the Engineer	sum	1		-
BUS G-1.18	Maintenance of office furniture & equipment	month	20		-
BUS G-1.19	Provision of surveying equipment (RTK) for use by the Engineer	month	6		-
BUS G-1.20	Provision of Eco-Sounder for Use by the Engineer	sum	1		-
BUS G-1.21	Provision of Life jackets for Engineer and his staff	nr	6		-
BUS G-1.22	Provision of office stationary & office consumables for use in the Office	month	20		-
	Carried to Collection				-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-1

DESCRIPTION: GENERAL ITEMS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Testing works</u>				
	<u>Testing of Materials</u>				
BUS G-1.23	Concrete works test cubes	nr	20		-
	<u>Testing works</u>				-
BUS G-1.24	Pressure testing of and sterilisation of water mains as per specifications: nominal bore not exceeding 500mm; maximum test pressure not exceeding twice the pipe's pressure rating.	km	80.00		-
BUS G-1.25	Water tightness tests for all , retaining structures and reservoirs	sum	1		-
BUS G-1.26	Test running of water supply system, inclusive of full operations of the water supply system for 30 consecutive days, preparation of daily reports on the operations that comprise of the amount of water pumped, quantity of chemicals utilised, hours of pumping, energy consumed, at least 6No off site detailed water quality tests etc as directed by the Engineer. These shall form part of the operation and maintenance manual and As-Built drawings that shall be submitted to the Employer. Training Operator's staff in basic operation and maintenance procedures of all plant and equipment supplied as per the technical specifications and to the Engineer's approval shall form part of this activity. A comprehensive Test running report must be prepared and 3 color hard copies provided, as well 3 CDs with softcopy versions	sum	1		-
	<u>Temporary Works</u>				-
BUS G-1.27	Establishment & removal of site sign-boards	nr	4		-
BUS G-1.28	Maintenance of site sign-boards until the issue of the Taking-over Certificate	month	20		-
BUS G-1.29	Installation and removal of temporary water retainment structures or water control structures (Earth/rock) during construction of the water intake structure	sum	1		-
	<u>Provisional Sums</u>				-
BUS G-1.30	Re-Location and/or alteration by the relevant authorities of existing services eg. power lines, water lines, telecommunication lines, data lines, sewer lines, drains, and other services and infrastructure that could be affected by the works	sum	1	100,000,000	100,000,000
BUS G-1.31	Client's project specific administration costs and project management expenses	sum	1	200,000,000	200,000,000
BUS G-1.32	Provisional Sum to cover the Employer's portion (50%) of fees and expenses of the Dispute Avoidance and Adjudication Board (DAAB)	sum	1	150,000,000	150,000,000
BUS G-1.33	Allow for a percentage charge on the provisional sum to cover contractor's overhead costs incurred in facilitating payment of provisional sums.	%	10%	450,000,000	45,000,000
	<u>MISCELLANEOUS</u>				
BUS G-1.34	Supply and installation of 600x400mm permanent labels made of engraved granite on the various building installations/structures as directed by the Engineer	nr	10		-
BUS G-1.35	Prepare and print 3 complete sets of operation and maintenance manuals as per specifications and to the Engineer's approval	sum	1		-
BUS G-1.36	Prepare "as-built" or record drawings as per specifications and to Engineer's approval and Provide 3 color printed copies (A3), 3 CDs with Soft copy versions in both PDF and CAD formats.	sum	1		-
				Carried to Collection	

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-1

DESCRIPTION: GENERAL ITEMS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>ENVIRONMENTAL, SOCIAL, HEALTH & SAFETY ACTIVITIES</u>				
	<u>Environmental & Social Protection / Mitigation Activities</u>				
BUS G-1.37	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		-
BUS G-1.38	Provide free HIV/AIDS testing, counselling and condom distribution on a monthly basis.	sum	1		-
BUS G-1.39	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		-
BUS G-1.40	Develop a Hippopotamus Habitat management plan for the Water Treatment Plant site and consult Uganda Wildlife Authority for approval. Maintain the site boundaries with robust fencing/hoarding and permanent lighting at night.				-
BUS G-1.41	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		-
BUS G-1.42	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		-
BUS G-1.43	Routine and regular servicing and maintenance of all vehicles and equipment. Provisions of nose and mouth masks for worker operation near exhaust fumes generating equipment.	sum	1		-
BUS G-1.44	Acquire approvals for borrow pits, sand and aggregate mines, dumping sites by the relevant authorities. Prepare, acquire approval and implement the site management plan	sum	1		-
BUS G-1.45	Prepare and acquire approval and implement site waste management plan.	sum	1		-
BUS G-1.46	Prepare and acquire approval and implement site human waste management plan. Sensitize workers about the dangers of open defecation. Sensitize workers about proper toilet use and handwashing.	sum	1		-
BUS G-1.47	Prepare and acquire approval and implement site accident management plan. Undertake site safety training for all workers regularly. Purchase and ensure workers and visitors wear all the necessary PPE (e.g nose masks, ear muffs, heavy duty shoes, heavy duty gloves, reflector jackets, helmets, eye gaggles, life jackets) at all times while on the sites.	sum	1		-
BUS G-1.48	Preparation of Campsite project brief and Contractor's Environmental and Social Management Plan and acquiring NEMA approvals	sum	1		-
BUS G-1.49	Monthly testing of physical and biological parameters of water samples from the lake (results of water quality analysis) and keeping track of the water quality during construction of the lake intake works (monthly reports)	sum	1		-
					-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-1

DESCRIPTION: GENERAL ITEMS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Health and Safety Protection / Mitigation Activities</u>				-
BUS G-1.50	Store and dispose off hazardous wastes and raw material (e.g.fuel or chemicals) - storage of hydrocarbons (disposal charge per quarter)	sum	1		-
BUS G-1.51	Confine access to restricted work sites (including hoarding, hiring of security guards)	sum	1		-
BUS G-1.52	Preparation, approval and implementation of the Traffic Management Plan (TMP)	sum	1		-
BUS G-1.53	Preparation, approval and implementation of Fire Management Plan	sum	1		-
BUS G-1.54	Installation of a fully equipped first aid room	sum	1		-
BUS G-1.55	Hire of a trained Nurse and Social Development Expert for the duration of the project	sum	1		-
BUS G-1.56	Signing of an MOU with a referral hospital to provide ambulance services and handling severe cases /emergencies	sum	1		-
BUS G-1.57	Purchase and maintenance of drinking water dispensers	sum	1		-
BUS G-1.58	Installation and maintenance of hand washing facilities with soap and water at all project sites	sum	1		-
BUS G-1.59	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		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-1

DESCRIPTION: GENERAL ITEMS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	SOURCE PROTECTION				
BUS G-1.60	General site clearance for tree planting (about 15m corridor)	ha	6		-
BUS G-1.61	Removal of tree stumps, girth not exceeding 2m.	nr	20		-
BUS G-1.62	120x120mm Concrete post of C25 concrete and wire galvanised wire chain link fence of gauge 10 to BS 1722, anchored into 300m high concrete dwarf wall which are well grounded on firm mortar blinding; post height 2-2.5 m. Posts to be struted at corner posts and after every three intermediate posts	m	600		-
BUS G-1.63	Preparation/ levelling of the cleared site for tree planting; all to the satisfaction of the Engineer.	ha	6		-
BUS G-1.64	Procurment of tree seedlings and delivery to site. Seedlings shall be an approved species appropriate for the region	nr	2,000		-
BUS G-1.65	Planting of the seedlings including digging the holes, backfilling using selected loam soil and initial watering, weeding and mulching for at least 2 weeks	nr	2,000		-
BUS G-1.66	Additional watering and weeding of the planted trees for at least 4 months after planting and the 2 weeks initial watering	month	4		-
BUS G-1.67	Provision and installation of sign boards for the protected area. Minimum size: 2.4m wide by 2.4m high in approved MS sections including labelling. Message to be provided by the Client	nr	4		-
BUS G-1.68	Provision and installation of boundary stones for the protected area at 200m centres. Minimum size:0.35x0.35x1.7m high in reinforced grade 30 concrete including labelling with Client's specified details	nr	20		-
				Carried to Collection	-
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
				Carried to Summary	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-2

DESCRIPTION: DAYWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	DESCRIPTION				
	Personnel				
BUS G-2.1	Working ganger	hr	10.0		-
BUS G-2.2	Artisan	hr	10.0		-
BUS G-2.3	Semi-skilled	hr	10.0		-
BUS G-2.4	Unskilled	hr	100.0		-
BUS G-2.5	Driver for light vehicle	hr	7.0		-
BUS G-2.6	Driver for heavy vehicle	hr	10.0		-
BUS G-2.7	Operator for heavy equipment	hr	10.0		-
	Materials				
BUS G-2.8	Ordinary Portland Cement in 50 kg bags	t	1.0		-
BUS G-2.9	Coarse aggregate for concrete.	m ³	1.0		-
BUS G-2.10	Fine aggregate for concrete.	m ³	0.5		-
BUS G-2.11	Water for concrete	lit	10.0		-
BUS G-2.12	Sand for building	m ³	0.5		-
BUS G-2.13	Sand for plaster	m ³	0.5		-
BUS G-2.14	Bricks for building.	nr	5,000		-
BUS G-2.15	Concrete blocks for building, 225 mm for building,150 mm thick	m ²	0.5		-
BUS G-2.16	Concrete blocks for building, 150 mm thick.	m ²	0.5		-
BUS G-2.17	Hydrated lime for building 150 mm thick.	kg	1.0		-
BUS G-2.18	Timber, sawn.	m ³	0.5		-
BUS G-2.19	Timber wrot.	m ³	0.5		-
BUS G-2.20	High yield steel reinforcement:-				-
BUS G-2.21	8-10 mm dia	kg	16.0		-
BUS G-2.22	High yield steel reinforcement:- 12-16 mm dia.	kg	16.0		-
BUS G-2.23	High yield steel reinforcement:- 20-25 mm dia.	kg	2.0		-
BUS G-2.24	Steel reinforcement fabric S reference:A252	m ²	5.0		-
BUS G-2.25	Hardcore filling	m ³	2.0		-
BUS G-2.26	Topsoil delivered to site	m ³	2.0		-
	CONTRACTOR'S EQUIPMENT				
BUS G-2.27	Road vehicles:Pick-up,1 1/2t.	hr	5.0		-
	Road vehicles: Lorries:				
BUS G-2.28	Flat-5t capacity	hr	4.0		-
BUS G-2.29	Flat-10t capacity	hr	4.0		-
	Tipping :				
BUS G-2.30	5t capacity	hr	5.0		-
BUS G-2.31	10t capacity	hr	5.0		-
	Water tankers with pump and hoses:				
BUS G-2.32	5,000l capacity.	hr	2.0		-
	Excavation, face shovel or dragline:				
BUS G-2.33	0.25 m ³ bucket.	hr	5.0		-
BUS G-2.34	0.5m ³ bucket.	hr	3.0		-
BUS G-2.35	1.0m ³ bucket.	hr	3.0		-
	Tractors:				
BUS G-2.36	rubber tyred with trailer, 75 kw.	hr	0.5		-
BUS G-2.37	tracked including bull and angle dozer with ripper:				-
	(i) 150 kw.	hr	0.5		-
	(ii) 200 kw	hr	0.5		-
	(iii) 250 kw.	hr	0.5		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-2

DESCRIPTION: DAYWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Rollers:</u>				
BUS G-2.38	manual, 250 kg	hr	0.5		-
BUS G-2.39	vibratory, self, propelled, 1500 kg.	hr	0.5		-
	<u>Concrete mixers with weigh batchers and loading hoppers:</u>				-
BUS G-2.40	300 lit capacity.	hr	6.0		-
	<u>Concrete vibrator, pneumatic with hoses:</u>				-
BUS G-2.41	poker type, 50 mm	hr	1.0		-
	<u>Bar bending and shearing machines:</u>				-
BUS G-2.42	bending:- (1) hand operated.	hr	0.5		-
BUS G-2.43	shearing:- (1) hand operated	hr	0.5		-
	<u>Air compressor, mobile with 5m of hose and steels with:</u>				-
BUS G-2.44	1 breaker.	hr	10.0		-
BUS G-2.45	2 breakers.	hr	10.0		-
	<u>Mobile electricity generating sets, 240v, 1 ph, 50 Hz:</u>				-
BUS G-2.46	5 kvA	hr	2.0		-
BUS G-2.47	10 kvA	hr	2.0		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-2

DESCRIPTION: DAYWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1</p> <p>Collection, Page 2</p>				-
					-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS G-3

DESCRIPTION: METHOD RELATED CHARGES

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>METHOD RELATED CHARGES</u>				
BUS G-3.1	Mobilisation on site including equipment, personnel & yard	sum	1		-
BUS G-3.2	Demobilise and clean up on completion of the Works	sum	1		-
BUS G-3.3	Supply and/or erect Contractor's site offices and camp	sum	1		-
BUS G-3.4	Maintain Contractor's site offices & camp, including all services	months	18		-
BUS G-3.5	Remove Contractor's site offices & camp on completion of the Works	sum	1		-
	<u>In the following pages, may be entered in accordance with Section 7 of CESMM4. These must distinguish between fixed and time related charges.</u>				
	<u>Fixed charge items</u>				
BUS G-3.6	Storage sheds and workshop	Sum	1		-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-1

DESCRIPTION: CLEAR WATER PUMPING MAIN

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>DEMOLITION AND SITE CLEARANCE</u>				
	<u>General Site Clearance</u>				
D100	General site clearance for pipe route	ha	3.12		-
	<u>Trees</u>				
	<u>Cut and dispose of trees of the following girth; include removal of stump and backfilling the hole left with top soil</u>				-
D210	Girth 500 mm-1 m	nr	8		-
D220	Girth 1-2 m	nr	10		-
D230	Girth 2-3 m	nr	2		-
	<u>Stumps</u>				
	<u>Remove and dispose of stumps of the following diameter; include for grabbing up the roots and backfilling the hole left with top soil</u>				-
D310	Diameter 150-500 mm	nr	8		-
D320	Diameter 500 mm -1 m	nr	10		-
D320	Diameter 1m -2m	nr	2		-
	<u>PIPEWORK-PIPES</u>				
	<u>Plastic Pipes</u>				
	<i>Plastic Pressure Pipes</i>				
	<i>uPVC Pipes</i>				
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN 16, DN 400mm, laid and backfilled in trench to the following depths.</u>				-
I532	Depth not exceeding 1.5m	m	22,460		-
I533	Depth 1.5-2m	m	3,540		-
	<u>PROVIDE RATES ONLY FOR THE ALTERNATIVE PIPES</u>				
	<u>Alternative 1 - Cast or Spun Iron Pipes</u>				
	<u>Ductile spun iron pipes with spigot and socket type flexible joints and cement mortar linings, DN 400 mm, all to BS 4772 and to PN16 laid and backfilled in trench to the following depths</u>				-
I332	Depth not exceeding 1.5m	m			-
I333	Laid in Trenches; Depth 1.5 - 2 m	m			-
	<u>Alternative 2 - Steel Pipes</u>				
	<u>Steel pipes, with Detachable Coupling type or similar flexible joint and cement mortar linings, DN 400 mm, all to BS 3601 and to PN16 laid and backfilled in trench to the following depths</u>				-
I432	Depth not exceeding 1.5m	m			-
I433	Laid in Trenches; Depth 1.5 - 2 m	m			-
	Carried to Collection				-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-1

DESCRIPTION: CLEAR WATER PUMPING MAIN

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>PIPEWORK-FITTINGS AND VALVES</u>				
	<u>Ductile Iron Fittings</u>				
	<i>Bends</i>				
	<u>Ductile Iron all flanged 90 degrees bends to ISO 2531, flanges to ISO 2441, all to PN 16, cement mortar lines and of the following sizes</u>				
J313.1	DN 400mm	nr	5		-
	<u>Ductile Iron all flanged 45 degrees bends to ISO 2531, flanges to ISO 2441, all to PN 16, cement mortar lines and of the following sizes</u>				
J313.2	DN 400mm	nr	3		-
	<u>Ductile Iron all flanged 22.5 degrees bends to ISO 2531, flanges to ISO 2441, all to PN 16, cement mortar lines and of the following sizes</u>				
J313.3	DN 400mm	nr	3		-
	<i>Double Collars</i>				
	<u>Detachable Coupling or similar, wide range coupling to fit all pipe spigots to PN 16, and of the following sizes</u>				
J342	DN 400mm	nr	2		-
	<i>Adaptors</i>				
	<u>Flange adaptor of large tolerance, maxi type to fit all pipe spigots to BS 3505, flanges to BS 4505, all to PN 16, and of the following sizes</u>				
J353	DN 400mm	nr	2		-
	<i>Blank Flanges</i>				
	<u>Blank flange drilled to BS 4504 and to PN 16 for flanges of the following sizes</u>				
J393	DN 400mm	nr	4		-
	<u>Valves and Penstocks</u>				
	<i>Gate Valves: Hand Operated</i>				
	<u>All flanged CI gate valves to BS 5150, flanges to BS 4505, all to PN 16 for operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes</u>				
J813	DN 400mm	nr	4		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-1

DESCRIPTION: CLEAR WATER PUMPING MAIN

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<i>Air Valves</i>				
	<u>Flanged anti shock, anti surge double air valve, 80 mm ND, as specified, flanges to ISO 2441, complete with isolating gate valve to ISO 7259, flange on socket tee, thrust blocks, distance pieces, all to PN 16, as specified and all fittings necessary to make the connection complete; for the following pipe sizes</u>				
J863	DN 400mm	nr	13		-
	<u>Washouts</u>				-
	<u>Type 2 Washout as specified in the drawings, complete with all fittings necessary to make the installation; include surface boxes as specified including down pipe, all to PN 16, on pipes of the following sizes</u>				-
J913.1	DN 400mm	nr	12		-
	<i>Bulk Flow Meter</i>				-
	<u>Bulk Flow Meter inclusive of all couplings, adaptors, DI distance pieces, valves, thrust blocks, vented chamber, surface boxes, and all other fittings to make the installation complete as specified; all fittings to PN 16; and on the following main pipe sizes</u>				-
J913.2	DN 400mm	nr	2		-
	<u>PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				-
	<u>Other Chambers</u>				-
	<i>In-situ Concrete Chambers</i>				-
	<u>Concrete washout outfall structure, complete, as specified in drawings, and of the following depths</u>				-
K231	Depth not exceeding 1.5m	nr	12		-
	<i>Pre-cast Concrete Chambers</i>				-
	<u>Concrete air valve chamber, complete as specified in the drawings, and of the following depths</u>				-
K251.1	Depth not exceeding 1.5m	nr	13		-
	<i>Valve Surface Boxes</i>				-
	<u>Valve surface box for DN 100 - DN 400 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths</u>				-
K251.2	Depth not exceeding 1.5m	nr	6		-
	<u>Crossings</u>				-
	<i>Open Channels</i>				-
	<u>Unlined open channels crossings for pipes of the following sizes</u>				-
K681.3	Not exceeding 400 mm ND	nr	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-1

DESCRIPTION: CLEAR WATER PUMPING MAIN

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
L841	<p><u>Reinforced concrete pipe supports, class C25, as in drawing, complete including foundation bases, murrum backfill, galvanised straps and bolting, height above ground 1.5m to 2.5 m, for the following pipe sizes</u></p> <p>Diameter not exceeding 400 mm ND</p>	nr	20		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-1

DESCRIPTION: CLEAR WATER PUMPING MAIN

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-2

DESCRIPTION: RESERVOIRS SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.13 series: 3.0 series; 6.0 series (including references made there-in to other drawings)</p> <p><u>DEMOLITION AND SITE CLEARANCE</u></p> <p><u>General Site Clearance</u></p> <p>D100 General site clearance for works</p> <p><u>Trees</u></p> <p><u>Cut and dispose of trees of the following girth; include removal of stump and backfilling the hole left with top soil</u></p> <p>D210 Girth 500 mm-1 m</p> <p><u>EARTHWORKS</u></p> <p><u>General Excavation</u></p> <p><i>Topsoil</i></p> <p>E410 Strip top soil, depth not exceeding 0.3 m from site</p> <p><i>Ordinary Soil</i></p> <p><u>General excavation, for road works and parking area, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p> <p>E424 Depth 0.25 - 0.5 m</p> <p><i>Rock</i></p> <p><u>General excavation, in rock, for road works and parking areas, commencing surface is the exposed surface of the rock</u></p> <p>E433 Depth 0.25-0.5 m</p> <p><u>Excavation Ancillaries</u></p> <p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material to sites as specified and as directed by the Engineer</u></p> <p>E531 Topsoil</p> <p>E533 Rock</p> <p><u>Landscaping</u></p> <p>E810 Turfing for lawns; include filling with excavated topsoil and the preparation of the surfaces</p>				
	Carried to Collection				-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-2

DESCRIPTION: RESERVOIRS SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>PIPEWORK - PIPES</u>				
	<u>Plastic Pipes</u>				
	<i>Plastic Pressure Pipes</i>				
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN16, laid and backfilled in trench to depth not exceeding 1.5m for the following pipe sizes</u>				
I512	DN 400 mm	m	25		-
I525	DN 400 mm	m	100		-
I532	DN 400 mm	m	25		-
	<i>Plastic Drain Pipes</i>				
	<u>uPVC drain pipes, to BS 5481, all to PN 10 with flexible joints to BS 4346 or BS 6209 laid and backfilled in trench to depth not exceeding 1.5m for the following pipe sizes</u>				
I612.1	DN 500 mm	m	60		-
	<u>PIPEWORK - FITTINGS AND VALVES</u>				
	<u>Cast or Spun Iron Pipe Fittings</u>				
	<i>Bends</i>				
	<u>Ductile iron all flanged 90 degree bend, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes</u>				
J311	400 mm ND	nr	2		-
J313	500 mm ND	nr	4		-
	<i>Adaptors</i>				
	<u>Flange adaptor, Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN 10, and of the following sizes</u>				
J351	400 mm ND	nr	2		-
J353	400 mm ND	nr	4		-
	<i>Bulk Flow Meter</i>				
	<u>Bulk Flow Meter inclusive of all couplings, adaptors, DI distance pieces, valves, thrust blocks, vented chamber, surface boxes, and all other fittings to make the installation complete as specified; all fittings to PN 10; and on the following main pipe sizes</u>				
J911	400 mm ND	nr	4		-
J913	400 mm ND	nr	4		-
	<u>PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Other Chambers</u>				
	<i>In-situ Concrete Manhole</i>				
	<u>Concrete manhole, complete with vented cover and galvanised step irons, and of the following depths</u>				
K131	Depth not exceeding 1.5m	nr	4		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-2

DESCRIPTION: RESERVOIRS SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
K231	<p><u>Washout out fall structure, complete including flap valve, all fittings and pipework necessary to complete installation, as specified in drawings, and of the following depths; all fittings and pipework to PN 10</u></p> <p>Depth not exceeding 1.5m</p>	nr	4		-
K 553	<p><u>Supply and construct grouted stone pitching using mortar mix 1:4, include 50mm thick coping using 1:2:4 concrete mix on top of the stone pitching of same width as the wall thickness for drains of cross section</u></p> <p>Cross section area 0.5-1.0m²</p> <p><u>PIPEWORK-SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u></p> <p><i>In Pipe Trenches</i></p> <p><u>Extras to excavation in pipe trenches in the following materials</u></p>	m	400		-
L111	<p>In rock</p> <p><i>Valve Surface Boxes</i></p> <p><u>Valve surface box for DN 100 - DN 300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths</u></p>	m ³	6		-
K251.2	<p>Depth not exceeding 1.5m</p> <p><u>Other Pipework Ancillaries</u></p> <p><i>Marker Posts</i></p>	nr	2		-
K820.1	Marker posts for gate valves	nr	8		-
K820.2	Marker posts for wash outs	nr	4		-
L521	<p><u>Surrounds</u></p> <p><u>Pipe surrounds, of selected excavated granular material, for the following pipe sizes</u></p> <p>Diameter not exceeding 300 mm ND</p> <p><u>ROADS AND PAVINGS</u></p> <p><u>Road Base and wearing course</u></p> <p><u>Shape road surface and parking area by medium grading to camber and crossfall with a motor grader</u></p>	m	100		-
R111	<p>Depth not exceeding 200 mm</p> <p><u>Provide, transport up to site, spread, shape, stabilise and compact to at least 95% MDD AASHTO approved gravel material for flexible base and wearing course, of the following thickness</u></p>	m ²	3,600		-
R112	Depth 150-300 mm	m ³	900		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-2

DESCRIPTION: RESERVOIRS SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
R912	<p><u>PAVINGS</u></p> <p><u>Walkways</u></p> <p>Concrete paved walkway; include sand bedding, earthworks and edge protection</p>	m ²	48		-
X135	<p>MISCELLANEOUS WORKS</p> <p><u>Fences</u></p> <p>100x100mm Concrete post of C25 concrete and wire galvanised wire chain link fence of gauge 10 to BS 1722, with triple row of barbed wire on top, anchored into 300mm high concrete dwarf wall grounded on firm mortar blinding as per drawings, post height 2-2.5 m</p>	m	600		-
X235	<p><u>Gates</u></p> <p><u>Metal field gate to BS 3470, anchored in C25 reinforced concrete columns and pad foundations, painted to Engineer's approval; and of the following widths</u></p> <p>Width 3 - 4 m, double leaf</p>	nr	3		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-2

DESCRIPTION: RESERVOIRS SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1</p> <p>Collection, Page 2</p> <p>Collection, Page 3</p> <p>Collection, Page 4</p>				<p>-</p> <p>-</p> <p>-</p> <p>-</p>
					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-3

DESCRIPTION: STORAGE RESERVOIRS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W1.13 series; 3.0 series; 6.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations (stub columns), in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p>				
E325	Depth 0.5 - 1.0 m	m ³	139		-
	<p><i>Rock</i></p> <p><u>Excavation for foundations, in rock, commencing surface is the stripped ground level</u></p>				-
E335	Depth 0.5 - 1.0 m	m ³	33		-
	<p><u>Excavation Ancillaries</u></p> <p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces in the following materials</u></p>				-
E522	Material other than topsoil, rock or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	73		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	8		-
	<p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material to water front fill sites as shown in the site layout and as specified and as directed by the Engineer</u></p>				-
E531	Soil	m ³	41		-
E533	Rock	m ³	13		-
	<p><u>Filling</u></p> <p><i>Structures</i></p> <p><u>Filling by methods specified and to depths as shown in the drawings with the following materials</u></p>				-
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	98		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-3

DESCRIPTION: STORAGE RESERVOIRS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Filling Ancillaries</u>				
	<u>Trimming of Filled Surfaces</u>				
	<u>Trimming of surfaces filled with material other than topsoil, rock or artificial hard material, for the following types of work surfaces</u>				
E712	Surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	51		-
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	<u>Ordinary Designed Mix Concrete</u>				-
	<u>Grade C15</u>				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				-
F231	10 mm aggregate	m ³	15		-
	<u>Grade C25</u>				-
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				-
F251	10 mm aggregate	m ³	150		-
	<u>Placing Mass Concrete</u>				-
	<u>Blinding</u>				-
	<u>Placing blinding concrete, grade C15, of the following thickness</u>				-
F512	Thickness 150-300mm	m ³	15		-
	<u>Placing Reinforced Concrete</u>				-
	<u>Bases, Footings and Ground Slabs</u>				-
	<u>Placing reinforced concrete, grade C25, for bases footings and plinth walls of the following thickness</u>				-
F522	Thickness 300-500 mm	m ³	150		-
	<u>Reinforcement</u>				-
	<u>High Yield Steel</u>				-
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 08-16mm	t	73		-
	<u>Concrete Accessories</u>				-
	<u>Finishing of Top Surfaces</u>				-
	<u>Finishing of top surfaces by the following methods</u>				-
G812	With steel float finish	m ²	780		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-3

DESCRIPTION: STORAGE RESERVOIRS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	PIPEWORK - FITTINGS AND VALVES				-
	Cast or Spun Iron Pipe Fittings				-
	Bends				-
	<u>Ductile iron all flanged 90 degree bend, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes</u>				-
J313.1	400 mm ND	nr	50		-
J313.2	500 mm ND	nr	8		-
	<u>Ductile iron all flanged 90 degree duckfoot bend, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes</u>				-
J313.3	400 mm ND	nr	12		-
J313.4	500 mm ND	nr	8		-
	Junctions and Branches				-
	<u>All flanged tee to BS 4346 , flanges to BS 4504 ,all to PN 10, and of the following sizes</u>				-
J323	500/500 mm ND	nr	8		-
	Double Collars				-
	<u>Detachable Coupling Maxi - Coupling or Similar and of the following sizes all to PN 10</u>				-
J343.1	400 mm ND	nr	6		-
J343.2	400 mm ND	nr	10		-
	Adaptors				-
	<u>Flange adaptor, Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN 10 and of the following sizes</u>				-
J353.1	400 mm ND	nr	12		-
J353.2	400 mm ND	nr	14		-
J353.3	500 mm ND	nr	6		-
	Bellmouths				-
	<u>Flanged bellmouth to ISO 2531, flanges to ISO 2441, of the following sizes all to PN 10</u>				-
J373	500 mm ND	nr	8		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-3

DESCRIPTION: STORAGE RESERVOIRS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<i>Straight Specials</i>				
	<u>Ductile iron double flanged pipe, to BS 4772, flanges to BS 4504, cement mortar lined, all to PN 16 and of the following sizes</u>				
J383.1	400 mm ND not exceeding 2.0m	nr	12		-
J383.2	400 mm ND not exceeding 0.4m	nr	6		-
J383.3	400 mm ND not exceeding 0.6m	nr	32		-
J383.4	400 mm ND not exceeding 2.0m	nr	12		-
J383.5	400 mm ND not exceeding 6.0m	nr	38		-
J383.6	500 mm ND not exceeding 0.4m	nr	2		-
J383.7	500 mm ND not exceeding 2.0m	nr	12		-
J383.8	500 mm ND not exceeding 2.8m	nr	8		-
J383.9	500 mm ND not exceeding 6.0m	nr	16		-
	<i>Strainer</i>				
	<u>Flanged outlet pipe strainer, to BS 4772, flanges to BS 4504, all to PN 10, cement mortar lined, and of the following sizes</u>				
J491	400 mm ND	nr	8		-
	<i>Gate Valves: Hand Operated</i>				
	<u>All flanged CI gate valves to BS 5150 ,flanges to BS 4505 , all to PN 16 for operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes</u>				
J811.1	400 mm ND	nr	12		-
J811.2	400 mm ND	nr	10		-
J811.3	500 mm ND	nr	6		-
	<i>Ball Float Valves</i>				
	<u>Flanged Balanced ball float valve, flanges to BS 4505, all to PN 16</u>				
J891	400 mm ND	nr	8		-
	<u>BUTANGASI RESERVOIR</u>				
	Erect Galvanized Steel Tower for reservoir support complete, include Galvanized steel tower beams, plates, angles, bolts, nuts, washers, access ladder with protectiv cage, top walking skid resistant plates, hand rails etc, and finishes; complete as specified and detailed in the drawings. All Tower members shall be of hot dipped galvanised steel.				
BUS W-3.1	Height; 10m	nr	1		-
	Supply and Install on 10m tower a hot pressed galvanised steel tank of 1.22m x 1.22m modular sectional panels with thickness of at least 5.0mm and joined together with glavanized steel bolts of atleast 14mm diameter. Non-toxic, Odorless Butyl Sealant for cross-joint of Panels, and Norton Foam Tape for Panels joint should be used to prevent leaking. The Tank must be reinforced with 50mm X 50mm X 5mm galvanized steel Angle-Stay for bracing. with external flanges and pitched cover with 1No. 1m wide access man way, water level indicator (scale in cubic metres) and plates with inlet, outlet, washout and overflow connection complete with access points, ventilators (4 nr), walkway, handrailing, and internal and external access ladders with safety hoops, inclusive of painting, finishes and all necessary accessories to installation complete as specified and detailed in the drawings; to the Engineer's satisfaction. All tank accessories shall be of galvanised steel.				
BUS W-3.2	Reservoir: 500m ³ nominal capacity on 10m high steel tower	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-3

DESCRIPTION: STORAGE RESERVOIRS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>DABANI RESERVOIR</u>				
BUS W-3.3	Erect Galvanized Steel Tower for reservoir support complete, include steel tower beams, plates, angles, bolts, nuts, washers, access ladder with protective cage, top walking skid resistant plates, hand rails etc, and finishes; complete as specified and detailed in the drawings. All Tower members shall be of hot dipped galvanised steel. Height; 10m	nr	1		- -
BUS W-3.4	Supply and Install on 10m tower a hot pressed galvanised steel tank of 1.22m x 1.22m modular sectional panels with thickness of at least 5.0mm and joined together with galvanised steel bolts of at least 14mm diameter. Non-toxic, Odorless Butyl Sealant for cross-joint of Panels, and Norton Foam Tape for Panels joint should be used to prevent leaking. The Tank must be reinforced with 50mm X 50mm X 5mm galvanised steel Angle-Stay for bracing. with external flanges and pitched cover with 1No. 1m wide access man way, water level indicator (scale in cubic metres) and plates with inlet, outlet, washout and overflow connection complete with access points, ventilators (4 nr), walkway, handrailing, and internal and external access ladders with safety hoops, inclusive of painting, finishes and all necessary accessories to installation complete as specified and detailed in the drawings; to the Engineer's satisfaction. All tank accessories shall be of galvanised steel. Reservoir: 1500 m ³ nominal capacity on 10m high steel tower	nr	1		- - -
	<u>MAJANJI & TREATMENT PLANT RESERVOIRS</u>				
BUS W-3.5	Erect Galvanized Steel Tower for reservoir support complete, include steel tower beams, plates, angles, bolts, nuts, washers, access ladder with protective cage, top walking skid resistant plates, hand rails etc, and finishes; complete as specified and detailed in the drawings. All Tower members shall be of hot dipped galvanised steel. Height; 10m	nr	2		- - -
BUS W-3.6	Supply and Install on 10m tower a hot pressed galvanised steel tank of 1.22m x 1.22m modular sectional panels with thickness of at least 5.0mm and joined together with galvanised steel bolts of at least 14mm diameter. Non-toxic, Odorless Butyl Sealant for cross-joint of Panels, and Norton Foam Tape for Panels joint should be used to prevent leaking. The Tank must be reinforced with 50mm X 50mm X 5mm galvanised steel Angle-Stay for bracing. with external flanges and pitched cover with 1No. 1m wide access man way, water level indicator (scale in cubic metres) and plates with inlet, outlet, washout and overflow connection complete with access points, ventilators (4 nr), walkway, handrailing, and internal and external access ladders with safety hoops, inclusive of painting, finishes and all necessary accessories to installation complete as specified and detailed in the drawings; to the Engineer's satisfaction. All tank accessories shall be of galvanised steel. Reservoir: 150 m ³ nominal capacity on 10m high steel tower	nr	2		- -
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-3

DESCRIPTION: STORAGE RESERVOIRS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1</p> <p>Collection, Page 2</p> <p>Collection, Page 3</p> <p>Collection, Page 4</p> <p>Collection, Page 5</p>				- - - - -
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INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No.BUS W-4

DESCRIPTION: BOOSTER STATION

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/4 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p>				
E325	<p>Depth 0.5 - 1 m</p> <p><i>Rock</i></p> <p><u>Excavation for foundations, in rock, commencing surface is the stripped ground level</u></p>	m ³	27		-
E325	<p>Depth 0.5 - 1 m</p> <p><u>Excavation Ancillaries</u></p> <p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces in the following materials</u></p>	m ³	11		-
E522	<p>Material other than topsoil, rock or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal</p>	m ²	28		-
E523	<p>Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal</p> <p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material to dumping sites as directed by the Engineer</u></p>	m ²	44		-
E531	Soil	m ³	3		-
E533	Rock	m ³	5		-
	<p><u>Filling</u></p> <p><i>Structures</i></p> <p><u>Filling by methods specified and to depths as shown in the drawings with the following materials</u></p>				-
E614	<p>Selected excavated granular material other than topsoil, rock or artificial hard material to tank base and compacted to 98% MOD AASHTO</p>	m ³	24		-
E617	<p>Imported rock of size and grading as specified</p>	m ³	8		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No.BUS W-4

DESCRIPTION: BOOSTER STATION

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>CONCRETE ANCILLARIES</u>				
	<u>Formwork-Fair Finish</u>				
	<i>Fair Finish Plane Horizontal</i>				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G212	Width 0.2 - 0.4m	m ²	1		-
	<i>Fair Finish Plane Vertical</i>				
	<u>Plane fair finish vertical formwork of the following width</u>				
G243	Width 0.2 - 0.4m	m ²	29		-
	<u>Reinforcement</u>				
	<u>Deformed High Yield Steel</u>				
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				
G524	Nominal size, 12mm	t	0.1		-
	<u>Steel Fabric</u>				
	<u>Steel fabric reinforcement to BS4483, fabric reference A252, and of the following mass</u>				
G563	Nominal mass 3-4 kg/m ²	m ²	32		-
	<u>Concrete Accessories</u>				
	<i>Finishing of Top Surfaces</i>				
	<u>Finishing of top surfaces by the following methods</u>				
G811	Class U2 wood float finish	m ²	53		-
	<u>PIPEWORK - FITTINGS AND VALVES</u>				
	<u>Cast or Spun Iron Pipe Fittings</u>				
	<i>Bends</i>				
	<u>Ductile iron all flanged 90 degree bend, to BS 4772, flanges to BS 4504, all to PN16, cement mortar lined, and of the following sizes</u>				
J313	400 mm ND	nr	5		-
	<i>Junctions and Branches</i>				
	<u>All flanged tee to BS 4346, flanges to BS 4504, all to PN16, and of the following sizes</u>				
J323	400 mm ND	nr	3		-
	<i>Double Collars</i>				
	<u>Restrained dismantling piece or similar coupling to PN 10 to fit ductile iron to BS 4772 spigots of the following sizes</u>				
J343	400 mm ND	nr	2		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No.BUS W-4

DESCRIPTION: BOOSTER STATION

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
V533	<p><u>Emulsion Paint</u></p> <p><i>Smooth Concrete Surfaces</i></p> <p><u>Internal quality emulsion paint, under coat & two overcoats, to the following smooth concrete surfaces, include surface preparation as specified</u></p> <p>Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal</p>	m ²	61		-
W153.1	<p><u>WATER PROOFING</u></p> <p><u>Damp Proofing</u></p> <p><u>Rendering- Rough Cast</u></p> <p>External wall surfaces inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar</p>	m ²	65		-
W153.2	<p><u>Rendering</u></p> <p>Internal Wall surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar finished with a wood float</p>	m ²	60		-
W421	<p><u>Flexible Sheeting</u></p> <p><u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of blinding concrete or sand blinded hardcore fill</u></p> <p>Surfaces of blinding hardcore inclined at an angle not exceeding 30 degrees to the horizontal</p>	m ²	32		-
W441	<p><u>Protective Layers</u></p> <p><u>Sand and cement screed of 1:3 cement sand mortar, applied to concrete floors, 25 mm thick, prepared and applied as specified, and finished with a steel float</u></p> <p>Surfaces of floors inclined at an angle not exceeding 30 degrees to the horizontal</p>	m ²	32		-
BUS W-4.1	<p>MISCELLANEOUS WORKS</p> <p><u>Doors</u></p> <p><u>Supply and fix the following mild steel doors to the Engineers' details constructed from 75 x 50 x 2mm hollow steel sections primed with red oxide paint, painted with three coats of high gloss paint; complete with all necessary iron mongery and accessories, including aluminium mosquito proof wire gauze welded to mild steel frames in 200mm high permanent vents</u></p> <p>Double leaf louvered door overall size 1500 x 2300mm high filled in with 100 x 2mm thick mild steel louvers welded to frame</p>	nr	1		-
BUS W-4.2	<p><u>Roofing</u></p> <p>Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board and all roofing timber, gauge 24 pre-painted GCI resin sheeting and ridges</p>	m ²	53		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No.BUS W-4

DESCRIPTION: BOOSTER STATION

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
	Collection, Page 7				-
				Carried to Summary	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-5

DESCRIPTION: DISTRIBUTION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/7 series (including references made there-in to other drawings)				
	<u>DEMOLITION AND SITE CLEARANCE</u>				
	<u>General Site Clearance</u>				
D100	General site clearance for pipe trench	ha	6		-
	<u>Trees</u>				-
	<u>Cut and dispose of trees of the following girth; include removal of stump and backfilling the hole left with top soil</u>				-
D210	Girth 500 mm-1 m	nr	2		-
	<u>Stumps</u>				-
	<u>Remove and dispose of stumps of the following diameter; include for grabbing up the roots and backfilling the hole left with top soil</u>				-
D310	Diameter 150-500 mm	nr	3		-
D320	Diameter 500 mm -1 m	nr	3		-
	<u>Cast or Spun Iron Pipes</u>				-
	<u>Ductile spun iron pipes with spigot and socket type flexible joints and cement mortar linings, 400 mm ND, all to BS 4772 and to PN10 laid and backfilled in trench to the following depths</u>				-
I332	Depth not exceeding 1.5m	m	1,300		-
I333	Laid in Trenches; Depth 1.5 - 2 m	m	300		-
	<u>Alternative / Steel Pipes [Rate Only]</u>				-
	<u>Steel pipes, with Detachable Coupling type or similar flexible joint and cement mortar linings, 400 mm ND, all to BS 3601 and to PN10 laid and backfilled in trench to the following depths</u>				-
I432	Depth not exceeding 1.5m	m			-
I433	Laid in Trenches; Depth 1.5 - 2 m	m			-
	<u>Plastic Pipes</u>				-
	<i>Plastic Pressure Pipes</i>				-
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN 10, DN 400mm, laid and backfilled in trench to the following depths</u>				-
I532.1	Depth not exceeding 1.5m	m	2,290		-
I533.1	Depth 1.5-2m	m	400		-
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN 10, DN 315mm, laid and backfilled in trench to the following depths</u>				-
I522.1	Depth not exceeding 1.5m	m	3,840		-
I523.1	Depth 1.5-2m	m	400		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-5

DESCRIPTION: DISTRIBUTION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN 10, DN 225mm, laid and backfilled in trench to the following depths</u>				-
I512.1	Depth not exceeding 1.5m	m	10,300		-
I513.1	Depth 1.5-2m	m	1,760		-
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN 10, DN 160mm, laid and backfilled in trench to the following depths</u>				-
I512.2	Depth not exceeding 1.5m	m	9,560		-
I513.2	Depth 1.5-2m	m	1,000		-
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN 10, DN 110mm, laid and backfilled in trench to the following depths</u>				-
I512.3	Depth not exceeding 1.5m	m	11,100		-
I512.3	Depth 1.5-2m	m	640		-
	<u>uPVC pressure pipes to BS 3505, with flexible joints to BS 4346 all to PN 16, DN 110mm, laid and backfilled in trench to the following depths</u>				-
I512.4	Depth not exceeding 1.5m	m	280		-
I512.4	Depth 1.5-2m	m	100		-
	<u>HDPE pressure pipes to BS 3505, include unions / sockets, all to PN 10, DN 90mm, laid and backfilled in trench to the following depths</u>				-
I712.1	Depth not exceeding 1.5m	m	1,850		-
	<u>HDPE pressure pipes to BS 3505, include unions / sockets, all to PN 10, DN 75mm, laid and backfilled in trench to the following depths</u>				-
I712.2	Depth not exceeding 1.5m	m	720		-
	<u>PIPEWORK-FITTINGS AND VALVES</u>				-
	<u>Cast or Spun Iron Pipe Fittings</u>				-
	<u>Tapers</u>				-
	<u>All flanged concentric taper to BS4772, flanges to BS4504 all to PN10, cement mortar lined, and of the following sizes</u>				-
J333	400/300 mm DN	nr	1		-
J332.1	300/200 mm DN	nr	3		-
J332.2	300/150 mm DN	nr	1		-
	<u>Junctions and Branches</u>				-
	<u>All flanged tee to BS 4346, flanges to BS 4504 ,all to PN10 and of the following sizes</u>				-
J323.1	400/350 mm DN	nr	1		-
J323.2	400/300 mm DN	nr	1		-
J323.3	350/300 mm DN	nr	2		-
J323.4	350/200 mm DN	nr	2		-
J322.1	300/300 mm DN	nr	4		-
J322.2	300/200 mm DN	nr	2		-
J322.3	300/200 mm DN	nr	4		-
J322.4	300/80 mm DN	nr	2		-
J321.1	200/200 mm DN	nr	6		-
J321.2	200/100 mm DN	nr	5		-
J321.3	100/100 mm DN	nr	4		-
J321.4	80/65 mm DN	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-5

DESCRIPTION: DISTRIBUTION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Adaptors				
	<u>Flanged adaptor to fit uPVC pipe spigots to BS 3505, flanges to BS 4505, all to PN10, and of the following sizes</u>				
J351.1	100 mm DN	nr	22		-
J351.2	150 mm DN	nr	4		-
J351.3	200 mm DN	nr	28		-
J352	300 mm DN	nr	24		-
J353.1	350 mm DN	nr	5		-
J353.2	400 mm DN	nr	7		-
	<u>Compression Flange adaptor to fit HDPE pipe spigots, to DIN 8076 - BS 5114, all to PN 10, and of the following spigot sizes</u>				
J651.1	DN 65 mm X 2 1/2"	nr	1		-
J651.2	DN 80 mm X 2 1/2"	nr	4		-
	Plastic Pipe Fittings				
	Bends				
	<u>uPVC bends with push-fit joint for use with uPVC pipes, to ISO 2531, all to PN 10, and of the following sizes</u>				
J411.1	100 mm DN all socketed 90 ⁰ bend	nr	2		-
J411.2	100 mm DN all socketed 45 ⁰ bend	nr	2		-
J411.3	100 mm DN all socketed 22.5 ⁰ bend	nr	2		-
J411.4	150 mm DN all socketed 90 ⁰ bend	nr	2		-
J411.5	150 mm DN all socketed 45 ⁰ bend	nr	2		-
J411.6	150 mm DN all socketed 22.5 ⁰ bend	nr	2		-
J411.7	200 mm DN all socketed 90 ⁰ bend	nr	2		-
J411.8	200 mm DN all socketed 45 ⁰ bend	nr	2		-
J411.9	200 mm DN all socketed 22.5 ⁰ bend	nr	2		-
J411.10	300 mm DN all socketed 90 ⁰ bend	nr	2		-
J411.11	300 mm DN all socketed 45 ⁰ bend	nr	2		-
J411.12	300 mm DN all socketed 22.5 ⁰ bend	nr	2		-
J411.13	400 mm DN all socketed 90 ⁰ bend	nr	2		-
J411.14	400 mm DN all socketed 45 ⁰ bend	nr	2		-
J411.15	400 mm DN all socketed 22.5 ⁰ bend	nr	2		-
	End caps				
	<u>Compression uPVC end caps to fit uPVC spigots, to ISO 161 and to PN 10 of the following spigot sizes</u>				
J691.1	DN 100 mm	nr	3		-
J691.2	DN 150 mm	nr	4		-
J691.3	DN 200 mm	nr	4		-
	<u>Compression HDPE end caps to fit HDPE spigots, to ISO 161 and to PN 10 of the following spigot sizes</u>				
J691.4	65 mm DN	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-5

DESCRIPTION: DISTRIBUTION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Valves and Penstocks</u>				
	<i>Gate Valves: Hand Operated</i>				
	<u>All flanged CI gate valves to BS 5150, flanges to BS 4505, all to PN 10 for operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes</u>				
J811.1	65 mm DN	nr	1		-
J811.2	80 mm DN	nr	3		-
J811.3	100 mm DN	nr	16		-
J811.4	150 mm DN	nr	1		-
J811.5	200 mm DN	nr	20		-
J812	300 mm DN	nr	14		-
J813.1	350 mm DN	nr	4		-
J813.2	400 mm DN	nr	2		-
	<i>Air Valves</i>				
	<u>Flanged anti shock, anti surge double air valve, 80 mm ND, as specified, flanges to ISO 2441, complete with isolating gate valve to ISO 7259, flange on socket tee, thrust blocks, distance pieces, all to PN 10, as specified and all fittings necessary to make the connection complete; for the following pipe sizes</u>				
J862.1	65 mm DN	nr	1		-
J862.2	100 mm DN	nr	3		-
J862.3	150 mm DN	nr	4		-
J862.4	200 mm DN	nr	5		-
J863	300 mm DN	nr	1		-
	<i>Washouts</i>				
	<u>Type 1 Washout as specified in the drawings, complete with tee, adaptors, drainage pipes, gate valve, flap valve, thrust blocks, and all other fittings necessary to make the complete installation on pipes of the following sizes; all to PN16</u>				
J911.1	65 mm DN	nr	1		-
J911.2	100 mm DN	nr	3		-
J911.3	150 mm DN	nr	1		-
J911.4	200 mm DN	nr	3		-
	<u>Bulk Flow Meter</u>				
	<u>Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, thrust blocks, etc and all other fittings to make the installation complete, as specified, all fittings to PN 10, including chamber, and on the following main pipe sizes</u>				
J991	150mm DN	nr	2		-
J992	300 mm DN	nr	2		-
J993	400 mm DN	nr	2		-
	<u>PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Other Chambers</u>				
	<i>In-situ Concrete Chambers</i>				
	<u>Concrete washout outfall structure, complete, as specified in drawings, and of the following depths</u>				
K231	Depth not exceeding 1.5m	nr	8		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-5

DESCRIPTION: DISTRIBUTION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Pre-cast Concrete Chambers				
	<u>Concrete air valve chamber, complete as specified in the drawings, and of the following depths</u>				
K251.1	Depth not exceeding 1.5m	nr	14		-
	Valve Surface Boxes				
	<u>Valve surface box for DN 100 - DN 300 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths</u>				
K251.2	Depth not exceeding 1.5m	nr	62		-
	Crossings				
	Open Channels				
	<u>Unlined open channels crossings for pipes of the following sizes</u>				
K681	Not exceeding 300 mm DN	nr	6		-
	Reinstatement				
	Roads				
	<u>Breaking up, temporary and permanent reinstatement of gravel roads for the following pipe sizes (Inclusive of processing the necessary approvals from the relevant authorities)</u>				
K731.1	Diameter not exceeding 300 mm DN	m	1000		-
	<u>Breaking up, temporary and permanent reinstatement of tarmac roads for the following pipe sizes (Inclusive of processing the necessary approvals from the relevant authorities)</u>				
K731.2	Diameter not exceeding 300 mm DN	m	200		-
	Other Pipework Ancillaries				
	Marker Posts				
K820.1	Marker posts for gate valves	nr	9		-
K820.2	Marker posts for air valves	nr	9		-
K820.3	Marker posts for wash outs	nr	8		-
K820.4	Marker posts for bulk meters	nr	3		-
	MISCELLANEOUS WORKS				
BUS W-5.1	Directional Drilling for road crossings on Tarmac roads	nr	15		-
	<u>PIPEWORK-SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
	<u>Extras to Excavation and Backfilling</u>				
	<i>In Pipe Trenches</i>				
	<u>Extras to excavation in pipe trenches in the following materials</u>				
L111	In rock	m ³	7,426.1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-5

DESCRIPTION: DISTRIBUTION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Surrounds</u>				
	<u>Pipe surrounds, of selected excavated granular material, for the following pipe sizes</u>				
L521	Diameter not exceeding 200 mm ND	m	35,840		-
					-
	<u>Pipe surrounds, of imported granular material, for the following pipe sizes</u>				
L531	Diameter not exceeding 200 mm ND	m	8,000		-
					-
	<u>Pipe surrounds, of mass concrete, and for the following pipe sizes</u>				
L541	Diameter not exceeding 200 mm ND	m	2,000		-
					-
	<u>Concrete Stools and Thrust Blocks</u>				
	<i>Thrust Blocks</i>				
	<u>Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.2-0.5 m³, for the following pipe sizes</u>				
L731	Diameter not exceeding 300 mm ND	nr	50		-
					-
					-
					-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-5

DESCRIPTION: DISTRIBUTION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-6

DESCRIPTION: INTENSIFICATION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/7 series (including references made there-in to other drawings)				
	<u>DEMOLITION AND SITE CLEARANCE</u>				
	<u>General Site Clearance</u>				
D100	General site clearance for pipe route	ha	2		-
	<u>Trees</u>				
	<u>Cut and dispose of trees of the following girth; include removal of stump and backfilling the hole left with top soil</u>				
D210	Girth 500 mm-1 m	nr	2		-
D220	Girth 1-2 m	nr	2		-
D230	Girth 2-3 m	nr	2		-
	<u>Stumps</u>				
	<u>Remove and dispose of stumps of the following diameter; include for grabbing up the roots and backfilling the hole left with top soil</u>				
D310	Diameter 150-500 mm	nr	1		-
D320	Diameter 500 mm -1 m	nr	1		-
	<u>PIPEWORK-PIPES</u>				
	<i>Plastic Pressure Pipes- Distribution</i>				
	<u>HDPE pressure pipes to BS 3505, include unions / sockets, all to PN 10, DN 50mm, laid and backfilled in trench to the following depths</u>				
I711.5	Depth not exceeding 1.5m	m	6,000		-
	<u>HDPE pressure pipes to BS 3505, include unions / sockets, all to PN 10, DN 40mm, laid and backfilled in trench to the following depths</u>				
I711.7	Depth not exceeding 1.5m	m	6,000		-
	<u>PIPEWORK-FITTINGS AND VALVES</u>				
	<u>Make a connection for DN 50mm HDPE, complete as in drawings, inclusive of excavation, backfill, fittings (A DN 50 branched Tee with body sizes as below, Flanged adaptors, Gate valves, thrust blocks, surface box etc) for connection to the distribution main of uPVC pipes for the following main sizes and maximum pressure rating of PN10</u>				
J791.1	DN 100 mm	nr	4		-
J791.2	DN 150 mm	nr	4		-
J792.1	DN 200 mm	nr	2		-
J792.3	DN 300 mm	nr	2		-
J792.4	DN 400 mm	nr	2		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-6

DESCRIPTION: INTENSIFICATION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Make a connection for DN 40mm HDPE, complete as in drawings, inclusive of excavation, backfill, fittings (A DN 40 branched Tee with body sizes as below, Flanged adaptors, Gate valves, thrust blocks, surface box etc) for connection to the distribution main of uPVC pipes for the following main sizes and maximum pressure rating of PN10</u>				
J791.3	DN 100 mm	nr	4		-
J791.4	DN 150 mm	nr	4		-
J792.5	DN 200 mm	nr	2		-
J792.7	DN 300 mm	nr	2		-
J792.8	DN 400 mm	nr	2		-
	<u>Make a connection off an DN 80mm HDPE, complete as in drawings, inclusive of excavation, backfill, fittings (With branched Tee sizes as below and body sizes of DN 80, Flanged adaptors, Gate valves, thrust blocks, surface box etc) for connection to the distribution main of uPVC pipes for the following main sizes and maximum pressure rating of PN10</u>				
J791.5	DN 50 mm	nr	3		-
J791.6	DN 40 mm	nr	3		-
	<u>PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Crossings</u>				
	<i>Open Channels</i>				
	<u>Unlined open channels crossings for pipes of the following sizes</u>				
K681	Not exceeding 300 mm ND	nr	8		-
	<u>Reinstatement</u>				
	<i>Roads</i>				
	<u>Breaking up, temporary and permanent reinstatement of murrum roads for the following pipe sizes</u>				
K731.1	Not exceeding 300 mm ND	m	165		-
	<u>Reinstatement</u>				
	<i>Roads</i>				
	<u>Breaking up, temporary and permanent reinstatement of tarmac roads for the following pipe sizes</u>				
K731.2	Not exceeding 300 mm ND	m	400		-
	<u>PIPEWORK-SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
	<u>Extras to Excavation and Backfilling</u>				
	<i>In Pipe Trenches</i>				
	<u>Extras to excavation in pipe trenches in the following materials</u>				
L111	In rock	m ³	1,944		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-6

DESCRIPTION: INTENSIFICATION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Surrounds</u>				
	<u>Pipe surrounds, of selected excavated granular material, for the following pipe sizes</u>				
L521	Diameter not exceeding 200 mm ND	m	8,634		-
	<u>Pipe surrounds, of imported granular material, for the following pipe sizes</u>				
L531	Diameter not exceeding 200 mm ND	m	2,525		-
	<u>Pipe surrounds, of mass concrete, for the following pipe sizes</u>				
L541	Diameter not exceeding 200 mm ND	m	842		-
	<u>Consumer Connections</u>				
	<u>Make DN15 consumer connection to the distribution main, complete, inclusive of excavation, backfill, saddle clamp, ferrule, and all fittings for connection to GI or HDPE service pipes, as detailed in the drawings, for the following mains sizes and all to PN10</u>				
J891.1	ND 40 mm	nr	40		-
J891.2	ND 50 mm	nr	40		-
J891.3	ND 65 mm	nr	40		-
J891.4	ND 80 mm	nr	40		-
J891.5	ND 100 mm	nr	40		-
J891.6	ND 150 mm	nr	20		-
J891.7	ND 200 mm	nr	10		-
J892.2	ND 300 mm	nr	10		-
J893.1	ND 400 mm	nr	10		-
	<u>Make DN20 consumer connection to the distribution main, complete, inclusive of excavation, backfill, saddle clamp, ferrule, and all fittings for connection to GI or HDPE service pipes, as detailed in the drawings, for the following mains sizes and all to PN10</u>				
J891.8	ND 40 mm	nr	40		-
J891.9	ND 50 mm	nr	40		-
J891.10	ND 65 mm	nr	40		-
J891.11	ND 80 mm	nr	40		-
J891.12	ND 100 mm	nr	40		-
J891.13	ND 150 mm	nr	20		-
J891.14	ND 200 mm	nr	10		-
J892.4	ND 300 mm	nr	10		-
J893.2	ND 400 mm	nr	10		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-6

DESCRIPTION: INTENSIFICATION NETWORK

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1</p> <p>Collection, Page 2</p> <p>Collection, Page 3</p>				- - -
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-7

DESCRIPTION: INTAKE STRUCTURE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.1.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations in material other than topsoil, rock or artificial hard material, commencing surface is the formation level</u></p>				
E323	Depth 0.5-1m	m ³	10		-
E324	Depth 1-2m	m ³	30		-
	<p><i>Rock</i></p> <p><u>Excavation for foundations in rock, commencing surface is the exposed surface of the rock</u></p>				-
E333	Depth 0.5-1m	m ³	25		-
E334	Depth 1-2m	m ³	20		-
	<p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material to sites as specified and as directed by the Engineer</u></p>				-
E532	Material other than topsoil, rock, or artificial hard material	m ³	28		-
E533	Rock	m ³	45		-
	<p><u>Filling</u></p> <p><i>Structures</i></p> <p><u>Filling by methods specified and to depths as shown in the drawings with the following materials</u></p>				-
E614	Selected excavated granular material other than topsoil, rock or artificial hard material	m ³	12		-
E616	Excavated rockfill to intake structure stabilisation	m ³	4		-
	<p><i>General filling- Shoreline</i></p> <p><u>Filling to stabilise shoreline by methods specified and to depths as shown in the drawings with the following materials</u></p>				-
E636	Excavated rockfill for shoreline stabilisation	m ³	180		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-7

DESCRIPTION: INTAKE STRUCTURE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>IN-SITU CONCRETE</u>				
	<u>Provision of Concrete</u>				
	<i>Ordinary Designed Mix Concrete</i>				
	<i>Mass Concrete Fill</i>				
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for the following aggregate sizes</u>				
F251	10mm aggregate	m ³	10		-
	<u>Placing Mass Concrete</u>				-
	<i>Mass Concrete Fill</i>				-
	<u>Placing under water concrete grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m ³	10		-
	<u>STRUCTURAL METAL WORK</u>				-
	<u>Gantry Crane</u>				-
	<u>Supply and complete installation of manual gantry for vertical and horizontal movement and hoistings for lifting screens and pumps; minimum lifting capacity of 500kg, including all columns, beams, braces, base plates, chain block and tackle units, accessories, epoxy painting, etc as shown on the drawings and to the Engineer's satisfaction</u>				-
M431	Fixed to a reinforced concrete structure	sum	1		-
	<u>MISCELLANEOUS METAL WORK</u>				-
	<u>Hand rails</u>				-
	<u>Mild steel handrails to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u>				-
N140	Fixed to a steel structure	m	700		-
	<u>Miscellaneous Framing</u>				-
	<u>203x133x30 Black Mild Steel I-section Steel to BS 4 Part 1 2005, complete with connectors, accessories and sundries, bolts, nuts, washer, and supports, fixed onto a steel structure, and of the following Lengths</u>				-
N163.1	Length not exceeding 1.5m	nr	50		-
N163.2	Length not exceeding 12.0m	nr	50		-
	<u>Chequer Plate Flooring</u>				-
	<u>Mild steel chequer plate flooring to BS 4592, galvanised to BS 729, 6 mm thick, complete with galvanised frames and supports, welded onto a steel framed structure, and of the following widths</u>				-
N170	Width not exceeding 1.5m	m ²	450		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-7

DESCRIPTION: INTAKE STRUCTURE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Open Grid Flooring Access Cover</u>				
	<u>Supply and complete installation of heavy duty Mild steel open grid flooring access cover to BS 4592, of dia 3.0m clear opening; including lifting hooks, fixing and locking arrangement, complete with galvanised frames and supports, welded onto a prefabricated concrete structure</u>				
N180	Diameter not exceeding 3.0m	m²	8		-
	<u>PILES</u>				
	<u>Isolated Steel Piles</u>				
	<u>Supply and deliver to site steel I section pile of mass between 30-60kg/m</u>				
P631	Length not exceeding 12.0m	nr	100		-
	<u>Permanently drive delivered steel section pile of mass between 30-60kg/m into lake bed and aligned in pairs, inclusive of all pile accessories</u>				
P632	Depth not exceeding 6.0m	nr	105		-
	<u>TUNNELS</u>				
	<u>Segmental Linings</u>				
	<u>Supply, deliver to site and place preformed segmental linings of C25, Solid Precast Concrete Expanded Rings each 0.2m thick, 0.5m high all inclusive of access step irons as a single unit and of the following size</u>				
T721.1	Diameter 3.0m	nr	3		-
	<u>Supply, deliver to site and place preformed segmental linings of C25, Solid Precast Concrete Expanded Rings each 0.2m thick, 0.5m high with stainless steel bar racks in the middle to support pumps inclusive of access step irons as a single unit and of the following size</u>				
T721.2	Diameter 3.0m	nr	1		-
	<u>Supply, deliver to site and place preformed segmental linings of C25, Perforated Precast Concrete Expanded Rings each 0.2m th, 0.5m high with 100mm dia perforations not exceeding 63No. per ring and of the following size</u>				
T721.3	Diameter 3.0m	nr	8		-
	<u>MISCELLANEOUS WORKS</u>				
BUS-7.1.1	Construct galvansied steel metal cage burglar proofing above the concrete structure complete with door as detailed in the drawings to secure the control panels	sum	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-7

DESCRIPTION: INTAKE STRUCTURE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-8

DESCRIPTION: RAW WATER PUMPING MAINS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/W/1.2.0 series (including references made there-in to other drawings)</p> <p><u>DEMOLITION AND SITE CLEARANCE</u></p> <p><u>General Site Clearance</u></p>				
D100	General site clearance for pipe route	ha	0.1		-
	<p><u>PIPEWORK-PIPES</u></p> <p><u>Cast or Spun Iron Pipes</u></p> <p><u>Ductile spun iron pipes with spigot and socket type flexible joints and cement mortar linings, to BS 4772 and to K 9 laid laid and attached to walkway surface by straps and bolting and of the following size</u></p>				
I331	DN400	m	450		-
	<p><u>Ductile spun iron pipes with spigot and socket type flexible joints and cement mortar linings, 400 mm ND , all to BS 4772 and to K 9 laid in trench to the following depths</u></p>				
I332	Depth not exceeding 1.5m	m	100		-
I333	Laid in Trenches; Depth 1.5 - 2 m	m	80		-
	<p><u>PIPEWORK-FITTINGS AND VALVES</u></p> <p><u>Ductile Iron Fittings</u></p> <p><i>Bends</i></p> <p><u>Ductile Iron all flanged 90 degrees bends to ISO 2531, flanges to ISO 2441, all to PN10, cement mortar lined and of the following sizes</u></p>				
J313.1	400mm ND	nr	6		-
	<p><u>Ductile Iron all flanged 45 degrees bends to ISO 2531, flanges to ISO 2441, all to PN10, cement mortar lined and of the following sizes</u></p>				
J313.2	400mm ND	nr	1		-
	<p><i>Junctions and Branches</i></p> <p><u>Ductile iron flanged on socket tee to BS 4772, flanges to BS 4504, all to PN10 cement mortar lined, and of the following sizes</u></p>				
J323	400/400 mm ND	nr	3		-
	<p><i>Tapers</i></p> <p><u>Ductile iron all socket taper to BS 4772, all to PN10, cement mortar lined, and of the following sizes</u></p>				
J333	400/400mm ND	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-8

DESCRIPTION: RAW WATER PUMPING MAINS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Double Collars				
	<u>Detachable Coupling or similar, wide range coupling to fit all pipe spigots to PN10, and of the following sizes</u>				
J343	400 mm ND	nr	3		-
	Adaptors				
	<u>Flange adaptor of large tolerance, maxi type to fit all pipe spigots to BS 3505, flanges to BS 4505, all to PN10, and of the following sizes</u>				
J353	400 mm ND	nr	3		-
	Straight Specials				
	<u>Ductile iron double flanged pipe to BS 4772, flanges to BS 4504, all to PN10, and of the following sizes</u>				
J383.1	400 mm ND length L = 1.20 m	nr	3		-
	<u>Ductile iron double flanged pipe, to BS 4772, flanges to BS 4504, all to PN10, cement mortar lined, and of the following sizes</u>				
J383.2	400 mm ND and length not exceeding 1.5 m	nr	18		-
	Valves and Penstocks				
	Gate Valves: Hand Operated				
	<u>All flanged CI gate valves to BS 5150, flanges to BS 4505, all to PN10 for operation by tee key, with extension spindle not exceeding 1.5 metres long, and of the following sizes</u>				
J813	400 mm ND	nr	4		-
	Non-Return Valves				
	<u>All flanged non-return valves, include all fittings as in specifications, to ISO 7259, flanges to ISO 2441, all to PN10, of the following sizes; include chamber.</u>				
J833	400 mm ND	nr	4		-
	PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES				
	Ducts				
	Cable Ducts				
	<u>Cable ducts, 3 way in trenches of the following depths</u>				
K531	Not in Trench	m	450		-
K532	Depth not exceeding 1.5m	m	100		-
	Other Pipework Ancillaries				
	Marker Posts				
K820.4	Marker posts for pipes	nr	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-8

DESCRIPTION: RAW WATER PUMPING MAINS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.0.0 series (including references made there-in to other drawings)</p> <p><u>DEMOLITION AND SITE CLEARANCE</u></p> <p><u>General Site Clearance</u></p> <p>D100 General site clearance for works for site ha 3</p> <p><u>Anti-termite Treatment</u></p> <p>X100 Apply Anti-termite treatment to the final excavation level and excavated sides of all foundations to receive permanent works sum 1</p> <p><u>Trees</u></p> <p><u>Cut and dispose of trees of the following girth; include removal of stump and backfilling the hole left with top soil</u></p> <p>D210 Girth 500 mm-1 m nr 5</p> <p><u>Stumps</u></p> <p><u>Remove and dispose of stumps of the following diameter; include for grabbing up the roots and backfilling the hole left with top soil</u></p> <p>D310 Diameter 150-500 mm nr 3 D320 Diameter 500 mm -1 m nr 3</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Topsoil</i></p> <p>E410 Dig up top soil,depth not exceeding 0.3m for site, remove weeds m³ 8,710</p> <p><i>Ordinary Soil</i></p> <p><u>General excavation, for road works and parking area, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p> <p>E422 Depth 0.25 - 0.5 m m³ 1,750</p> <p><i>Rock</i></p> <p><u>General excavation in rock, landscape, road works and parking areas, commencing surface is the exposed surface of the rock</u></p> <p>E432 Depth 0.25-1 m m³ 3,872</p>				
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<i>Disposal of Excavated Material</i>				
	<u>Disposal of excavated material to sites as specified and as directed by the Engineer</u>				
E531	Top Soil	m ³	8,710		
E532	Material other than topsoil, rock, or artificial hard material	m ³	1,750		
E533	Rock	m ³	3,872		
	<u>Landscaping</u>				
E810	Turfing for lawns inside fenced off compound of Treatment Plant; include filling with excavated topsoil and the preparation of the surfaces	m ²	23,224		
	<u>PIPEWORK-PIPES</u>				
	<u>Cast or Spun Iron Pipes</u>				
	<u>Ductile spun iron pipes with spigot and socket type flexible joints and cement mortar linings, 150mm ND, all to BS 4772 and to K9 laid in trench to the following depths</u>				
I322.1	Depth not exceeding 1.5m	m	250		
I322.2	Depth 1.5 - 2 m	m	50		
	<u>Ductile spun iron pipes with spigot and socket type flexible joints and cement mortar linings, 400mm ND, all to BS 4772 and to K9 laid in trench to the following depths</u>				
I322.3	Depth not exceeding 1.5m	m	700		
I322.4	Depth 1.5 - 2 m	m	50		
	<u>Ductile spun iron pipes with spigot and socket type flexible joints and cement mortar linings, 500mm ND, all to BS 4772 and to K9 laid in trench to the following depths</u>				
I332.1	Depth not exceeding 1.5m	m	100		
I333.1	Depth 1.5 - 2 m	m	20		
	<u>Plastic Pipes</u>				
	<i>Plastic Drain Pipes</i>				
	<i>uPVC Pipes</i>				
	<u>uPVC drain pipes, to BS 5481, with flexible joints to BS 4346 or BS 6209, 100 mm ND, laid in trench to the following depths</u>				
I514.1	Depth 4.5-5m	m	12		
I521.1	Depth 5.5-6m	m	5		
I522.1	Depth exceeding 6m	m	7		
	<u>uPVC drain pipes, to BS 5481, with flexible joints to BS 4346 or BS 6209, 200 mm ND, laid in trench to the following depths</u>				
I513	Depth not exceeding 1.5m	m	80		
I514.2	Depth 1.5-2m	m	20		
I521.2	Depth 2-4m	m	15		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>uPVC drain pipes, to BS 5481, with flexible joints to BS 4346 or BS 6209, 300 mm ND, laid in trench to the following depths</u>				
I519	Depth not exceeding 1.5m	m	75		
I521	Depth 1.5-2m	m	50		
I523	Depth 2-4m	m	25		
	<u>PIPEWORK-FITTINGS AND VALVES</u>				
	<u>Cast or Spun Iron Pipe Fittings</u>				
	<i>Bends</i>				
	<u>Ductile iron all flanged 90 degree bend, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J312.1	150 mm ND	nr	3		
J313.1	400 mm ND	nr	14		
J313.2	500 mm ND	nr	4		
	<u>Ductile iron all flanged 45 degree bend, to BS 4772, flanges to BS 4504, all to PN 6, cement mortar lined, and of the following sizes</u>				
J312.2	150 mm ND	nr	2		
J312.3	400 mm ND	nr	2		
J313.3	500 mm ND	nr	2		
	<u>Ductile iron all flanged 22.5 degree bend, to BS 4772, flanges to BS 4504, all to PN 16, cement mortar lined, and of the following sizes</u>				
J313.4	400 mm ND	nr	2		
	<u>Ductile iron all flanged 45 degree bend, to BS 4772, flanges to BS 4504, all to PN25, cement mortar lined, and of the following sizes</u>				
J312.5	400 mm ND	nr	2		
	<i>Junctions and Branches</i>				
	<u>Ductile iron flanged on socket tee to BS 4772, flanges to BS 4504, all to PN25, cement mortar lined, and of the following sizes</u>				
J323.1	150/150mm ND	nr	1		
J323.2	400/400 mm ND	nr	5		
	<u>Ductile iron flanged on socket tee to BS 4772, flanges to BS 4504, all to PN16, cement mortar lined, and of the following sizes</u>				
J323.1	400/400mm ND	nr	2		
	<i>Tapers</i>				
	<u>Ductile iron all socket taper to BS 4772, all to PN6, cement mortar lined, and of the following sizes</u>				
J333	500/400mm ND	nr	2		

Carried to Collection

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Flange Adaptors				
	<u>Flange adaptor, Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN16 , and of the following sizes</u>				
J352.2	400 mm ND	nr	3		
	<u>Flange adaptor, Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6 , and of the following sizes</u>				
J352.3	100 mm ND	nr	4		
J352.3	150 mm ND	nr	2		
J352.4	400 mm ND	nr	9		
J352.4	500 mm ND	nr	2		
	Gate Valves: Hand Operated				
	<u>All flanged CI gate valves to BS5150, flanges to BS 4505, all to PN16 for operation by tee key, and of the following sizes</u>				
J811.3	400 mm ND	nr	2		
	<u>All flanged CI gate valves to BS5150, flanges to BS 4505, all to PN6 for operation by tee key, and of the following sizes</u>				
J811.4	100 mm ND	nr	4		
J811.4	150 mm ND	nr	4		
J811.5	400 mm ND	nr	9		
	Non-Return Valves				
	<u>All flanged non-return valves, include all fittings as in specifications, to ISO 7259, flanges to ISO 2441, all to PN6, of the following sizes; include chamber.</u>				
J833	150 mm ND	nr	1		
J833	400 mm ND	nr	2		
	Bulk Flow Meters				
	<u>Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc and all other fittings to make the installation complete, as specified, all fittings to PN6 including chamber, and on the following main pipe sizes</u>				
J991.1	400 mm ND	nr	1		
J991.1	400 mm ND	nr	2		
	<u>Bulk Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, etc and all other fittings to make the installation complete, as specified, all fittings to PN16 including chamber, and on the following main pipe sizes</u>				
J991.1	400 mm ND	nr	1		
	<u>Dall short insert or venturi type Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, electromagnetic meter with transmitter etc and all other fittings to make the installation complete as specified, all fittings to PN6 including chamber, and on the following main pipe sizes</u>				
J993.1	150 mm ND	nr	1		
J993.2	400 mm ND	nr	1		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
J993.3	<p>Dall short insert or venturi type Flow Meter inclusive of all couplings, adaptors, distance pieces, valves, electromagnetic meter with transmitter etc and all other fittings to make the installation complete as specified, all fittings to PN16 including chamber, and on the following main pipe sizes</p> <p>400 mm ND</p> <p>PIPEWORK - MANHOLES AND PIPE WORK ANCILLARIES</p> <p>Manholes</p> <p><i>In-situ Concrete Manhole</i></p> <p><u>In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include cast iron heavy duty manhole cover, complete, and of the following depths</u></p> <p>K131 Depth not exceeding 1.5m K132 Depth 1.5-2m K133 Depth 2-4m</p> <p>Other Chambers</p> <p><u>In-situ concrete gate valve chamber, complete and of the following depths</u></p> <p>K231 Depth not exceeding 1.5m K232 Depth 1.5-4m</p> <p>Valve Surface Boxes</p> <p><u>Valve surface box for DN 50 - DN 150 valves, with lockable cover securely attached to main body of surface box by chain or bolt, include down pipe, complete as specified and to the following depths</u></p> <p>K251 Depth not exceeding 1.5m</p> <p>French Drains, Ditches and Trenches</p> <p>Excavation</p> <p><u>Rectangular section ditches, lined with concrete as specified of the following cross section area</u></p> <p>K453 Area 0.25-0.5 m² R112 Depth 150-300 mm</p> <p>Marker Posts</p> <p>K820.1 Marker posts for valves K820.2 Marker posts for wash outs K820.3 Marker posts for meters K820.4 Pipe markers</p>	nr	2		
		nr	15		
		nr	10		
		nr	5		
		nr	10		
		nr	7		
		nr	5		
		m	150		
		m ³	325		
		nr	19		
		nr	2		
		nr	3		
		nr	20		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>PIPEWORK-SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
	<u>Extras to Excavation and Backfilling</u>				
	<i>In Pipe Trenches</i>				
	<u>Extras to excavation in pipe trenches in the following materials</u>				
L111	In rock	m ³	50		
	<u>Surrounds</u>				
	<u>Pipe surrounds, of imported granular material, for the following pipe sizes</u>				
L531	Diameter not exceeding 200 mm ND	m	50		
L533	Diameter 300 - 600 mm ND	m	200		
	<u>Concrete Stools and Thrust Blocks</u>				
	<i>Thrust Blocks</i>				
	<u>Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.2 - 0.5 m³, for the following pipe sizes</u>				
L731	Diameter not exceeding 300 mm ND	nr	10		
	<u>Mass concrete grade C15 thrust blocks for pipes and fittings, volume 2-4 m³, for the following pipe sizes</u>				
L773	Diameter 300-600 mm ND	nr	4		
	<u>ROADS AND PAVINGS</u>				
	<u>Sub-Bases</u>				
	<u>Flexible road sub-base of granular material as specified, and stabilised and compacted as specified, of the following thickness</u>				
R114.1	Depth 150-200 mm	m ²	1,600		
	<u>Bases</u>				
	<u>Flexible road base of granular material as specified, and stabilised and compacted as specified, of the following thickness</u>				
R114.2	Depth 150-200 mm	m ²	1,600		
	<u>Surfacing</u>				
R121	Wearing course, of slurry double bitumen seal, placed and rolled as specified	m ²	1,600		
	<u>Kerbs</u>				
	<u>Construct Kerbs of pre-cast concrete to BS 7263 of cross section area 0.05-0.1 m² to the following alignment</u>				
R611	Straight or curved to a radius exceeding 12 m	m	400		
R612	To a radius not exceeding 12 m	m	40		
	<u>Walkways</u>				
R912	Concrete paved walkway; include sand bedding, earthworks and edge protection	m ²	400		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>MISCELLANEOUS WORKS</u>				
	<u>Fences</u>				
X135	120x120mm Concrete post of C25 concrete and wire galvanised wire chain link fence of gauge 10 to BS 1722, anchored into 300m high concrete dwarf wall which are well grounded on firm mortar blinding; post height 2-2.5 m. Posts to be struted at corner posts and after every three intermediate posts	m	750		
	<u>Gates</u>				
	<u>Supply and complete installation of metal field gate to BS 3470 in C25 concrete pad foundations; complete and of the following widths</u>				
X235	Width 1.5 m , single leaf	nr	2		
X235	Width 3-4.5 m , double leaf	nr	2		
	<u>Building Works</u>				
BUS-9.1.1	Construct concrete bases for surge vessels to surge plant suppliers specifications.	sum	1		
BUS-9.1.2	Provide water supply connection to the chemical house and office building	sum	1		
BUS-9.1.3	Construct pipe and pedestrian walkway as shown in the drawings	m	250		
BUS-9.1.4	Construct sludge pump sump, complete as shown in the series drawings	m	1		
BUS-9.1.5	Construction of Standard NWSC Type C staff houses as shown in the drawings MWE/LOT1/BUS/1.12.0 to include all the electrical and mechanical installations and all works to Engineer's satisfaction	sum	2		
BUS-9.1.6	Carbon dioxide storage shade as shown in drawings	sum	1		
BUS-9.1.7	Switch gear shed	sum	1		
BUS-9.1.8	Septic tank for 40 users for office block as shown on Drg. No. SD 221A in concrete blocks, rendered smooth inside complete with inlet and outlet manholes benching, bitumen coated cast iron step irons, heavy duty cast iron manhole covers and all accessories.	nr	1		
BUS-9.1.9	Soak pit 2500 mm diameter 2000 mm deep as shown on Drg. No. SD 221A filled with hardcore, polyethene sheet, backfilling and all accessories	nr	1		
BUS-9.1.10	Septic tank for 16 users for Staff House blocks as shown on Drg. No. SD 221A in concrete blocks, rendered smooth inside complete with inlet and outlet manholes benching, bitumen coated cast iron step irons, heavy duty cast iron manhole covers and all accessories.	nr	1		
BUS-9.1.11	Soak pit 1500 mm diameter 1000 mm deep as shown on Drg. No. SD 221B filled with hardcore, polyethene sheet, backfilling and all accessories.	nr	1		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-9

DESCRIPTION: TREATMENT PLANT SITEWORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1 Collection, Page 2 Collection, Page 3 Collection, Page 4 Collection, Page 5 Collection, Page 6 Collection, Page 7</p>				
Carried to Summary					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-10

DESCRIPTION: FLOCCULATOR

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.3.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u>				
	<i>Topsoil</i>				
E310	Strip top soil,depth not exceeding 0.3m for raw water storage site	m ³	39		-
	<u>Excavation for foundations</u>				-
	<i>Ordinary Soil</i>				-
	<u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u>				-
E325	Depth 2-5m	m ³	383		-
	<i>Rock</i>				-
	<u>Excavation for foundations, in rock, commencing surface is the exposed surface of the rock</u>				-
E333	Depth 0.5-1m	m ³	12		-
E334	Depth 1-2m	m ³	26		-
E335	Depth 2-5m	m ³	64		-
	<u>Excavation Ancillaries</u>				-
	<i>Preparation</i>				-
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				-
E522	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	128		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	15		-
	<i>Disposal of Excavated Material</i>				-
	<u>Disposal of excavated material from site to disposal area as directed by the Engineer</u>				-
E532	Soil	m ³	373		-
E533	Rock	m ³	77		-
	<u>Filling</u>				-
	<i>Filling</i>				-
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				-
E614.1	Selected excavated material other than topsoil, rock or artificial hard material	m ³	48		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-10

DESCRIPTION: FLOCCULATOR

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Filling Ancillaries</u>				-
	<u>Trimming of filled surfaces by methods specified and to depths as shown in the drawings with the following materials</u>				-
E712	Selected excavated material other than topsoil, rock or artificial hard material	m2	24		-
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	<i>Ordinary Designed Mix Concrete</i>				-
	<i>Grade C15</i>				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for the following aggregate sizes</u>				-
F231	10mm aggregate	m ³	9		-
	<i>Grade C25</i>				-
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for the following aggregate sizes</u>				-
F251	10mm aggregate	m ³	204		-
	<u>Placing Mass Concrete</u>				-
	<i>Blinding</i>				-
	<u>Placing blinding concrete, for ground slab, grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m ³	9		-
	<u>Placing Reinforced Concrete</u>				-
	<i>Bases, Footings and Ground Slabs</i>				-
	<u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	53		-
	<i>Suspended Slabs</i>				-
	<u>Placing reinforced concrete, grade C25, for suspended slab of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	11		-
	<i>Walls</i>				-
	<u>Placing reinforced concrete, grade C25, for walls of the following thickness</u>				-
F642	Thickness 150-300mm	m ³	140		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-10

DESCRIPTION: FLOCCULATOR

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<i>Straight Specials</i>				
	<u>Ductile iron flanged/spigot pipe with puddled flange to BS 4772, flanges to BS 4504, to PN6, and of the following sizes</u>				
J381.1	DN300mm,length not exceeding 1.5m length	nr	2		-
	<u>Ductile iron double flanged pipe with puddle flange to BS 4772, flanges to BS 4504, to PN6, and of the following sizes</u>				
J381.2	DN400 and not exceeding 1.5m length	nr	1		-
	<u>Valves and Penstocks</u>				
	<i>Gate Valves: Hand Operated</i>				
	<u>All flanged CI gate valves to BS 5163, flanges to BS 4505, all to PN6, for operation by tee-key, of the following sizes</u>				
J811	DN300	nr	2		-
J812	DN400	nr	1		-
J819	500x500mm penstock	4	1		-
	<u>WATER PROOFING</u>				
	<u>Flexible Sheeting</u>				
	<u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of sand blinded hardcore fill</u>				
W421	Surfaces of blinding hardcore inclined at an angle not exceeding 30 degrees to the horizontal	m ²	207		-
	<u>MISCELLANEOUS WORKS</u>				
	<u>Ladders</u>				
	<u>External galvanised mild steel ladder to BS 4211, galvanised to BS 729, complete, fixed to the following structures</u>				
N130	Fixed to a reinforced concrete structure	m	14		-
	<u>External galvanised mild steel stairway and landing to BS 4211, galvanised to BS 729, complete, fixed to the following structures</u>				
N110	Fixed to a reinforced concrete structure	t	3		-
	<u>Open Duct Flooring</u>				
	<u>Mild steel open duct flooring to BS 4592, galvanised to BS 729, 6 mm thick, complete with frames and supports, fixed into a steel structure, and of the following widths</u>				
N170	Width 1m	m ²	11		-
	<u>Hand rails</u>				
	<u>Mild steel handrails to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u>				
N140	Fixed to a reinforced concrete structure	m	148		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-10

DESCRIPTION: FLOCCULATOR

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1</p> <p>Collection, Page 2</p> <p>Collection, Page 3</p> <p>Collection, Page 4</p>				- - - -
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-11

DESCRIPTION: CLARIFIER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.4.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for Foundations</u></p> <p><i>Topsoil</i></p> <p>E310 Strip top soil,depth not exceeding 0.3m for raw water storage site m³ 52 -</p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations in material other than topsoil,rock or artificial hard material,commencing surface is the formation level</u></p> <p>E325 Depth 5-10m m³ 519 -</p> <p><i>Rock</i></p> <p><u>Excavation for foundations in rock,commencing surface is the exposed surface of the rock</u></p> <p>E333 Depth 0.5-1m m³ 35 -</p> <p>E334 Depth 1-2m m³ 39 -</p> <p>E335 Depth 2-5m m³ 45 -</p> <p><u>Excavation Ancillaries</u></p> <p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces for whole structure in the following materials</u></p> <p>E522 Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal m² 173 -</p> <p>E523 Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal m² 35 -</p> <p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material to water front fill sites as shown in the site layout and as specified and as directed by the Engineer</u></p> <p>E532 Material other than topsoil,rock,or artificial hard material m³ 512 -</p> <p>E533 Rock m³ 104 -</p> <p><u>Filling</u></p> <p><i>Filling</i></p> <p><u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u></p> <p>E614.1 Selected excavated material other than topsoil, rock or artificial hard material m³ 59 -</p>				
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-11

DESCRIPTION: CLARIFIER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Filling Ancillaries</u>				
	<u>Trimming of filled surfaces by methods specified and to depths as shown in the drawings with the following materials</u>				
E712	Selected excavated material other than topsoil, rock or artificial hard material	m2	16		-
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	<i>Ordinary Designed Mix Concrete</i>				-
	<i>Grade C15</i>				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for the following aggregate sizes</u>				-
F231	10mm aggregate	m³	14		-
	<i>Grade C25</i>				-
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for the following aggregate sizes</u>				-
F251	10mm aggregate	m³	220		-
	<u>Placing Mass Concrete</u>				-
	<i>Blinding</i>				-
	<u>Placing blinding concrete, for ground slab, grade C15, of the following thickness</u>				-
F511.1	Thickness not exceeding 150mm	m³	8		-
F511.2	Mass concrete benching	m³	6		-
	<u>Placing Reinforced Concrete</u>				-
	<i>Bases, Footings and Ground Slabs</i>				-
	<u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u>				-
F622	Thickness 150-300mm	m³	59		-
	<i>Walls</i>				-
	<u>Placing reinforced concrete, grade C25, for walls of the following thickness</u>				-
F642	Thickness 150-300mm	m³	148		-
	<i>Suspended Slabs</i>				-
	<u>Placing reinforced concrete, grade C25, for top slab of the following thickness</u>				-
F652	Thickness 150-400mm	m³	13		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-11

DESCRIPTION: CLARIFIER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	PIPEWORK-FITTINGS AND VALVES				
	Cast or Spun Iron Pipe Fittings				
	Bends				
	<u>Ductile iron all flanged 90 degree bend, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J312	400 mm ND	nr	2		-
	Junctions and Branches				
	<u>All flanged tee to BS 4346, flanges to BS 4504 ,all to PN6, and of the following sizes</u>				
J322	200/200 mm ND	nr	8		-
	Double Collars				
	<u>Detachable Coupling Maxi - Coupling or Similar to PN6 ,and of the following sizes</u>				
J341	200 mm ND	nr	8		-
J342	400 mm ND	nr	2		-
	Flange Adaptors				
	<u>Flange adaptor, Maxi Type or similar wide range adaptor to fit pipe spigots, flanges to BS 4505, all to PN6, and of the following sizes</u>				
J352	400 mm ND	nr	4		-
	Straight Specials				
	<u>Ductile iron plain ended pipe to BS 4772, with puddle flange ,flanges to BS 4504, to PN6, and of the following sizes</u>				
J381.1	DN200mm and not exceeding 4m length	nr	6		-
J382.1	DN400mm and not exceeding 4.0m length	nr	2		-
	<u>Ductile iron double flanged pipe to BS 4772, with puddle fange, flanges to BS 4504, to PN6, and of the following sizes</u>				
J381.1	DN200mm and not exceeding 1m length	nr	2		-
J382.1	DN400mm and not exceeding 2.0m length	nr	4		-
J382.1	DN400mm and not exceeding 6.0m length	nr	2		-
	<u>Ductile iron flanged/spigot pipe to BS 4772, with puddle flange, flanges to BS 4504, to PN6, and of the following sizes</u>				
J382.2	DN400mm and not exceeding 1.5m length	nr	2		-
	<u>Ductile iron flanged/spigot pipe with puddle flange to BS 4772, flanges to BS 4504, to PN6, and of the following sizes</u>				
J381.1	DN200mm and not exceeding 6m length	nr	6		-
J382.3	DN400mm and not exceeding 1.5m length	nr	2		-
J382.4	DN400mm and not exceeding 1m length	nr	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-11

DESCRIPTION: CLARIFIER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Blank Flange				
	<u>Blank flange drilled to BS 4504 and to PN6 for flanges of the following sizes</u>				
J391	DN200	nr	2		-
J391	DN400	nr	2		-
	Valves and Penstocks				
	Gate Valves: Hand Operated				
	<u>All flanged CI gate valves to BS 5163, flanges to BS 4505, all to PN6, for operation by tee-key, of the following sizes</u>				
J811	DN200	nr	8		-
J812	DN400	nr	2		-
	MISCELLANEOUS METAL WORK				
	Ladders				
	<u>External galvanised mild steel ladder to BS 4211, galvanised to BS 729, complete, fixed to the following structures</u>				
N130	Fixed to a reinforced concrete structure	m	18		-
	Hand rails				
	<u>Mild steel handrails to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u>				
N140	Fixed to a reinforced concrete structure	m	25		-
	Chequer Plating				
	<u>Mild steel chequer plating to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u>				
N140	Fixed to a reinforced concrete structure	m2	15		-
	WATER PROOFING				
	Flexible Sheeting				
	<u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of sand blinded hardcore fill</u>				
W421	Surfaces of blinding hardcore inclined at an angle not exceeding 30 degrees to the horizontal	m²	160		-
	MISCELLANEOUS WORKS				
	Perforated pipe				
X435.1	Supply and fix galvanized steel perforated settled water collection pipes, DN 400 fixed into wall, each 8.5 m long	nr	4		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-11

DESCRIPTION: CLARIFIER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
X435.2	<p>Lamella Plates</p> <p>Supply, install and set to work 6 No reinforced plastic lamella units or tube settlers as in ECOTEC TUBEdek FS 41.50 or approved equivalent, with plates inclined at an angle of 60° to the horizontal, include stacking together for each of the tanks, lamella support structure consisting of HEB 120 beams, U120 parallel flange channels, 90 x 7mm equal angles, 90mm x 6mm flat steel plates all to EN 10025, all galvanised complete with all accessories and fixed to a reinforced concrete structure</p>	m ³	147		-
X435.3	<p>Ultrasonic welders Branson PGH 420 model or similar with sonotrodes</p>	nr	1		-
	<p><u>Access Manhole Cover</u></p>				-
BUS-11.1.1	<p>Supply and complete installation of access manhole cover and frame, size 1.0m by 1.0m clear opening; include fixing and locking arrangement</p>	nr	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-11

DESCRIPTION: CLARIFIER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-12

DESCRIPTION: RAPID GRAVITY FILTERS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.5.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u>				
	<i>Topsoil</i>				
E310	Strip top soil,depth not exceeding 0.3m for raw water storage site	m ³	64		-
	<u>Excavation for foundations</u>				-
	<i>Ordinary Soil</i>				-
	<u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u>				-
E325	Depth 5-10m	m ³	1,053		-
	<i>Rock</i>				-
	<u>Excavation for foundations, in rock, commencing surface is the exposed surface of the rock</u>				-
E333	Depth 0.5-1m	m ³	70		-
E334	Depth 1-2m	m ³	76		-
E335	Depth 2-5m	m ³	98		-
	<u>Excavation Ancillaries</u>				-
	<i>Preparation</i>				-
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				-
E522	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	210		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	42		-
	<i>Disposal of Excavated Material</i>				-
	<u>Disposal of excavated material from site to disposal area as directed by the Engineer</u>				-
E532	Soil	m ³	987		-
E533	Rock	m ³	210		-
	<u>Filling</u>				-
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				-
E614.1	Selected excavated material other than topsoil, rock or artificial hard material	m ³	103		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-12

DESCRIPTION: RAPID GRAVITY FILTERS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
E712	<p><u>Filling Ancillaries</u></p> <p><u>Trimming of filled surfaces by methods specified and to depths as shown in the drawings with the following materials</u> Selected excavated material other than topsoil, rock or artificial hard material</p>	m2	20		-
F231	<p><u>IN-SITU CONCRETE</u></p> <p><u>Provision of Concrete</u></p> <p><i>Ordinary Designed Mix Concrete</i></p> <p><i>Grade C15</i></p> <p><u>Designed mix, grade C15 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u> 10mm aggregate</p>	m³	12		-
F251	<p><i>Grade C25</i></p> <p><u>Designed mix, grade C25 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u> 10mm aggregate</p>	m³	323		-
F511	<p><u>Placing Mass Concrete</u></p> <p><i>Blinding</i></p> <p><u>Placing blinding concrete, for floor slab, grade C15, of the following thickness</u> Thickness not exceeding 150mm</p>	m³	12		-
F622	<p><u>Placing Reinforced Concrete</u></p> <p><i>Bases, Footings and Ground Slabs</i></p> <p><u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u> Thickness 150 - 300mm</p>	m³	72		-
F642	<p><i>Walls</i></p> <p><u>Placing reinforced concrete, grade C25, for walls of the following thickness</u> Thickness 150 - 300mm</p>	m³	223		-
F652	<p><i>Suspended Slabs</i></p> <p><u>Placing reinforced concrete, grade C25, for top slab of the following thickness</u> Thickness 150-300mm</p>	m³	29		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-12

DESCRIPTION: RAPID GRAVITY FILTERS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	CONCRETE ANCILLARIES				
	Formwork-Fair Finish				
	<i>Fair Finish Plane Horizontal</i>				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G215	Width exceeding 1.22m	m ²	136		-
	Fair Finish Plane Vertical				
	<u>Plane fair finish vertical formwork of the following width</u>				
G245	Width exceeding 1.22m	m ²	560		-
	Reinforcement				
	Deformed High Yield Steel Bars				
	<u>High yield square twisted or ribbed bars to BS4449 and of the following sizes</u>				
G524	Nominal size, 6-16mm	t	56		-
	Joints				
	<u>Plastic waterstops of PVC to BS 903 of the following width</u>				
G653	Width 150 - 300mm	m	65		-
	Concrete Accessories				
	Finishing of Top Surfaces				
	<u>Finishing of top surfaces by the following methods</u>				
G812	Class U3 steel trowel finish	m ²	224		-
	Inserts				
	<u>Pipe inserts projecting from one face of the concrete and of the following sizes, excluding supply of pipe</u>				
G831.1	400mm ND	nr	1		-
G832.2	500mm ND	nr	1		-
G832.2	700mm ND	nr	4		-
	<u>Pipe inserts projecting from two faces of the concrete and of the following sizes, excluding supply of pipe</u>				
G831.3	400mm ND	nr	5		-
G832.4	500mm ND	nr	5		-
	PIPEWORK - FITTINGS AND VALVES				
	Cast or Spun Iron Pipe Fittings				
	Bends				
	<u>Ductile iron all flanged 90 degrees bends, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J312	500 mm ND	nr	8		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-12

DESCRIPTION: RAPID GRAVITY FILTERS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Junctions and Branches				
	<u>Ductile iron all flanged tee to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J321	400/400 mm ND	nr	4		-
J323	500/500 mm ND	nr	8		-
	Tapers				
	<u>Ductile iron all flanged taper to BS 4772, flanges to BS 4504 to PN6, and of the following sizes</u>				
J333	500/400 mm ND	nr	4		-
	Double Collars				
	<u>Detachable Coupling or similar coupling to PN6 to fit ductile iron to BS 4772 spigots of the following sizes</u>				
J342.1	300 mm ND	nr	2		-
J342.2	400 mm ND	nr	2		-
	Flange Adaptors				
	<u>Flange adaptor to fit ductile iron to BS 4772 spigots, flanges to BS 4504, all to PN6 and of the following sizes</u>				
J352.1	400 mm ND	nr	3		-
J352.2	500 mm ND	nr	7		-
	Straight Specials				
	<u>Ductile iron spigot pipe with flanged end, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.1	400 mm ND and length not exceeding 2.5 m	nr	3		-
J383.2	500 mm ND and length not exceeding 2.5 m	nr	3		-
J383.2	500 mm ND and length not exceeding 1.5 m	nr	4		-
	<u>Ductile iron spigot pipe with flanged end, with puddle flange to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.1	400 mm ND and length not exceeding 2.5 m	nr	2		-
J383.2	500 mm ND and length not exceeding 2.5 m	nr	2		-
J383.2	700 mm ND and length not exceeding 0.5 m	nr	4		-
	<u>Ductile iron all flanged, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.1	500 mm ND and length not exceeding 1.5 m	nr	3		-
J383.2	500 mm ND and length not exceeding 3 m	nr	4		-
	<u>Ductile iron all flanged pipe with puddle flange, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.1	500 mm ND and length not exceeding 1.5 m	nr	4		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-12

DESCRIPTION: RAPID GRAVITY FILTERS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Blank Flange				
	<u>Blank flange drilled to BS 4504 and to PN6 for flanges of the following sizes</u>				
J391.1	DN400	nr	1		-
J391.2	DN500	nr	1		-
J391	DN700	nr	1		-
	Goose Neck				
	<u>Ductile iron Goose Neck BS 4772, flanges to BS 4504 and to PN6 and of the following sizes</u>				
J310	DN100	nr	1		-
	Valves and Penstocks				
	Gate Valves: Hand Operated				
	<u>All flanged CI gate valves to BS 5150, flanges to BS 4505, all to PN6 for operation by hand wheel, for the following sizes; include the supply of extension spindle and hand wheel not exceeding 6m</u>				
J811	400 mm ND	nr	1		-
J813	500 mm ND	nr	8		-
	Penstocks				
	<u>Penstock, all to PN6, for operation by hand wheel, for the following sizes; include the supply of hand wheel</u>				
J841	500x500 mm ND	nr	8		-
	<u>PIPEWORK-SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
	<u>Concrete Stools and Thrust Blocks</u>				
	Thrust Blocks				
	<u>Mass concrete grade C15 thrust blocks for pipes and fittings, volume 0.2 - 0.5 m³, for the following pipe sizes</u>				
L732	Diameter not exceeding 500 mm ND	nr	3		-
	<u>Other Isolated Pipe Supports</u>				
	<u>Reinforced concrete pipe supports, class C25, as in drawing, complete including foundation bases, galvanised straps and bolting, height not exceeding 1.5 m, for the following pipe sizes</u>				
L811	Pipe support 1 - 500mm x 500mm x 3500mm high, Class 25/25, complete with shuttering, to pipes	nr	4		-
L812	Pipe support 3 - 500mm x 500mm x 1500mm high, Class 25/25, complete with shuttering, to Bend	nr	10		-
	<u>MISCELLANEOUS METAL WORK</u>				
	Ladders				
	<u>External galvanised mild steel ladder to BS 4211, galvanised to BS 729, complete, fixed to the following structures</u>				
N130	Fixed to a reinforced concrete structure	m	14		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-12

DESCRIPTION: RAPID GRAVITY FILTERS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Hand rails</u>				
	<u>Mild steel handrails to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u>				
N140	Fixed to a reinforced concrete structure	m	84		-
	<u>Chequer Plating</u>				
	<u>Mild steel chequer plating to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u>				
N140	Fixed to a reinforced concrete structure	m2	31		-
	<u>Step Irons</u>				
N190	Supply and fix internal galvanised steel step-irons, with separation distance 350mm, fixed into a reinforced concrete structure	nr	20		-
	<u>MISCELLANEOUS WORKS</u>				
BUS-12.1.1	Supply and place approved filter support media	m ³	24		-
BUS-12.1.2	Supply and place approved filter media	m ³	94		-
BUS-12.1.3	Supply approved spare filter media	m ³	50		-
BUS-12.1.4	Supply and complete installation of air supply pipework to air blower supplier's specification, connecting the air blowers (2 no) to the filter block (4 no filters), floor and gallery; include all fittings, gate valves, adaptors, couplings, testing, earthworks and all works to Engineer's satisfaction	sum	1		-
BUS-12.1.5	Filter floor, complete as specified, total area 77m ²	sum	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-12

DESCRIPTION: RAPID GRAVITY FILTERS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-13

DESCRIPTION: CLEAR WATER TANK AND PUMP HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.6.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><i>Topsoil</i></p> <p>E310 Strip top soil,depth not exceeding 0.3m for raw water storage site m³ 171 -</p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p> <p>E325 Depth 2-5m m³ 828 -</p> <p><i>Rock</i></p> <p><u>Excavation for foundations, in rock, commencing surface is the exposed surface of the rock</u></p> <p>E333 Depth 0.5-1m m³ 67 -</p> <p>E334 Depth 1-2m m³ 70 -</p> <p>E335 Depth 2-5m m³ 77 -</p> <p><u>Excavation Ancillaries</u></p> <p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces for whole structure in the following materials</u></p> <p>E522 Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal m² 414 -</p> <p>E523 Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal m² 82 -</p> <p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material from site to disposal area as directed by the Engineer</u></p> <p>E532 Soil m³ 919 -</p> <p>E533 Rock m³ 20 -</p> <p><u>Filling</u></p> <p><u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u></p> <p>E614.1 Selected excavated material other than topsoil, rock or artificial hard material m³ 178 -</p>				
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-13

DESCRIPTION: CLEAR WATER TANK AND PUMP HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Filling Ancillaries</u>				
	<u>Trimming of filled surfaces by methods specified and to depths as shown in the drawings with the following materials</u>				
E712	Selected excavated material other than topsoil, rock or artificial hard material	m2	73		-
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	<i>Ordinary Designed Mix Concrete</i>				-
	<i>Grade C15</i>				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				-
F231	10mm aggregate	m³	23		-
	<i>Grade C25</i>				-
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				-
F251	10mm aggregate	m³	467		-
	<u>Placing Mass Concrete</u>				-
	<i>Blinding</i>				-
	<u>Placing blinding concrete, for floor slab, grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m³	23		-
	<u>Placing Reinforced Concrete</u>				-
	<i>Bases, Footings and Ground Slabs</i>				-
	<u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u>				-
F622	Thickness 150 - 300mm	m³	182		-
	<i>Walls</i>				-
	<u>Placing reinforced concrete, grade C25, for walls of the following thickness</u>				-
F642	Thickness 150 - 300mm	m³	177		-
	<i>Suspended Slabs</i>				-
	<u>Placing reinforced concrete, grade C25, for top slab of the following thickness</u>				-
F652	Thickness 150-300mm	m³	108		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-13

DESCRIPTION: CLEAR WATER TANK AND PUMP HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	CONCRETE ANCILLARIES				
	Formwork-Fair Finish				
	Fair Finish Plane Horizontal				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G215	Width exceeding 1.22m	m ²	213		-
	Fair Finish Plane Vertical				
	<u>Plane fair finish vertical formwork of the following width</u>				
G245	various widths	m ²	687		-
	Reinforcement				
	Deformed High Yield Steel Bars				
	<u>High yield square twisted or ribbed bars to BS4449 and of the following sizes</u>				
G524	Nominal size, 6-16mm	t	46		-
	Joints				
	<u>Formed surface plain joint of the following width or depth</u>				
G631	Width or depth not exceeding 0.5m	m	110		-
	<u>Formed surface joint with bituminous filler of the following width or depth</u>				
G641	Width or depth not exceeding 0.5m	m ²	166		-
	<u>Plastic waterstops of PVC to BS 903 of the following width</u>				
G653	Width 150 - 300mm	m	55		-
	Concrete Accessories				
	Finishing of Top Surfaces				
	<u>Finishing of top surfaces by the following methods</u>				
G812	Class U3 steel trowel finish	m ²	495		-
	Inserts				
	<u>Pipe inserts projecting from one face of the concrete and of the following sizes, excluding supply of pipe</u>				
G831.2	100mm ND	nr	24		-
G832.1	150mm ND	nr	1		-
G833.1	500mm ND	nr	1		-
G834	600mm ND	nr	1		-
	<u>Pipe inserts projecting from two faces of the concrete and of the following sizes, excluding supply of pipe</u>				
G831.3	300mm ND	nr	3		-
G832.4	500mm ND	nr	3		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-13

DESCRIPTION: CLEAR WATER TANK AND PUMP HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	PIPEWORK - FITTINGS AND VALVES				
	Cast or Spun Iron Pipe Fittings				
	Bends				
	<u>Ductile iron all flanged 90 degrees bends, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J313	400 mm ND	nr	2		-
J314	600 mm ND	nr	2		-
J313	150 mm ND	nr	1		-
	Junctions and Branches				
	<u>Ductile iron all flanged tee to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J322	150/150 mm ND	nr	2		-
J322	400/300 mm ND	nr	2		-
	Double Collars				
	<u>Detachable Coupling or similar coupling to PN6 to fit ductile iron to BS 4772 spigots of the following sizes</u>				
J342.1	100 mm ND	nr	2		-
J342.2	150 mm ND	nr	2		-
J342.2	400 mm ND	nr	1		-
	Flange Adaptors				
	<u>Flange adaptor to fit ductile iron to BS 4772 spigots, flanges to BS 4504, all to PN6 and of the following sizes</u>				
J351	100 mm ND	nr	2		-
J352	150 mm ND	nr	2		-
J353	300 mm ND	nr	2		-
J353	400 mm ND	nr	1		-
J353	600 mm ND	nr	1		-
	Straight Specials				
	<u>Ductile iron spigot pipe with flanged end, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.3	400 mm ND and length not exceeding 2.0 m	nr	2		-
	<u>Ductile iron double flanged pipe, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J381.1	100 mm ND and length not exceeding 2.0 m	nr	2		-
J382.1	400 mm ND and length not exceeding 6.0 m	nr	1		-
J383.1	600 mm ND and length not exceeding 6 m	nr	1		-
	<u>Ductile iron flanged/spigot pipe with puddle flange, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J381.2	100 mm ND and length not exceeding 2.0 m	nr	2		-
J382.2	400 mm ND and length not exceeding 1 m	nr	1		-
J383.2	600 mm ND and length not exceeding 1.0 m	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-13

DESCRIPTION: CLEAR WATER TANK AND PUMP HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				
	<u>Dense Concrete Blockwork</u>				
	<u>Dense concrete blockwork to BS 7263, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				
U523	230 mm thick	m ²	596		-
	<u>PAINTING</u>				-
	<u>High Gloss</u>				-
	<u>Timber Surfaces</u>				-
	<u>External quality high gloss oil paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>				-
V321	Upper surfaces of fascia board inclined at an angle not exceeding 30 degrees to the horizontal	m ²	27		-
	<u>Masonry</u>				-
	<u>External quality high gloss oil paint, two coats, to the following smooth masonry surfaces; include surface preparation and undercoat as specified</u>				-
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	120		-
	<u>Emulsion Paint</u>				-
	<u>Masonry</u>				-
	<u>Internal quality emulsion paint, two coats, to the following smooth masonry surfaces, include surface preparation and undercoat as specified</u>				-
V553	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	1073		-
	<u>WATER PROOFING</u>				-
	<u>Rendering</u>				-
W153	Surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in ordinary cement mortar	m ²	1192		-
	<u>Sand and Cement Screed</u>				-
	<u>Sand and cement screed of 1:3 cement sand mortar, applied to concrete floors, 25 mm thick, prepared and applied as specified, and finished with a steel float</u>				-
W441	Surfaces of floors inclined at an angle not exceeding 30 degrees to the horizontal	m ²	460		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-13

DESCRIPTION: CLEAR WATER TANK AND PUMP HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	MISCELLANEOUS WORKS				
	<u>Access Manhole Cover</u>				
BUS-13.1.1	Supply and complete installation of access manhole cover and frame, size 1.0m by 1.0m clear opening; include fixing and locking arrangement	nr	3		-
	<u>Roof Vents</u>				
BUS-13.1.2	Supply and complete installation of galvanised iron DN50mm roof level vents, include wire mesh, as specified	nr	21		-
	<u>Level Indicator</u>				
BUS-13.1.3	Supply and fix roof mounted level indicator	nr	1		-
	<u>Doors</u>				
	<u>Supply and Install single leaf mahogany door, include frame, all ironmongery and locking arrangements as detailed in the drawings of the following sizes</u>				
BUS-13.1.4	900mm x 2500mm (W x H including 300mm pvo)	nr	4		-
	<u>Supply and Install double leaf steel metal door, include frame, all ironmongery and locking arrangements as detailed in the drawings of the following sizes</u>				
BUS-13.1.5	1800mm x 1200mm	nr	10		-
BUS-13.1.6	3000mm x 1200mm	nr	10		-
	<u>Windows</u>				
	<u>Supply and fix the following mild steel casement windows to the Engineers' details constructed from standard steel sections primed with red oxide paint, painted with three coats of high gloss paint; complete with all necessary iron mongery, glass, plugging and fixing to head jamb and cill of the following sizes</u>				
BUS-13.1.7	1800mm x 1200mm	nr	10		-
BUS-13.1.8	3000mm x 1200mm	nr	10		-
	<u>Pump Plinth</u>				
BUS-13.1.9	Pump and air blower plinths to suppliers specification, include movement joint fill around pump plinths	sum	1		-
	<u>Roofing</u>				
BUS-13.1.10	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board and all roofing timber, gauge 28 prepainted GCI sheeting and ridges	m ²	239		-
BUS-13.1.11	Supply and fix expanded metal and plastered ceiling nailed to brandering made from sawn treated Cyprus or other similar grade and approved timber in roof structure; complete including 3 coats of emulsion paint as specified	m ²	189		-
	<u>Building Finishes</u>				
BUS-13.1.12	Building finishes including, constructing C20 1.0x2.0m entrance ramp, 20x100mm high 1:3 cement-sand skirting, 1500mm high toilets wall and floor ceramic tiling, C20 concrete window cills, 700mm wide C20 concrete splash apron; complete to the specifications and as directed by the Engineer	sum	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-13

DESCRIPTION: CLEAR WATER TANK AND PUMP HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
	Collection, Page 7				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-14

DESCRIPTION: CHEMICAL HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.7.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the formation level</u></p>				
E322	Depth not exceeding 2.5m	m ³	180		
	<p><i>Rock</i></p> <p><u>Excavation for foundations, in rock, commencing surface is the exposed surface of the rock</u></p>				
E333	Depth 0.5-1m	m ³	11		
E334	Depth 1-2m	m ³	15		
	<p><u>Excavation Ancillaries</u></p> <p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces in the following materials</u></p>				
E522	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	99		
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	36		
	<p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material from site to disposal area as directed by the Engineer</u></p>				
E532	Soil	m ³	919		
E533	Rock	m ³	26		
	<p><u>Filling</u></p> <p><u>Filling by methods specified and to depths as shown in the drawings with the following materials</u></p>				
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	28		
E617	Imported rock of size and grading as specified	m ³	68		
				Carried to Collection	

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-14

DESCRIPTION: CHEMICAL HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Filling Ancillaries</u>				
	<u>Trimming of Filled Surfaces</u>				
	<u>Trimming of surfaces filled with material other than topsoil, rock or artificial hard material, for the following types of work surfaces</u>				
E712	Surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	32		
	<u>Trimming of surfaces filled with rock, for the following types of work surfaces</u>				
E713	Surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	91		
	<u>IN-SITU CONCRETE</u>				
	<u>Provision of Concrete</u>				
	<i>Ordinary Designed Mix Concrete</i>				
	<i>Grade C15</i>				
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F231	20 mm aggregate	m ³	9		
	<i>Grade C25</i>				
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F251	20 mm aggregate	m ³	87		
	<u>Placing Mass Concrete</u>				
	<i>Blinding</i>				
	<u>Placing blinding concrete, for floor slab, grade C15, of the following thickness</u>				
F511	Thickness not exceeding 150mm	m ³	6		
	<u>Placing Reinforced Concrete</u>				
	<i>Bases, Footings and Ground Slabs</i>				
	<u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u>				
F622	Thickness 150-300mm	m ³	59		
	<i>Suspended Slabs</i>				
	<u>Placing reinforced concrete, grade C25, for suspended slabs of the following thickness</u>				
F632	Thickness 150-300mm	m ³	16		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-14

DESCRIPTION: CHEMICAL HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<i>Walls</i>				
	<u>Placing reinforced concrete, grade C25, for walls of the following thickness</u>				
F642	Thickness 150-300mm	m ³	12		
	<i>Columns</i>				
	<u>Placing reinforced concrete, grade C25, for columns of the following thickness</u>				
F652	Thickness 150-300mm	m ³	4		
	<u>CONCRETE ANCILLARIES</u>				
	<u>Formwork-Fair Finish</u>				
	<i>Fair Finish Plane Horizontal</i>				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G212	Width 0.1 - 0.2m	m ²	30		
G215	Width exceeding 1.22m	m ²	82		
	<i>Fair Finish Plane Sloping</i>				
	<u>Plane fair finish sloping formwork of the following widths</u>				
G222	Width 0.1 - 0.2m	m ²	20		
G223	Width 0.2 - 0.4m	m ²	50		
G224	Width 0.4 - 1.22m	m ²	120		
	<i>Fair Finish Plane Vertical</i>				
	<u>Plane fair finish vertical formwork of the following widths</u>				
G242	Width 0.1 - 0.2m	m ²	26		
G243	Width 0.2 - 0.4m	m ²	177		
G244	Width 0.4 - 1.22m	m ²	124		
G245	Width exceeding 1.22m	m ²	114		
	<u>Reinforcement</u>				
	<i>High Yield Steel</i>				
	<u>Hot rolled high yield ribbed bars of yield strength of 460N/mm² to BS 4449 and of the following sizes</u>				
G524	Nominal size, 6-18mm	t	10		
	<u>Concrete Accessories</u>				
	<i>Finishing of Top Surfaces</i>				
	<u>Finishing of top surfaces by the following methods</u>				
G811	With wood float finish	m ²	125		
	<u>MISCELLANEOUS METAL WORK</u>				
	<u>Handrails</u>				
	<u>Mild steel handrails to BS 1387, galvanised to BS 729, complete, and fixed to the following structures</u>				
N140	Fixed to a reinforced concrete structure	m	15		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-14

DESCRIPTION: CHEMICAL HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>BRICKWORK, BLOCKWORK, AND MASONRY</u>				
	<u>Dense Concrete Blockwork</u>				
	<u>Dense concrete blockwork to BS 7263, jointed with ordinary 1:5 cement mortar, and of the following thicknesses</u>				
U523	200 mm thick	m ²	225		
	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u>				
U583	200 mm thick	m	50		
	<u>PAINTING</u>				
	<u>High Gloss</u>				
	<u>Timber Surfaces</u>				
	<u>External quality high gloss oil paint, two coats, to the following timber surfaces; include surface preparation and undercoat</u>				
V321	Upper surfaces of facia board inclined at an angle not exceeding 30 degrees to the horizontal	m ²	15		
	<u>Smooth Concrete Surfaces</u>				
	<u>External quality high gloss oil paint, two coats, to the following smooth concrete surfaces; include surface preparation as specified</u>				
V333.1	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	136		
	<u>Internal quality high gloss oil paint, two coats, to the following smooth concrete surfaces; include surface preparation as specified</u>				
V333.2	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	216		
	<u>Emulsion Paint</u>				
	<u>Smooth Concrete Surfaces</u>				
	<u>External quality emulsion paint, under coat & two overcoats, to the following smooth concrete surfaces, include surface preparation as specified</u>				
V533.1	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	220		
	<u>Internal quality emulsion paint, under coat & two overcoats, to the following smooth concrete surfaces, include surface preparation as specified</u>				
V533.2	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	102		
V534	Soffit surfaces inclined at an angle not exceeding 30 degrees to the horizontal	m ²	63		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-14

DESCRIPTION: CHEMICAL HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>WATER PROOFING</u>				
	<u>Rendering</u>				
W153	Surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in ordinary cement mortar	m ²	370		
	<u>Flexible Sheeting</u>				
	<u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of blinding concrete or sand blinded hardcore fill</u>				
W421	Surfaces of blinding inclined at an angle not exceeding 30 degrees to the horizontal	m ²	131		
	<u>Protective Layers</u>				
	<u>Sand and Cement Screed</u>				
W441	Surfaces of floors inclined at an angle not exceeding 30 degrees to the horizontal and average thickness of 50 mm	m ²	131		
	<u>MISCELLANEOUS WORKS</u>				
BUS-14.1.1	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board and all roofing timber, gauge 24 prepainted GCI resin sheeting and ridges; the GCI sheet should be resin bonded or with other protection against corrosion by Alum or Soda Ash or Chlorine	m ²	177		
BUS-14.1.2	Supply and fix double leaf hardwood door, size 1.5 m by 2.1 m; complete with three coats of polyurethane varnish on general surfaces of door, door frame, all ironmongery, vanishing and locking arrangements	nr	2		
BUS-14.1.3	Construct reinforced concrete plinths for dosers	nr	12		
BUS-14.1.4	Construct concrete drain channel with granolithic surface finish as in the drawings	m	18		
BUS-14.1.5	Supply and lay glazed ceramic tiling to chemical mixing tanks	m ²	150		
BUS-14.1.6	Supply and fix all fresh water supply pipe work, drains, overflow; include all valves, fittings and fixings	sum	1		
BUS-14.1.7	Supply and fix expanded metal and plastered ceiling nailed to brandering made from sawn treated Cyprus or other similar grade and approved timber in roof structure; complete including 3 coats of emulsion paint as specified	m ²	131		
BUS-14.1.8	Building finishes including, constructing C20 1.0x2.0m store entrance ramps, 20x100mm high 1:3 cement-sand skirting, C20 concrete window cills, 700mm wide C20 concrete splash apron; complete to the specifications and as directed by the Engineer	Sum	1		
BUS-14.1.9	Construct dense concrete pre-cast louvered blockwork vents to BS 7263, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, of size 1.2 m x 1.5 m, as detailed in the drawings	nr	7		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-14

DESCRIPTION: CHEMICAL HOUSE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1 Collection, Page 2 Collection, Page 3 Collection, Page 4 Collection, Page 5</p>				
Carried to Summary					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-15

DESCRIPTION: SEDIMENTATION FILTER WASH WATER STRUCTURE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.8.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p>				
E323	<p>Depth 0.5-1m</p> <p><i>Rock</i></p> <p><u>Excavation for foundations, in rock, commencing surface is the exposed surface of the rock</u></p>	m ³	86		
E333	Depth 0.5-1m	m ³	33		
E334	Depth 1-2m	m ³	24		
	<p><u>Excavation Ancillaries</u></p> <p><i>Trimming</i></p> <p><u>Trimming of excavated surfaces for whole structure in the following materials</u></p>				
E512	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	72		
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	15		
	<p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces for whole structure in the following materials</u></p>				
E522	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	39		
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	153		
	<p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material from site to disposal area as directed by the Engineer</u></p>				
E532	Soil	m ³	94		
E533	Rock	m ³	73		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-15

DESCRIPTION: SEDIMENTATION FILTER WASH WATER STRUCTURE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>IN-SITU CONCRETE</u>				
	<u>Provision of Concrete</u>				
	<i>Ordinary Designed Mix Concrete</i>				
	<i>Grade C15</i>				
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F231	10mm aggregate	m ³	7		
	<i>Grade C25</i>				
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F251	10mm aggregate	m ³	80		
	<u>Placing Mass Concrete</u>				
	<u>Placing blinding concrete, for ground slab, grade C15, of the following thickness</u>				
F611	Thickness not exceeding 150mm	m ³	7		
	<u>Placing plain concrete, for ground slab, grade C25, of the following thickness</u>				
F614	Thickness exceeding 500mm	m ³	29		
	<u>Placing Reinforced Concrete</u>				
	<i>Bases, Footings and Ground Slabs</i>				
	<u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u>				
F622	Thickness 150 - 300mm	m ³	28		
	<i>Suspended Slabs</i>				
	<u>Placing reinforced concrete, grade C25, for suspended slabs of the following thickness</u>				
F632	Thickness 150-300mm	m ³	7		
	<i>Walls</i>				
	<u>Placing reinforced concrete, grade C25, for walls of the following thickness</u>				
F642	Thickness 150 - 300mm	m ³	18		
	<u>CONCRETE ANCILLARIES</u>				
	<u>Formwork-Fair Finish</u>				
	<i>Fair Finish Plane Horizontal</i>				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G215	Width exceeding 1.22m	m ²	30		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-15

DESCRIPTION: SEDIMENTATION FILTER WASH WATER STRUCTURE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
G245	<p><i>Fair Finish Plane Vertical</i></p> <p><u>Plane fair finish vertical formwork of the following width</u> various widths</p>	m ²	158		
G524	<p><u>Reinforcement</u></p> <p><i>Deformed High Yield Steel Bars</i></p> <p><u>High yield square twisted or ribbed bars to BS4449 and of the following sizes</u> Nominal size, 6-16mm</p>	t	28		
G653	<p><u>Joints</u></p> <p><u>Plastic waterstops of PVC to BS 903 of the following width</u> Width 150 - 300mm</p>	m	40		
G812	<p><u>Concrete Accessories</u></p> <p><i>Finishing of Top Surfaces</i></p> <p><u>Finishing of top surfaces by the following methods</u> Class U3 steel trowel finish</p>	m ²	192		
G832	<p><u>Inserts</u></p> <p><u>Pipe inserts projecting from one face of the concrete and of the following sizes, excluding supply of pipe</u> 300 mm ND</p>	nr	2		
I523	<p><u>PIPEWORK-PIPES</u></p> <p><u>Plastic Pipes</u></p> <p><i>Plastic Drain Pipes</i></p> <p><i>uPVC Pipes</i></p> <p><u>uPVC drain pipes, to BS 5481, with flexible joints to BS 4346 or BS 6209, 300 mm DN PN6, laid in trench to the following depths</u> Depth 2-4m</p>	m	60		
J313	<p><u>PIPEWORK - FITTINGS AND VALVES</u></p> <p><u>Cast or Spun Iron Pipe Fittings</u></p> <p><i>Bends</i></p> <p><u>Ductile iron all flanged 90 degrees bends, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u> 300 mm ND</p>	nr	2		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-15

DESCRIPTION: SEDIMENTATION FILTER WASH WATER STRUCTURE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Double Collars				
	<u>Detachable Coupling or similar coupling to PN6 to fit ductile iron to BS 4772 spigots of the following sizes</u>				
J341	300 mm ND	nr	2		
	Flange Adaptors				
	<u>Flange adaptor to fit ductile iron to BS 4772 spigots, flanges to BS 4504, all to PN6 and of the following sizes</u>				
J351	300 mm ND	nr	4		
	Straight Specials				
	<u>Ductile iron spigot pipe with flanged end, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.1	300 mm ND and length not exceeding 2.0 m	nr	2		
	<u>Ductile iron all flanged pipe with puddle flange, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.2	300 mm ND and length not exceeding 3.0 m	nr	1		
	Valves and Penstocks				
	Gate Valves: Hand Operated				
	<u>All flanged CI gate valves to BS 5150, flanges to BS 4505, all to PN6 for operation by hand wheel, for the following sizes; include the supply of extension spindle and hand wheel not exceeding 5m</u>				
J813	DN300	nr	2		
	PIPEWORK - MANHOLES AND PIPE WORK ANCILLARIES				
	Manholes				
	In-situ Concrete Manhole				
	<u>In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include cast iron heavy duty manhole cover, complete, and of the following depths</u>				
K132	Depth 1.5-2m	nr	2		
	PIPEWORK-SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
	Extras to Excavation and Backfilling				
	In Pipe Trenches				
	<u>Extras to excavation in pipe trenches in the following materials</u>				
L111	In rock	m ³	2		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-15

DESCRIPTION: SEDIMENTATION FILTER WASH WATER STRUCTURE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
L521	<p><u>Surrounds</u></p> <p><u>Pipe surrounds, of selected excavated granular material, for the following pipe sizes</u></p> <p>Diameter not exceeding 200 mm ND</p>	m	30		
N130	<p><u>MISCELLANEOUS METAL WORK</u></p> <p><u>Ladders</u></p> <p><u>External galvanised mild steel ladder to BS 4211, galvanised to BS 729, complete, fixed to the following structures</u></p> <p>Fixed to a reinforced concrete structure</p>	m	10		
N140	<p><u>Hand rails</u></p> <p><u>Mild steel handrails to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u></p> <p>Fixed to a reinforced concrete structure</p>	m	80		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-15

DESCRIPTION: SEDIMENTATION FILTER WASH WATER STRUCTURE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1 Collection, Page 2 Collection, Page 3 Collection, Page 4 Collection, Page 5</p>				
Carried to Summary					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-16

DESCRIPTION: SLUDGE DRYNG CHANNEL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.9.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p>				
E323	Depth 0.5-1m	m ³	154		
	<p><i>Rock</i></p> <p><u>Excavation for foundations, in rock, commencing surface is the exposed surface of the rock</u></p>				
E333	Depth 0.5-1m	m ³	42		
E334	Depth 1-2m	m ³	25		
	<p><u>Excavation Ancillaries</u></p> <p><i>Trimming</i></p> <p><u>Trimming of excavated surfaces for whole structure in the following materials</u></p>				
E512	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	83		
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	23		
	<p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces for whole structure in the following materials</u></p>				
E522	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	49		
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	99		
	<p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material from site to disposal area as directed by the Engineer</u></p>				
E532	Soil	m ³	154		
E533	Rock	m ³	67		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-16

DESCRIPTION: SLUDGE DRYNG CHANNEL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>IN-SITU CONCRETE</u>				
	<u>Provision of Concrete</u>				
	<i>Ordinary Designed Mix Concrete</i>				
	<i>Grade C15</i>				
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F231	10mm aggregate	m ³	23		
	<i>Grade C25</i>				
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F251	10mm aggregate	m ³	57		
	<u>Placing Mass Concrete</u>				
	<u>Placing blinding concrete, for ground slab, grade C15, of the following thickness</u>				
F511	Thickness not exceeding 150mm	m ³	23		
	<u>Placing Reinforced Concrete</u>				
	<i>Bases, Footings and Ground Slabs</i>				
	<u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u>				
F622	Thickness 150 - 300mm	m ³	32		
	<i>Walls</i>				
	<u>Placing reinforced concrete, grade C25, for walls of the following thickness</u>				
F642	Thickness 150 - 300mm	m ³	25		
	<u>CONCRETE ANCILLARIES</u>				
	<u>Formwork-Fair Finish</u>				
	<i>Fair Finish Plane Horizontal</i>				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G215	Width exceeding 1.22m	m ²	5		
	<i>Fair Finish Plane Vertical</i>				
	<u>Plane fair finish vertical formwork of the following width</u>				
G245	various widths	m ²	599		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-16

DESCRIPTION: SLUDGE DRYNG CHANNEL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Reinforcement</u>				
	<i>Deformed High Yield Steel Bars</i>				
	<u>High yield square twisted or ribbed bars to BS4449 and of the following sizes</u>				
G524	Nominal size, 6-16mm	t	18		
	<u>Concrete Accessories</u>				
	<i>Finishing of Top Surfaces</i>				
	<u>Finishing of top surfaces by the following methods</u>				
G812	Class U3 steel trowel finish	m ²	192		
	<i>Inserts</i>				
	<u>Pipe inserts projecting from one face of the concrete and of the following sizes, excluding supply of pipe</u>				
G832.1	300 mm ND	nr	2		
	<u>Pipe inserts projecting from two faces of the concrete and of the following sizes, excluding supply of pipe</u>				
G832.2	300 mm ND	nr	2		
	<u>PIPEWORK-PIPES</u>				
	<u>Plastic Pipes</u>				
	<i>Plastic Drain Pipes</i>				
	<i>uPVC Pipes</i>				
	<u>uPVC drain pipes, to BS 5481, with flexible joints to BS 4346 or BS 6209, 300 mm DN PN6, laid in trench to the following depths</u>				
I521	Depth not exceeding 1.5m	m	30		
	<u>PIPEWORK - FITTINGS AND VALVES</u>				
	<u>Cast or Spun Iron Pipe Fittings</u>				
	<i>Double Collars</i>				
	<u>Detachable Coupling or similar coupling to PN6 to fit ductile iron to BS 4772 spigots of the following sizes</u>				
J341	300 mm ND	nr	2		
	<i>Flange Adaptors</i>				
	<u>Flange adaptor to fit ductile iron to BS 4772 spigots, flanges to BS 4504, all to PN6 and of the following sizes</u>				
J351	300 mm ND	nr	2		
	<i>Straight Specials</i>				
	<u>Ductile iron spigot pipe with flanged end, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u>				
J382.1	300 mm ND and length not exceeding 2.0 m	nr	2		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-16

DESCRIPTION: SLUDGE DRYNG CHANNEL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
J382.2	<p><u>Ductile iron all flanged pipe with puddle flange, to BS 4772, flanges to BS 4504, all to PN6, cement mortar lined, and of the following sizes</u></p> <p>300 mm ND and length not exceeding 3.0 m</p> <p><u>Valves and Penstocks</u></p> <p><i>Gate Valves: Hand Operated</i></p> <p><u>All flanged CI gate valves to BS 5150, flanges to BS 4505, all to PN6 for operation by hand wheel, for the following sizes; include the supply of extension spindle and hand wheel not exceeding 5m</u></p>	nr	1		
J813	<p>DN300</p> <p><i>Penstocks</i></p> <p><u>Channel mounted CI Penstocks for circular wall opening; include supply and installation of head stock and distance spindle, and trapezoidal galvanised steel dispersion plate as specified in drawings, of the following size</u></p>	nr	2		
J881	<p>300 mm ND with extended distance spindle length not exceeding 2m</p> <p><u>PIPEWORK - MANHOLES AND PIPE WORK ANCILLARIES</u></p> <p><u>Manholes</u></p> <p><i>In-situ Concrete Manhole</i></p> <p><u>In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include cast iron heavy duty manhole cover, complete, and of the following depths</u></p>	nr	2		
K132	<p>Depth 1.5-2m</p> <p><u>PIPEWORK-SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u></p> <p><u>Extras to Excavation and Backfilling</u></p> <p><i>In Pipe Trenches</i></p> <p><u>Extras to excavation in pipe trenches in the following materials</u></p>	nr	2		
L111	<p>In rock</p> <p><u>Surrounds</u></p> <p><u>Pipe surrounds, of selected excavated granular material, for the following pipe sizes</u></p>	m ³	67		
L521	<p>Diameter not exceeding 200 mm ND</p>	m	30		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-16

DESCRIPTION: SLUDGE DRYNG CHANNEL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>MISCELLANEOUS METAL WORK</u>				
	<u>Open Duct Flooring</u>				
	<u>Mild steel open duct flooring to BS 4592, galvanised to BS 729, 6 mm thick, complete with frames and supports, fixed into a steel structure, and of the following widths</u>				
N170	Width 1.2m	m ²	18		
	<u>Step Irons</u>				
N190	Supply and fix internal galvanised steel step-irons, with separation distance 350mm, fixed into a reinforced concrete structure	nr	10		
	<u>MISCELLANEOUS WORKS</u>				
	<u>Baffle Boards</u>				
BUS-16.1.1	Supply and complete installation of baffle boards of, size 3.0m by 1.6m into concrete structure as seen in drawing.	nr	6		
	<u>Access Manhole Cover</u>				
BUS-16.1.2	Supply and complete installation of access manhole cover and frame, size 1.0m by 1.0m clear opening; include fixing and locking arrangement	nr	2		
Carried to Collection					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-16

DESCRIPTION: SLUDGE DRYNG CHANNEL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1 Collection, Page 2 Collection, Page 3 Collection, Page 4 Collection, Page 5</p>				
Carried to Summary					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-17

DESCRIPTION: SLUDGE DRYNG BUFFER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.10.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations, in material other than topsoil, rock or artificial hard material, commencing surface is the stripped ground level</u></p>				
E323	Depth 0.5-1m	m ³	328		-
	<p><i>Rock</i></p> <p><u>Excavation for foundations, in rock, commencing surface is the exposed surface of the rock</u></p>				-
E333	Depth 0.5-1m	m ³	49		-
E334	Depth 1-2m	m ³	42		-
	<p><u>Excavation Ancillaries</u></p> <p><i>Trimming</i></p> <p><u>Trimming of excavated surfaces for whole structure in the following materials</u></p>				-
E512	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	63		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	76		-
	<p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces for whole structure in the following materials</u></p>				-
E522	Material other than topsoil, rock, or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	85		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	123		-
	<p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material from site to disposal area as directed by the Engineer</u></p>				-
E532	Soil	m ³	328		-
E533	Rock	m ³	91		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-17

DESCRIPTION: SLUDGE DRYNG BUFFER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>IN-SITU CONCRETE</u>				
	<u>Provision of Concrete</u>				
	<i>Ordinary Designed Mix Concrete</i>				
	<i>Grade C15</i>				
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F231	10mm aggregate	m ³	7		-
	<i>Grade C25</i>				
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary Portland cement to BS 12, aggregate to BS 882, for the following aggregate sizes</u>				
F251	10mm aggregate	m ³	93		-
	<u>Placing Mass Concrete</u>				
	<u>Placing blinding concrete, for ground slab, grade C15, of the following thickness</u>				
F611	Thickness not exceeding 150mm	m ³	7		-
	<u>Placing plain concrete, for ground slab, grade C25, of the following thickness</u>				
F614	Thickness exceeding 500mm	m ³	28		-
	<u>Placing Reinforced Concrete</u>				
	<i>Bases, Footings and Ground Slabs</i>				
	<u>Placing reinforced concrete, grade C25, for ground slab of the following thickness</u>				
F622	Thickness 150 - 300mm	m ³	27		-
	<i>Suspended Slabs</i>				
	<u>Placing reinforced concrete, grade C25, for suspended slabs of the following thickness</u>				
F632	Thickness 150-300mm	m ³	6		-
	<i>Walls</i>				
	<u>Placing reinforced concrete, grade C25, for walls of the following thickness</u>				
F642	Thickness 150 - 300mm	m ³	32		-
	<u>CONCRETE ANCILLARIES</u>				
	<u>Formwork-Fair Finish</u>				
	<i>Fair Finish Plane Horizontal</i>				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G215	Width exceeding 1.22m	m ²	33		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-17

DESCRIPTION: SLUDGE DRYNG BUFFER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
G245	<p><i>Fair Finish Plane Vertical</i></p> <p><u>Plane fair finish vertical formwork of the following width</u> various widths</p>	m ²	300		
G524	<p><u>Reinforcement</u></p> <p><i>Deformed High Yield Steel Bars</i></p> <p><u>High yield square twisted or ribbed bars to BS4449 and of the following sizes</u> Nominal size, 6-16mm</p>	t	11		
G812	<p><u>Concrete Accessories</u></p> <p><i>Finishing of Top Surfaces</i></p> <p><u>Finishing of top surfaces by the following methods</u> Class U3 steel trowel finish</p>	m ²	400		
N130	<p><u>MISCELLANEOUS METAL WORK</u></p> <p><u>Ladders</u></p> <p><u>External galvanised mild steel ladder to BS 4211, galvanised to BS 729, complete, fixed to the following structures</u> Fixed to a reinforced concrete structure</p>	m	4		
N140	<p><u>Hand rails</u></p> <p><u>Mild steel handrails to BS 4211, galvanised to BS 729, complete, and fixed to the following structures</u> Fixed to a reinforced concrete structure</p>	m	80		
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-17

DESCRIPTION: SLUDGE DRYNG BUFFER

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>COLLECTION</p> <p>Collection, Page 1</p> <p>Collection, Page 2</p> <p>Collection, Page 3</p>				- - -
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-18

DESCRIPTION: OFFICE AND WORKSHOP

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/1.11.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>Excavation for foundations</u></p> <p><i>Ordinary Soil</i></p> <p><u>Excavation for foundations in material other than topsoil,rock or artificial hard material,commencing surface is the formation level</u></p>				
E323	Depth 0.5-1m	m ³	88		-
E324	Depth 1-2m	m ³	70		-
	<p><i>Rock</i></p> <p><u>Excavation for foundations in rock,commencing surface is the exposed surface of the rock</u></p>				-
E333	Depth 0.5-1m	m ³	7		-
	<p><u>Excavation Ancillaries</u></p> <p><i>Trimming</i></p> <p><u>Trimming of excavated surfaces for whole structure in the following materials</u></p>				-
E512	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	26		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	9		-
	<p><i>Preparation</i></p> <p><u>Preparation of excavated surfaces for whole structure in the following materials</u></p>				-
E522	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	90		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	14		-
	<p><i>Disposal of Excavated Material</i></p> <p><u>Disposal of excavated material to water front fill sites as shown in the site layout and as specified and as directed by the Engineer</u></p>				-
E532	Material other than topsoil,rock,or artificial hard material	m ³	182		-
E533	Rock	m ³	15		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-18

DESCRIPTION: OFFICE AND WORKSHOP

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Filling Ancillaries</u>				
	<i>Filling</i>				
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				
E614.1	Selected excavated material other than topsoil, rock or artificial hard material	m ³	29		-
E617	Imported rock of size and grading as specified; include sand blinding on top	m ³	27		-
	<u>IN-SITU CONCRETE</u>				
	<u>Provision of Concrete</u>				
	<i>Ordinary Designed Mix Concrete</i>				
	<i>Grade C15</i>				
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for the following aggregate sizes</u>				
F231	10mm aggregate	m ³	5		-
	<i>Grade C25</i>				
	<u>Designed mix, grade C25 concrete, to BS 5328, with ordinary portland cement to BS 12 , aggregate to BS882 , for the following aggregate sizes</u>				
F251	10mm aggregate	m ³	46		-
	<u>Placing Mass Concrete</u>				
	<i>Blinding</i>				
	<u>Placing blinding concrete, for ground slab, grade C15, of the following thickness</u>				
F511	Thickness not exceeding 150mm	m ³	5		-
	<i>Bases, Footings and Ground Slabs</i>				
	<u>Placing mass concrete C25, for floor slabs, pump plinth and ramp base of the following thickness</u>				
F522	Thickness 150-300mm	m ³	41		-
	<u>Placing Reinforced Concrete</u>				
	<i>Beams</i>				
	<u>Placing reinforced concrete, grade C25, for ring beam of the following cross-sectional area</u>				
F662	Cross-sectional area 0.03 - 0.1 m ²	m ³	5		-
	<u>CONCRETE ANCILLARIES</u>				
	<u>Formwork-Fair Finish</u>				
	<i>Fair Finish Plane Horizontal</i>				
	<u>Plane fair finish horizontal formwork of the following width</u>				
G213	Width: 0.2-0.4m	m ²	9		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-18

DESCRIPTION: OFFICE AND WORKSHOP

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<i>Fair Finish Plane Vertical</i>				
	<u>Plane fair finish vertical formwork of the following width</u>				
G242	Width: 0.1-0.2m	m ²	17		-
G243	Width: 0.2-0.4m	m ²	21		-
	<u>Reinforcement</u>				-
	<u>Deformed High Yield Steel</u>				-
	<u>High yield square twisted bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 6-16mm	t	1		-
	<u>Steel Fabric</u>				-
	<u>Steel fabric reinforcement to BS4483, fabric reference A252, and of the following mass</u>				-
G563	Nominal mass 3-4 kg/m ²	m ²	140		-
	<u>Concrete Accessories</u>				-
	<u>Finishing of top surfaces</u>				-
	<u>Finishing of top surfaces by the following methods</u>				-
G812	Class U3 steel trowel finish	m ²	46		-
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				-
	<u>Dense Concrete Blockwork</u>				-
	<u>Dense concrete blockwork to BS 7263, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U523	230 mm thick	m ²	249		-
	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u>				-
U582	230 mm thick	m	60		-
	<u>PAINTING</u>				-
	<u>High Gloss</u>				-
	<u>Timber Surfaces</u>				-
	<u>External quality high gloss oil paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>				-
V321	Upper surfaces of facia board inclined at an angle not exceeding 30 degrees to the horizontal	m ²	21		-
	<u>Masonry</u>				-
	<u>External quality high gloss oil paint, two coats, to the following smooth masonry surfaces; include surface preparation and undercoat as specified</u>				-
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	249		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-18

DESCRIPTION: OFFICE AND WORKSHOP

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Emulsion Paint				
	Masonry				
	<u>Internal quality emulsion paint, two coats, to the following smooth masonry surfaces, include surface preparation and undercoat as specified</u>				
V553	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	254		-
	WATER PROOFING				-
	Damp Proofing				-
	Rendering				-
W153	Surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in ordinary cement mortar	m ²	249		-
	Protective Layers				-
	Flexible Sheeting				-
	<u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of sand blinded hardcore fill</u>				-
W421	Surfaces of blinding hardcore inclined at an angle not exceeding 30 degrees to the horizontal	m ²	140		-
	Sand and Cement Screed				-
	<u>Sand and cement screed of 1:3 cement sand mortar, applied to concrete floors, 25 mm thick, prepared and applied as specified, and finished with a steel float</u>				-
W441	Surfaces of floors inclined at an angle not exceeding 30 degrees to the horizontal	m ²	140		-
	MISCELLANEOUS WORKS				-
	Doors				-
	<u>Supply and fix approved solid hardwood with three coats of polyurethane varnish on general surfaces of door as described: 50mm two panel framed door comprising 50 x 100mm stiles, top, middle and bottom rails all grooved and with both panels filled with 30 x 100mm vertical tongued and grooved battens with rubber door stops, all ironmongery and locking arrangements of the following sizes</u>				-
BUS-18.1.1	1200mm x 2300mm (W x H including 200mm pvo)	nr	2		-
BUS-18.1.2	900mm x 2300mm (W x H including 200mm pvo)	nr	4		-
	Windows				-
	<u>Supply and Install steel casements windows, include frame, glass, all ironmongery and locking arrangements as detailed in the drawings of the following sizes</u>				-
BUS-18.1.3	1550mm x 1200mm (W x H)	nr	6		-
BUS-18.1.4	1050mm x 1200mm (W x H)	nr	4		-
BUS-18.1.5	550mm x 950mm (W x H)	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-18

DESCRIPTION: OFFICE AND WORKSHOP

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Roofing</u>				
BUS-18.1.6	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board and all roofing timber, gauge 24 prepainted GCI resin sheeting and ridges; the GCI sheet should be resin bonded or with other protection against corrosion by Alum or Soda Ash or Chlorine	m ²	200		-
BUS-18.1.7	Supply and fix expanded metal and plastered ceiling nailed to branding made from sawn treated Cyprus or other similar grade and approved timber in roof structure; complete including 3 coats of emulsion paint as specified	m ²	140		-
	<u>Plumbing and Drainage</u>				
BUS-18.1.8	Supply, lay and fix 20mm PE, PN6 pipe complete with spigot and socket joints from mains to cisterns and taps.	m	30		-
BUS-18.1.9	Supply, lay and fix 50mm uPVC pipe, PN6 pipe complete with spigot and socket joints from Wash tap to Soak Pit to BS 4660	m	30		-
BUS-18.1.10	Supply and Install Laboratory sink single bowl single drain stainless steel; include 600mm wide tiled worktop, all plumbing works and accessories to make functional	nr	1		-
BUS-18.1.11	Supply and Install 100mm uPVC nominal bore soil drains complete with spigot, socket joints and 20mm water seal in uPVC pipes to BS 4514	m	30		-
BUS-18.1.12	Supply and install floor trap with domical removable cast iron grating	nr	2		-
BUS-18.1.13	Supply and Install Vitreous China WC as Twyford Classic bowl with P outlet 9 litre cistern with valve fittings and seat and cover, complete with valve cistern fittings, including outlet and inlet valves, internal overflow, connecting fitments from cistern to bowl and all ac	nr	1		-
BUS-18.1.14	Supply and install wash hand basin in Vitreous China approximately 560 x 405mm with one tap hole and chain-stay hole, complete with Amazon mixer pillar tap, Chrome plated chain waste, plastic bottle trap, pedestal and all accessories as TWYFORDS CLASSIC 560 or equal approve	nr	1		-
BUS-18.1.15	Excavate and construct standard manholes in 200mm thick blockwork, depth not exceeding 1.0m, bonded in CM (1:5) and rendered internally with C.M (1:4), concrete benching, complete with and including CI frame and cover.	nr	4		-
	<u>Building Finishes</u>				
BUS-18.1.16	Office-Workshop finishes including, constructing 20x100mm high 1:3 cement-sand skirting, C20 concrete window cills, 700mm wide C20 concrete splash apron, etc complete to the specifications and as directed by the Engineer	sum	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS W-18

DESCRIPTION: OFFICE AND WORKSHOP

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Supply, Install, connect and set to work the following complete.				
1	Raw Water Pumps				
	Motor Control Centre				
A	320A TPN MCCB 6way free-standing Motor Control Centre (MCC1), with 320A TPN MCCB incomer/main switch, complete with 4Nox125A, 1Nox63A and 1Nox32A TPN MCCBs, 4No Electronic Soft Starters for 33KW motors, selector circuit for duty pumps, Digital Universal meter, with Over-voltage/under-voltage and phase failure protection and surge protection, motor protection (HIGH/LOW Pressure and Dry running), all to IP66 protection and all accessories as made by L & T or equal approved.	No	1		-
	Cables for Pumps				
B	Cabling from MCC1 to RWP1 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	18		-
C	Control cables from MCC1 for RWP1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	18		-
D	Cabling from MCC1 to RWP2 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	18		-
E	Control cables from MCC1 for RWP2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	18		-
F	Cabling from MCC1 to RWP3 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	18		-
G	Control cables from MCC1 for RWP3 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	18		-
H	Cabling from MCC1 to RWP4 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	18		-
I	Control cables from MCC1 for RWP4 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	18		-
J	Galvanised Steel cable trays 300x50mm complete.	m	12		-
L	Emergency stop on stunchion next to pumps complete with cabling to MCC and all accessories.	No	4		-
Total for Raw Water works Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
2	Treated Water Pumps				
	Motor Control Centre				
A	200A TPN MCCB 12way free-standing Motor Control Centre, with 200A TPN MCCB incomer/main switch, complete with 6Nox63A, 6Nox32A TPN MCCBs, 6No Electronic Soft Starters for 5KW motors, selector circuit for duty pumps, 4No Electronic Soft Starters for 3.0KW motors, selector circuit for duty pumps, Digital Universal meter, with Over-voltage/under-voltage and phase failure protection and surge protection, motor protection (HIGH/LOW Pressure and Dry running), to IP55 complete with all accessories as made by L&T or equal approved.	No	1		-
	Cables for Pumps				
B	Cabling from MCC5 to Pump 1 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
C	Control cables from MCC5 for Pump 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
D	Cabling from MCC5 to Pump 2 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
E	Control cables from MCC5 for Pump 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	20		-
F	Cabling from MCC5 to Pump 3 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	16		-
G	Control cables from MCC5 for Pump 3 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	16		-
H	Cabling from MCC5 to Pump 4 by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	12		-
I	Control cables from MCC5 for Pump 4 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	12		-
J	Cabling from MCC5 to Consumer Unit - Ground by 3corex16mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
K	Control cables from MCC5 to Consumer Unit - Ground in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	20		-
M	Cabling from MCC5 to Consumer Unit - First by 3corex16mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
N	Control cables from MCC5 to Consumer Unit - First in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
O	Cabling from MCC5 to Electric Crane by 4corex25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
P	Control cables from MCC5 for Electric Crane in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	20		-

Carried to Collection

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
Q	Galvanised Steel cable trays 300x50mm complete.	m	60		-
R	Emergency stop on stunchion next to pumps complete with cabling to MCC2 and all accesspories.	No	4		-
S	Level sensors in Clear Water Tank complete with protection and control cables to MCC2.	set	4		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Backwash Pumps				
A	320A TPN MCCB 4way free-standing Motor Control Centre (MCC3), with 320A TPN MCCB incomer/main switch, complete with 2Nox160A and 2Nox63A TPN MCCBs, 2No Electronic Soft Starters for 55KW motors, selector circuit for duty pumps, Digital Universal meter, with Over-voltage/under-voltage and phase failure protection and surge protection, motor protection (HIGH/LOW Pressure and Dry running), all to IP55 protection and all accessories as made by L & T or equal approved.	No	1		-
B	Cabling from MCC3 to Backwash Water Pump 1 by 4corex25mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	32		-
C	Control cables from MCC3 to Backwash Water Pump 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	32		-
D	Cabling from MCC3 to Backwash Water Pump 2 by 4corex25mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	36		-
E	Control cables from MCC3 to Backwash Water Pump 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	36		-
F	Cabling from MCC3 to Consumer's Unit by 3corex16mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	30		-
G	Control cables from MCC3 to Consumer's Unit in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	30		-
H	Emergency stop on stunchion next to pumps complete with cabling to MCC3 and all accesspories.	No	2		-
I	Level sensors in Clear Water Tank complete with protection and control cables to MCC3.	set	2		-
J	Lighting points wired by 3 x 2.5mm ² SC PVC copper cables in 25mm heavy gauge PVC conduit surface/concealed conduit with drops concealed in walls to switch positions complete with MK steel boxes complete with all accessories.	No	16		-
K	Socket outlet points wired by 3 x 2.5mm ² SC PVC copper cables in 25mm heavy gauge steel surface conduit complete with all accessories including boxes.	No	6		-
L	Economic high performance maintained surface 3hour Emergency EXIT sign suitable for double sided viewing, for LED lamp to IP65 protection, as PIERLITE WELED2VM24 or equal approved. Light Type EXIT)	No.	2		-
M	Cast aluminium bulkhead with 70W HPS lamp and polycarbonate bowl retained by tamper resistant fixings to IP44 as Pierlite or equal approved (Light Type S)	No.	4		-
N	T5 1x28W, 1200mm, surface fluorescent luminaire for 28W T5 linear fluorescent lamps weather proof and corrosion resistant, with electronic control gear, as PIERLITE 1x28W T5 or equal approved. (Light Type F1)	No.	10		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	T5 1x28W,1200mm, surface fluorescent luminaire for 28W T5 linear fluorescent lamps weather proof and corrosion resistant, with electronic control gear, as PIERLITE 1x28W T5 or equal approved. (Light Type F1)	No.	10		-
B	100A 8 way TPN MCB wall mounted recessed Distribution Board, complete with integral isolator, MCBs, RCBs for sockets, and all accessories, as L & T or equal approved.	No	1		-
C	13A 2gang 3pin metal clad switched socket outlets complete with all accessories.	No	6		-
D	6A 2gang metal clad wall switch for lights complete with all accessories.	No	2		-
	Earthing and Lightning Protection				-
E	Copper tape of hard drawn high conductivity copper 3mm x 25mm cross section for horizontal and down conductors complete with fixing clips and all accessories as by FURSE or equal.	M	50		-
F	Air terminals 20x3500mm complete with tape adapters, spikes and all accessories by FURSE or equal.	No.	2		-
G	Test clamp complete as by FURSE or equal.	No.	2		-
H	Earth Electrodes 20x3000mm made from hard drawn copper or copper weld complete with cap, earth clamp, manhole and all accessories as made by FURSE or equal.	No.	8		-
I	General Earthing by 70mm ² stranded bare copper cable complete with all accessories.	M	60		-
	BUILDER'S WORK				-
J	Allow for builder's work for all above electrical installation including making good, bracings, fixings, protection, making holes, making good and all accessories.	LS	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Air Scour Blowers				
A	320A TPN MCCB 4way free-standing Motor Control Centre (MCC4), with 320A TPN MCCB incomer/main switch, complete with 2Nox160A, 2Nox63A TPN MCCBs, 2No Electronic Soft Starters for 55KW motors, selector circuit for duty pumps, Digital Universal meter, with Over-voltage/under-voltage and phase failure protection and surge protection, motor protection (HIGH/LOW Pressure and Dry running), to IP55 complete with all accessories as made by L&T or equal approved.	No	1		-
B	Cabling from MCC4 to Air Scour Blower 1 by 4corex25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
C	Control Cabling from MCC4 to Air Scour Blower 1 in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
D	Cabling from MCC4 to Air Scour Blower 2 by 4corex25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
E	Control Cabling from MCC4 to Air Scour Blower 2 in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
F	Cabling from MCC4 to Consumer's Unit by 3corex16mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
G	Control Cabling from MCC4 to Consumer's Unit in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
H	Emergency stop on stunchion next to pumps complete with cabling to MCC and all accesspories.	No	2		-
					-
					-
					-
					-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Collection</p> <p>Brought forward from Page 2</p> <p>Brought forward from Page 3</p> <p>Brought forward from Page 4</p> <p>Brought forward from Page 5</p> <p>Brought forward from Page 6</p>				- - - - -
Total for Treated Water Works Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
3	Clarifiers				
A	500A TPN MCCB 6way free-standing Motor Control Centre, with 500A TPN MCCB incomer/main switch, complete with 3Nox200A, 2Nox100A and 1Nox63A TPN MCCBs, 3No Electronic Soft Starters for 75KW motors, selector circuit for duty pumps, 2No Electronic Soft Starters for 18.5KW motors, Digital Universal meter, with Over-voltage/under-voltage and phase failure protection and surge protection, motor protection (HIGH/LOW Pressure and Dry running), all to IP55 protection and all accessories as made by L & T or equal approved.	No	1		-
B	Cabling from MCC2 to Stirrer 1 by 4 core x 25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
C	Control cables from MCC2 for Stirrer 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
D	Cabling from MCC2 to Stirrer 2 by 4 core x 25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
E	Control cables from MCC2 for Stirrer 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
F	Cabling from MCC2 to P1 by 4 core x 25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	16		-
G	Control cables from MCC2 for P1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	16		-
H	Cabling from MCC2 to P2 by 4 core x 25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
I	Control cables from MCC2 for P2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	20		-
J	Cabling from MCC2 to P3 by 4corex 25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	24		-
K	Control cables from MCC2 for P3 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	24		-
L	Cabling from MCC2 to P4 by 4corex 25mm ² SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	28		-
M	Control cables from MCC2 for P4 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	28		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	Cabling from MCC2 to P5 by 4corex6mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	24		-
B	Control cables from MCC2 for P5 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	24		-
C	Cabling from MCC2 to P6 by 4corex6mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	28		-
D	Control cables from MCC2 for P6 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	28		-
E	Cabling from MCC2 to P7 by 4corex6mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	24		-
F	Control cables from MCC2 for P7 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	24		-
G	Cabling from MCC2 to P8 by 4corex6mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	28		-
H	Control cables from MCC2 for P8 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	28		-
I	Cabling from MCC2 to FILTER by 4corex16mm2 SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	40		-
J	Control cables from MCC2 for FILTER in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	40		-
K	Galvanised Steel cable trays 300x50mm complete.	m	60		-
L	Emergency stop on stunchion next to pumps complete with cabling to MCC and all accessories.	No	4		-
M	Level sensors in Clear Water Tank complete with protection and control cables to MCC.	set	4		-
N	Lighting points wired by 3 x 2.5mm ² SC PVC copper cables in 25mm heavy gauge PVC conduit surface/concealed conduit with drops concealed in walls to switch positions complete with MK steel boxes complete with all accessories.	No	16		-
O	Socket outlet points wired by 3 x 2.5mm ² SC PVC copper cables in 25mm heavy gauge steel surface conduit complete with all accessories including boxes.	No	6		-
P	Economic high performance maintained surface 3hour Emergency EXIT sign suitable for double sided viewing, for LED lamp to IP65 protection, as PIERLITE WELED2VM24 or equal approved. (Light Type EXIT)	No.	2		-
Q	Cast aluminium bulkhead with 70W HPS lamp and polycarbonate bowl retained by tamper resistant fixings to IP44 as Pierlite or equal approved (Light Type S)	No.	4		-
R	T5 1x28W, 1200mm, surface fluorescent luminaire for 28W T5 linear fluorescent lamps weather proof and corrosion resistant, with electronic control gear, as PIERLITE 1x28W T5 or equal approved. (Light Type F1)	No.	10		-
S	100A 8 way TPN MCB wall mounted recessed Distribution Board, complete with integral isolator, MCBs, RCBs for sockets, and all accessories, as L & T or equal approved.	No	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	13A 2gang 3pin metal clad switched socket outlets complete with all accessories.	No	6		-
B	6A 2gang metal clad wall switch for lights complete with all accessories.	No	2		-
	Earthing and Lightning Protection				-
C	Copper tape of hard drawn high conductivity copper 3mm x 25mm cross section for horizontal and down conductors complete with fixing clips and all accessories as by FURSE or equal.	M	50		-
D	Air terminals 20x3500mm complete with tape adapters, spikes and all accessories by FURSE or equal.	No.	2		-
E	Test clamp complete as by FURSE or equal.	No.	2		-
F	Earth Electrodes 20x3000mm made from hard drawn copper or copper weld complete with cap, earth clamp, manhole and all accessories as made by FURSE or equal.	No.	8		-
G	General Earthing by 70mm ² stranded bare copper cable complete with all accessories.	M	60		-
	BUILDER'S WORK				-
H	Allow for builder's work for all above electrical installation including making good, bracings, fixings, protection, making holes, making good and all accessories.	LS	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Collection</p> <p>Brought forward from Page 8</p> <p>Brought forward from Page 9</p> <p>Brought forward from Page 10</p>				- - -
Total for Clarifiers Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
4	Chemical House				
	Motor Control Centre for Pumps				
A	160A TPN MCCB 12way free-standing Motor Control Centre (MCC7), with 200A TPN MCCB incomer/main switch, complete with 1Nox100A, 1Nox63A, 10Nox32A TPN MCCBs, 10No Electronic Soft Starters for 3KW motors, 6 selector circuit for duty pumps, complete with all accessories as made by L&T or equal approved. To IP 55. (For Stirrers). (All items must be chemical resistant).	No	1		-
	Cables for Pumps				-
B	Cabling from MCC7 to Polyelectrolyte Dosing Pump 1 by 4corex25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
C	Control cables from MCC7 to Polyelectrolyte Dosing Pump 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
D	Cabling from MCC7 to Polyelectrolyte Dosing Pump 2 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
E	Control cables from MCC7 to Polyelectrolyte Dosing Pump 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
F	Cabling from MCC7 to Soda Ash Dosing Pump 1 by 4corex25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
G	Control cables from MCC7 to Soda Ash Dosing Pump 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
H	Cabling from MCC7 to Soda Ash Dosing Pump 2 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
I	Control cables from MCC7 to Soda Ash Dosing Pump 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
J	Cabling from MCC7 to Alum Dosing Pump 1 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
K	Control cables from MCC7 to Alum Dosing Pump 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	Cabling from MCC7 to Alum Dosing Pump 2 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
B	Control cables from MCC7 to Alum Dosing Pump 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
C	Cabling from MCC7 to Pre-Chlorination Dosing Pump 1 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
D	Control cables from MCC7 to Pre-Chlorination Dosing Pump 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
E	Cabling from MCC7 to Pre-Chlorination Dosing Pump 2 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
F	Control cables from MCC7 for Pre-Chlorination Dosing Pump 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
G	Cabling from MCC7 to Chlorination Dosing Pump 1 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
H	Control cables from MCC7 to Chlorination Dosing Pump 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
I	Cabling from MCC7 to Chlorination Dosing Pump 2 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
J	Control cables from MCC7 for Chlorination Dosing Pump 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
K	Cabling from MCC7 to Consumer Unit by 3 core x 16mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
	Motor Control Centre for Stirrers				-
K	100A TPN MCCB 12way free-standing Motor Control Centre (MCC6), with 100A TPN MCCB incomer/main switch, complete with 12Nox32A TPN MCCBs, 10No Electronic Soft Starters for 3KW motors, 6 selector circuit for duty pumps, complete with all accessories as made by L&T or equal approved. To IP 55.(For dosing pumps). (All items must be chemical resistant).	No	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	Cabling from MCC6 to Stirrer 1 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
B	Control cables from MCC6 for Stirrer 1 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
C	Cabling from MCC6 to Stirrer 2 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
D	Control cables from MCC6 for Stirrer 2 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
E	Cabling from MCC6 to Stirrer 3 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
F	Control cables from MCC6 for Stirrer 3 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
G	Cabling from MCC6 to Stirrer 4 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
H	Control cables from MCC6 for Stirrer 4 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
I	Cabling from MCC6 to Stirrer 5 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
J	Control cables from MCC6 for Stirrer 5 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
K	Cabling from MCC6 to Stirrer 6 by 4 core x 25mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
L	Control cables from MCC6 for Stirrer 6 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
M	Cabling from MCC6 to Stirrer 7 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	Control cables from MCC6 for Stirrer 7 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
B	Cabling from MCC6 to Stirrer 8 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
C	Control cables from MCC6 for Stirrer 8 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
D	Cabling from MCC6 to Stirrer 9 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
E	Control cables from MCC6 for Stirrer 9 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
F	Cabling from MCC6 to Stirrer 10 by 4 core x 6mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
G	Control cables from MCC6 for Stirrer 10 in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
H	Cabling from MCC6 to Lime discharge screw conveyor by 4corex16mm ² PVC/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	25		-
I	Control cables from MCC6 to Lime discharge screw conveyor in PVC duct/Cable trays/surface complete with terminations, clipping and all accessories.	m	25		-
J	Emergency stop on stunchion next to stirrers complete with cabling to MCC7 and all accesspories.	No	10		-
K	Lighting points wired by 3 x 2.5mm ² SC PVC copper cables in 25mm heavy gauge PVC conduit surface/concealed conduit with drops concealed in walls to switch positions complete with MK steel boxes complete with all accessories.	No	22		-
L	Socket outlet points wired by 3 x 2.5mm ² SC PVC copper cables in 25mm heavy gauge steel surface conduit complete with all accessories including boxes.	No	12		-
M	Economic high performance maintained surface 3hour Emergency EXIT sign suitable for double sided viewing, for LED lamp to IP65 protection, as PIERLITE WELED2VM24 or equal approved. Light Type EXIT)	No.	1		-
N	Cast aluminium bulkhead with 70W HPS lamp and polycarbonate bowl retained by tamper resistant fixings to IP44 as Pierlite or equal approved (Light Type S)	No.	4		-
O	T5 1x28W,1200mm, surface fluorescent luminaire for 28W T5 linear fluorescent lamps weather proof and corrosion resistant, with electronic control gear, as PIERLITE 1x28W T5 or equal approved. (Light Type F1)	No.	18		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	100A 8 way SPN MCB wall mounted recessed Consumer's Unit, complete with integral isolator, MCBs, RCBs for sockets, and all accessories, as L & T or equal approved.	No	3		-
B	13A 2gang 3pin metal clad switched socket outlets complete with all accessories.	No	12		-
C	6A 2gang metal clad wall switch for lights complete with all accessories.	No	6		-
	Earthing and Lightning Protection				-
D	Copper tape of hard drawn high conductivity copper 3mm x 25mm cross section for horizontal and down conductors complete with fixing clips and all accessories as by FURSE or equal.	M	50		-
E	Air terminals 20x3500mm complete with tape adapters, spikes and all accessories by FURSE or equal.	No.	2		-
F	Test clamp complete as by FURSE or equal.	No.	2		-
G	Earth Electrodes 20x3000mm made from hard drawn copper or copper weld complete with cap, earth clamp, manhole and all accessories as made by FURSE or equal.	No.	8		-
H	General Earthing by 70mm ² stranded bare copper cable complete with all accessories.	M	60		-
I	300x50mm perforated galvanised steel trays complete with hanging and all accessories.	M	120		-
	Voltage Stabiliser				-
N	60KVA Electronic stabilizer rated at 400V, 50Hz 3 phase, input voltage +/-25%, output voltage +/-5%, complete with input, output isolators and bypass switch and all accessories as made by Orteo of Italy or equal approved to IP 55.	No.	1		-
	BUILDER'S WORK				-
O	Allow for builder's work for all above electrical installation including making good, bracings, fixings, protection, making holes, making good and all accessories.	LS	1		-
Carried to Collection					-
	Collection				-
	Brought forward from Page 12				-
	Brought forward from Page 13				-
	Brought forward from Page 14				-
	Brought forward from Page 15				-
	Brought forward from Page 16				-
Total for Chemical House Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
4	Office, Laboratory and Workshop				
A	Lighting points wired by 3 x 1.5mm ² SC PVC copper cables in 25mm heavy gauge PVC conduit surface/concealed conduit with drops concealed in walls to switch positions complete with MK steel boxes complete with all accessories.	No	16		-
B	Socket outlet points wired by 3 x 2.5mm ² SC PVC copper cables in 25mm heavy gauge steel surface conduit complete with all accessories including boxes.	No	12		-
C	Economic high performance maintained surface 3hour Emergency EXIT sign suitable for double sided viewing, for LED lamp to IP65 protection, as PIERLITE WELED2VM24 or equal approved. Light Type EXIT)	No.	2		-
D	Cast aluminium bulkhead with 70W HPS lamp and polycarbonate bowl retained by tamper resistant fixings to IP44 as Pierlite or equal approved (Light Type S)	No.	4		-
E	T5 1x28W,1200mm, surface fluorescent luminaire for 28W T5 linear fluorescent lamps weather proof and corrosion resistant, with electronic control gear, as PIERLITE 1x28W T5 or equal approved. (Light Type F1)	No.	10		-
F	100A 8 way TPN MCB wall mounted recessed Distribution Board, complete with integral isolator, MCBs, RCBs for sockets, and all accessories, as L & T or equal approved.	No	1		-
G	13A 2gang 3pin metal clad switched socket outlets complete with all accessories.	No	12		-
H	6A 2gang metal clad wall switch for lights complete with all accessories.	No	6		-
	Earthing and Lightning Protection				-
I	Copper tape of hard drawn high conductivity copper 3mm x 25mm cross section for horizontal and down conductors complete with fixing clips and all accessories as by FURSE or equal.	M	50		-
J	Air terminals 20x3500mm complete with tape adapters, spikes and all accessories by FURSE or equal.	No.	2		-
K	Test clamp complete as by FURSE or equal.	No.	2		-
L	Earth Electrodes 20x3000mm made from hard drawn copper or copper weld complete with cap, earth clamp, manhole and all accessories as made by FURSE or equal.	No.	4		-
M	General Earthing by 35mm ² stranded bare copper cable complete with all accessories.	M	40		-
	BUILDER'S WORK				-
N	Allow for builder's work for all above electrical installation including making good, bracings, fixings, protection, making holes, making good and all accessories.	LS	1		-
Total for Office, Lab and Workshop Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
9	Power Supply				
	Transformer & 33KV Switchgear				
A	500KVA, 3phase, 33KV/433V Dyn11, 50Hz oil filled indoor, ground mounted transformer, conservator tank with silica gel breather, Temperature gauge, off-load tap changer, explosion vent, and additional neutral for grounding, and all accessories all to comply with UMEME Standards.	No	1		-
B	Allow a Provisional Sum for Utility connections at 33KV and metering unit.	Item	1		-
C	Allow for profit and overheads on above.	%	10%	-	-
	LV Switchgear				
D	800A 12 way TPN MCCB free-standing Main Distribution Board, with 800A TPN MCCB incomer/main switch, complete with 4Nox320A, 2Nox200A, 2Nox160A, 4Nox100A TPN MCCBs outgoing, Digital Universal meter, with Over-voltage/under-voltage and phase failure protection and surge protection, TO IP55 and all accessories as made by L & T or equal approved.	No	1		-
E	200KVAr power factor correction capacitors, controls and all accessories as made by L & T or equal approved.	No	1		-
	Cabling				
F	Connection between the Transformer and the Main Distribution Board by 8x1Corex240mm ² XLPE Copper cables complete with termination, shrouding, protection against touch and all accessories. (The measurement is Route Length.)	m	30		-
G	Cabling from Main Distribution Board to Capacitor Bank by 5x1Corex240mm ² XLPE Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories. (The measurement is Route Length.)	m	15		-
H	Cabling from MDB position in Switchroom to MCC1 (Raw Water Pumps) by 4corex120mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	70		-
I	Cabling from MDB position in Switchroom to MCC2 (Clarifiers) by 4 core x95mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	70		-
J	Cabling from MDB position in Switchroom to MCC3 (Backwash Pumps) by 4corex95mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	70		-
K	Cabling from MDB position in Switchroom to MCC4 (Air Scour Blowers) by 4corex95mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	70		-
					-
					-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Cabling				
A	Cabling from MDB position in Switchroom to MCC5 (Treated Water Pump House) by 2x4corex120mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	95		-
B	Cabling from MDB position in Switchroom to MCC6 (Chemical House) by 4corex50mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	50		-
C	Cabling from MDB position in Switchroom to MCC7 (Chemical House) by 4corex35mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	50		-
D	Cabling from MDB position in Switchroom to DB in Office and Workshop by 4corex25mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
E	Cabling from DB position in Workshop to Consumer's unit in Office by 3corex16mm ² XLPE/SWA/ PVC Copper cables in PVC duct/Cable trays/surface complete with terminations, glanding, clipping and all accessories.	m	20		-
	Earthing and Lightning Protection				
F	Copper tape of hard drawn high conductivity copper 3mm x 25mm cross section for horizontal and down conductors complete with fixing clips and all accessories as by FURSE or equal.	M	20		-
G	Air terminals 20x3500mm complete with tape adapters, spikes and all accessories by FURSE or equal.	No.	1		-
H	Test clamp complete as by FURSE or equal.	No.	1		-
I	Earth Electrodes 20x3000mm made from hard drawn copper or copper weld complete with cap, earth clamp, manhole and all accessories as made by FURSE or equal.	No.	1		-
J	General Earthing by 70mm ² stranded bare copper cable complete with all accessories.	M	20		-
	Site Lighting				
K	Cabling from MDB position in Switchroom to site lighting by 4corex10mm ² PVC/SWA/ PVC Copper cables in complete with terminations, glanding, clipping and all accessories.	m	300		-
L	Post top lantern made with die-cast aluminium base in grey powder coat, acrylic opal spherical bowl and conical canopy in spun aluminium with dark grey powder coat, internal aluminium reflector, to IP65 complete with 30W LED Lamp on 50mm diameter 4m steel pole complete with all accessories. (Light Type Q)	No.	20		-
M	Earthing for site lighting	No.	5		-
N	110mm PVC PN10 conduit for cable road crossing	m	30		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p>Collection</p> <p>Brought forward from Page 18</p> <p>Brought forward from Page 19</p>				-
					-
Total for Power Supply Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
A	Cast aluminium bulkhead with 20W LED lamp and polycarbonate bowl retained by tamper resistant fixings to IP44 as Pierlite or equal approved (Light Type S)	No.	2		-
B	T5 1x28W, 1200mm, surface fluorescent luminaire for 28W T5 linear fluorescent lamps weather proof and corrosion resistant, with electronic control gear, as PIERLITE 1x28W T5 or equal approved. (Light Type F1)	No.	2		-
C	100A 6way SPN MCB wall mounted recessed Consumer's Unit, complete with integral isolator, MCBs, and all accessories, as L & T or equal approved.	No	1		-
D	13A 2gang 3pin metal clad switched socket outlets complete with all accessories.	No	3		-
E	6A 2gang metal clad wall switch for lights complete with all accessories.	No	2		-
	Earthing and Lightning Protection				-
F	Copper tape of hard drawn high conductivity copper 3mm x 25mm cross section for horizontal and down conductors complete with fixing clips and all accessories as by FURSE or equal.	M	30		-
G	Air terminals 20x3500mm complete with tape adapters, spikes and all accessories by FURSE or equal.	No.	1		-
H	Test clamp complete as by FURSE or equal.	No.	1		-
I	Earth Electrodes 20x3000mm made from hard drawn copper or copper weld complete with cap, earth clamp, manhole and all accessories as made by FURSE or equal.	No.	4		-
J	General Earthing by 70mm ² stranded bare copper cable complete with all accessories.	M	20		-
	Site Lighting				-
K	Cabling from MDB position in Switchroom to site lighting by 4corex10mm ² PVC/SWA/ PVC Copper cables in complete with terminations, glanding, clipping and all accessories.	m	300		-
L	Post top lantern made with die-cast aluminium base in grey powder coat, acrylic opal spherical bowl and conical canopy in spun aluminium with dark grey powder coat, internal aluminium reflector, to IP65 complete with 30W LED Lamp on 50mm diameter 4m steel pole complete with all accessories. (Light Type Q)	No.	20		-
M	Earthing for site lighting	No.	5		-
N	110mm PVC PN10 conduit for cable road crossing	m	30		-
Carried to Collection					-
	Collection				-
	Brought forward from Page 21				-
	Brought forward from Page 22				-
Total for Booster Station Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS E-1

DESCRIPTION: ELECTRICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Summary				
1	Raw Water Pumping Station				-
2	Treated Water Pumps				-
3	Clarifiers				-
4	Chemical House				-
5	Office, Laboratory and Workshop				-
6	Power Supply				-
7	Booster Pump House				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
1 A	<p>Supply, Install, connect and set to work the following complete.</p> <p>Raw Water Pumping Station</p> <p>Submersible raw water pump, pump efficiency: min. 70%, Motor: IP68, 400V, 50Hz, 2800rpm, motor efficiency: min. 90%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Three pumps to operate on 3 duty/ 1 standby with a total output of 414m³/h, at H = 50m each rated at 139m³/h at a head of 50m motor rating 33KW. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i></p>	No	4		-
Total for Raw Water works Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
2	Treated Water Pumping Station				
	Treated Water Pumps				
A	Volute casing, multi stage Treated water pump horizontal dry installation on baseplate. Suction side: horizontal, Delivery side: vertical on top; pump efficiency: min.90%, Motor: IP55, 400V, 50Hz, 2970rpm, motor efficiency: min. 95%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge at both sides, inlet flanged butterfly valve, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Pump rated at 90KW, Q= 207m3/h, H=120m. Two pumps to operate on duty with a combined output of 414 m3/h, at H = 120m. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i>	No	3		-
B	Electric Overhead crane with X, Y, Z movement. X movement beams approximately 8m, Y movement beam approximately 6m, Z movement approximately 8m to lift 1000kg, complete with all accessories.	No	1		-
	Process Water Pumps				-
C	Multi stage Vertical water pump dry installation on baseplate. Pump efficiency: min.90%, Motor: IP55, 400V, 50Hz, 2970rpm, motor efficiency: min. 95%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge at both sides, inlet flanged butterfly valve, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Pump rated at 18.5KW, Q= 31m3/h, H=62m. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i>	No	2		-
	Backwash Water Pumps				-
D	Volute casing, multi stage Treated water pump horizontal dry installation on baseplate. Suction side: horizontal, Delivery side: vertical on top; pump efficiency: min.90%, Motor: IP55, 400V, 50Hz, 1485rpm, motor efficiency: min. 95%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge at both sides, inlet flanged butterfly valve, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Pump rated at 55KW, Q= 481m3/h, H=20m. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i>	No	2		-
	Water Pumps for Majanji				-
D	Volute casing, multi stage Treated water pump horizontal dry installation on baseplate. Suction side: horizontal, Delivery side: vertical on top; pump efficiency: min.90%, Motor: IP55, 400V, 50Hz, 1485rpm, motor efficiency: min. 95%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge at both sides, inlet flanged butterfly valve, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Pump rated at 55KW, Q= 22m3/h, H=40m. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i>	No	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Air Scour Blower				-
A	Air Scour Blower to deliver at least 1540 m3/hr air at a head of approx. 700mbar. Motor: 55KW, IP 55, 400V, 3 phase, 50 Hz, max 3000 RPM, with electronic starter measured somewhere else, Speed of blower: max. 2000 RPM complete with all accessories.	No.	2		-
B	Air flowmeter complete with all accessories.	No.	1		-
	Surge Vessel				-
C	DI DN500/300/500 PN25 flanged T in pumping main.	No	1		-
D	DI DN300 PN25 flanged pipework connecting to DN300 surge vessel inlet complete with all fittings and accessories.	No	1		-
E	DI DN300 PN25 flanged Non-Return Valve with DN80 Bypass complete with all fittings and accessories.	No	1		-
F	Surge vessel PN25 total volume 8m3 of which compressed gas is 6m3, complete with all fittings and accessories. The contractor shall confirm the size of this vessel and submit calculations for approval by the Engineer.	No	1		-
G	Reinforced Concrete foundations for mounting surge vessel.	No	1		-
Carried to Collection					-
	Collection				-
	Brought forward from Page 2				-
	Brought forward from Page 3				-
Total for Treated Water Works Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
3	Chemical House				
	Chemical Dosing Pumps				
A	Electric Chemical Dosing pump with 3 phase motor to IP66, 3KW, 400V, 50Hz, electronic variable speed and soft starter, dosing rate of 1 - 50 litres/hr complete with suction pipe, multi-function valve, dosing valve, transducer, controller and all accessories as ALLDOSE M221-50 or equal approved.	No	10		-
B	DN32 dozing line of transparent PE material with fastenings at both ends complete with all accessories.	No	10		-
	Electric Stirrers				
C	Electric Stirrer with 3 phase motor to IP66, 3KW, 400V, 50Hz, electronic variable speed and soft starter mounted on top of concrete tank, with stainless steel shaft and blades, blades are 750mm in diameter, including mounting and all accessories.	No	10		-
	Lime Silo				
D	Lime Silo capacity 25m3 made from steel plate plastic lined inside and outside approximate dimensions 2500mm diameter, 5000mm height complete with all accessories.	No	1		-
E	Electric Motor driven discharge screw conveyor complete with all accessories.	No	1		-
					-
					-
					-
Total for Chemical House Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
4	Clarifier Station				
A	Multi stage Vertical sludge pump dry installation on baseplate. Pump efficiency: min.90%, Motor: IP55, 400V, 50Hz, 2970rpm, motor efficiency: min. 95%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge at both sides, inlet flanged butterfly valve, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Pump rated at 5KW, Q= 10m3/h, H=6m. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i>	No	4		-
B	Multi stage Vertical sludge pump dry installation on baseplate. Pump efficiency: min.90%, Motor: IP55, 400V, 50Hz, 2970rpm, motor efficiency: min. 95%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge at both sides, inlet flanged butterfly valve, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Pump rated at 3KW, Q= 5m3/h, H=6m. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i>	No	4		-
					-
					-
					-
					-
Total for Clarifiers Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
5	Office, Laboratory and Workshop				
	Supply, Installation and Testing of Equipment and Tools				
	<i>The tools and equipment to be supplied, installed and tested shall be as specified in Volume 3 - Technical Specifications under Table 3.1; under 3.2.6.10 Specifications of Equipment and Tools. The required items and quantities are as specified in the table.</i>				
A	Office Equipment	Ls	1		-
B	Workshop Equipment and Tools	Ls	1		-
C	Mechanical fitter's Tools and Equipment	Ls	1		-
D	Plumber's Tools and Equipment	Ls	1		-
E	Electrician's Tools and Equipment	Ls	1		-
F	Store Shelving	Ls	1		-
G	Laboratory Equipment	Ls	1		-
H	Chemical Store Equipment	Ls	1		-
I	Chemicals	Ls	1		-
K	Miscellaneous Tools	Ls	1		-
	Miscellaneous Works				-
L	Training in use of equipment including provision of operation and maintenance manuals	LS	1		-
Total for Office, Lab and Workshop Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
6	Booster Pumping Station				
A	Volute casing, multi stage High Lift water pump horizontal dry installation on baseplate. Suction side: horizontal, Delivery side: vertical on top; pump efficiency: min.90%, Motor: IP55, 400V, 50Hz, 2970rpm, motor efficiency: min. 95%, overheat protection, overload protection, soft electronic starter (measured somewhere else), including: pressure gauge at both sides, inlet flanged butterfly valve, outlet flanged butterfly valve, outlet flanged No-Return Valve, bends, taper pieces, dismantling joints, air valves, bolts, and all accessories. Pump rated at 220KW, Q=360m3/h, H=115m. <i>The contractor shall submit for approval a pump assembly drawing before ordering pumps.</i>	No	2		-
B	Electric Overhead crane with X, Y, Z movement. X movement beams approximately 6m, Y movement beam approximately 6m, Z movement approximately 8m to lift 1000kg, complete with all accessories.	No	1		-
					-
					-
Total for Booster Station Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BILL No. BUS M-1

DESCRIPTION: MECHANICAL INSTALLATIONS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Summary				
1	Raw Water Pumping Station				-
2	Treated Water Pumps				-
3	Chemical House				-
4	Clarifiers				-
5	Office, Laboratory and Workshop				-
6	Booster Pump House				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-1

DESCRIPTION: FEACAL SLUDGE TREATMENT PLANT SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/S/0.0.0 series (including references made there-in to other drawings)				
	<u>DEMOLITION AND SITE CLEARANCE</u>				
	<u>General Site Clearance</u>				
D100	General site clearance for Works	ha	1		-
	<u>Trees</u>				
D210	Cut and dispose of trees of girth 500 mm-1 m; include removal of stump and backfilling the hole left with top soil	nr	15		-
	<u>EARTHWORKS</u>				
	<u>Excavation for Cuttings</u>				
	<i>Topsoil</i>				
E210.1	Strip top soil, depth not exceeding 0.3m for Feacal Sludge Treatment Plants and stockpile for use as over burden	m ³	880		-
	<i>Excavation</i>				
E221.1	Excavation for cuttings, including trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal and preparation of excavated surfaces Depth 0.25-2.5m	m ³	3,460		-
	<i>Disposal of Excavated Material</i>				
E531	Disposal of excess excavated material of all type of soil to sites as specified and as directed by the Engineer	m ³	3,690		-
	<u>Filling</u>				
	<i>Structures</i>				
	<u>Filling by methods specified and to depths as shown in the drawings with the following materials</u>				
E614	Selected excavated granular material other than topsoil, rock or artificial hard material	m ³	3,460		-
	<i>Embankments</i>				
E624	Filling to embankments of ponds by methods specified and to depths as shown in the drawings with selected excavated material or imported material other than topsoil, rock or artificial hard material the following materials	m ³	8,720		-
	<u>ROADS AND PAVINGS</u>				
	<u>Sub-Bases</u>				
R114.1	Flexible road sub-base of granular material as specified, and stabilised and compacted as specified, of the following thickness: Depth 150-200 mm	m ²	5,340		-
	<u>Bases</u>				
R114.2	Flexible road base of granular material as specified, and stabilised and compacted as specified, of the following thickness Depth 150-200 mm	m ²	5,340		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-1

DESCRIPTION: FEACAL SLUDGE TREATMENT PLANT SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-2

DESCRIPTION: SCREEN, GRIT CHAMBER AND INLET CHANNELS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/S/1.0.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u>				
	<u>General Excavation</u>				
	<i>Ordinary Soil</i> General excavation, for screen and grit channel, including trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal and preparation of excavated surfaces. Depth 0.25-0.5m				
E422	For Grit Chamber	m ³	6		-
E423	For Inlet Channels	m ³	50		-
	<i>Disposal of Excavated Material</i>				-
E532	Disposal of excess excavated material of all type of soil to sites as specified and as directed by the Engineer	m ³	36		-
	<u>CIVIL AND CONCRETE WORKS AND IN-SITU CHAMBERS</u>				-
	<i>Grit Chamber</i>				-
F600	Civil and concrete works for the construction of the Grit Chamber including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	Sum	1		-
	<i>Inlet Channel</i>				-
F601	Civil and concrete works for the construction of the Inlet Channelr including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	m	225		-
	<i>Inlet Weir Chambers</i>				-
	In-situ concrete inlet weir chambers as specified, including all necessary pipework and pipe inserts, and of the following depths				-
K231.1	Depth not exceeding 1.5m	nr	1		-
	<i>Outlet Weir Chambers</i>				-
	In-situ concrete Outlet weir chambers as specified, including all necessary pipework and pipe inserts, and of the following depths				-
K231.2	Depth not exceeding 1.5m	nr	1		-
	<i>Handstocks: Hand Operated</i>				-
J881	All flanged CI Handstocks to BS 5150 ,flanges to BS 4505, for operation by hand wheel,for the following sizes;include the supply of hand wheel : 200 mm ND	nr	2		-
	<u>MISCELLANEOUS WORKS</u>				-
	<u>Chequer Plate Flooring</u>				-
	Perforated stainless steel trough to BS 4592, galvanised to BS729, 6mm thick, complete with frames and supports, fixed into a concrete structure, and of the following widths				-
BUS S-2.1	Width not exceeding 0.5 m	m ²	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-2

DESCRIPTION: SCREEN, GRIT CHAMBER AND INLET CHANNENLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Screens</u>				
BUS S-2.2	Supply and fix coarse screens in galvanized steel ; include guide channel and fixing to the concrete wall	nr	1		-
	<u>Sieve Basket</u>				
BUS S-2.3	Supply and fix sieve basket in galvanized steel include fixing to the concrete wall	nr	1		-
	<u>Water Supply</u>				
BUS S-2.4	Provide water supply for screen wash; include stand pipe, hoses, e.t.c	sum	1		-
			Carried to Collection		-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-2

DESCRIPTION: SCREEN, GRIT CHAMBER AND INLET CHANNENLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-3

DESCRIPTION: PLANTED DRYING BEDS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/S/1.1.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u> Earthworks includingg general excavation, trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal, preparation of excavated surfaces, filling of embankments and disposal of excess material to dumping site, etc..				
E220	Depth 0.25-0.5m	Sum	1		-
	<u>CIVIL AND CONCRETE WORKS</u>				-
F230	Civil and concrete works for the construction of the Planted Drying Bed including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	Sum	1		-
	<u>INTERNAL PIPEWORKS</u>				-
J400	Supply and placing of internal pipeworks including uPVC drain pipes DN 200, uPVC plain pipes DN 200, bends, fittings, specials end caps, etc. insidethe planted drying bed	Sum	1		-
	<u>WATER PROOFING</u>				-
	<u>Protective Layers and Flexible Sheeting</u>				-
W422	Flexible sealing foil 25mm thick, or similar approved, laid to the surface of compacted marrum inclined at an angle not exceeding 60 degrees to the horizontal	m ²	50		-
	<u>FILTER MEDIA</u>				-
BUS S-3.1	Supply and place approved filter media (Sand 0.3-0.75mm)	m ³	6		-
BUS S-3.2	Supply and place approved filter support media (Medium Gravel 10-25mm)	m ³	9		-
BUS S-3.3	Supply and place approved filter support media (Coarse Gravel 25-50mm)	m ³	34		-
BUS S-3.4	Supply and place / plant approved Phragmytes Australis Shoots (8-10 shoots/m ²)	nr	600		-
	<u>VENT PIPES</u>				-
	200 mm uPVC Vent pipe, complete with plactic mesh attached at end of pipe and including a pipe fastening system to fasten the pipe onto the bed surface				-
BUS S-3.5	Length not exceeding 3.5m	nr	4		-
	<u>OTHER WORKS</u>				-
BUS S-3.6	Perforated Drainage Pipe Protection mesh placed around the DN200 perforated pipe for its protection	Sum	1		-
BUS S-3.7	Supply and place approved erosion protection stones grade (20/40mm)	m ³	2		-
BUS S-3.8	Filling bed with water	m ³	75		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-3

DESCRIPTION: PLANTED DRYING BEDS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p><u>EXTERNAL PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u></p> <p><u>Manholes</u></p> <p>In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include hinged cast iron heavy duty grating manhole cover, size 1.0m by 1.0m clear opening complete, and of the following depths</p>				
K133	Depth 2-2.5m	nr	1		-
	<p><u>LAYING OF EXTERNAL EFFLUENT PIPES</u></p> <p>Laying of external effluent pipes from Planted Drying Beds to Constructed Wetlands including trench excavation, pipe bedding, pipe surround, trench backfilling and laying of pipes</p>				-
L531	Diameter not exceeding 200 mm ND	m	11		-
					-
			Carried to Collection		-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-3

DESCRIPTION: PLANTED DRYING BEDS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION Collection, Page 1 Collection, Page 2				- -
	Cost for 1 Planted Drying Bed				-
	Other Planted Drying Beds	nr	4	-	-
	Carried to Summary				-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-4

DESCRIPTION: CONSTRUCTED WETLANDS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/S/2.1.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u>				
	Eartworks includingg general excavation, trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal, preparation of excavated surfaces, filling of embankments and disposal of excess material to dumping site, etc..				
E221	Depth 0.25-0.5m	Sum	1		-
	<u>CIVIL AND CONCRETE WORKS</u>				
F230	Civil and concrete works for the construction of the Planted Drying Bed including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	Sum	1		-
	<u>INTERNAL PIPEWORKS</u>				
J400	Supply and placing of internal pipeworks including uPVC drain pipes DN 200, uPVC plain pipes DN 200, bends, fittings, specials end caps, etc. insidethe planted drying bed	Sum	1		-
	<u>WATER PROOFING</u>				
	<u>Protective Layers and Flexible Sheeting</u>				
W422	Flexible sealing foil 25mm thick, or similar approved, laid to the surface of compacted marrum inclined at an angle not exceeding 60 degrees to the horizontal	m ²	50		-
	<u>MISCELLANEOUS WORK</u>				
	<u>Filter Media</u>				
BUS S-4.1	Supply and place approved filter media (Sand 0.3-1.5mm)	m ³	4		-
BUS S-4.2	Supply and place approved filter support media (Medium Gravel 3-20mm)	m ³	5		-
BUS S-4.3	Supply and place approved filter support media (Coarse Gravel 20-60mm)	m ³	16		-
BUS S-4.4	Supply and place / plant approved Phragmytes Australis Shoots (8-10 shoots/m ²)	nr	330		-
	<u>Vent Pipes</u>				
	200 mm uPVC Vent pipe, complete with plactic mesh attached at end of pipe and including a pipe fastening system to fasten the pipe onto the bed surface				
BUS S-4.5	Length not exceeding 2.5m	nr	4		-
	<u>Other Works</u>				
BUS S-4.6	Perforated Drainage Pipe Protection mesh placed around the DN200 perforated pipe for its protection	Sum	1		-
BUS S-4.7	Supply and place pipe support system including 500x500 mm erosion protection stone plate as in the drawing	Sum	1		-
BUS S-4.8	Supply,place and set to work steel plate as in the drawing	Sum	1		-
BUS S-4.9	Filling bed with water	m ³	12		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-4

DESCRIPTION: CONSTRUCTED WETLANDS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>EXTERNAL PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Manholes</u>				
K131	In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include hinged cast iron heavy duty grating manhole cover, size 1.0m by 1.0m clear opening complete, and of the following depths Depth not exceeding 1.5m	nr	2		- - -
	<u>LAYING OF EXTERNAL EFFLUENT PIPES</u>				
L531	Laying of external effluent pipes from Constructed Wetlands to Horizontal Rock Filters including trench excavation, pipe bedding, pipe surround, trench backfilling and laying of pipes, depths not exceeding 1.50 m Diameter not exceeding 200 mm ND	m	18		- - - - -
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-4

DESCRIPTION: CONSTRUCTED WETLANDS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION Collection, Page 1 Collection, Page 2				- -
	Cost for 1 Constructed Wetland				-
	Other Constructed Wetlands	nr	2	-	-
	Carried to Summary				-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-5

DESCRIPTION: HORIZONTAL ROCK FILTER AND DISCHARGE PIPE TO OUTFALL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/S/3.1.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u>				
	Eartworks includingg general excavation, trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal, preparation of excavated surfaces, filling of embankments and disposal of excess material to dumping site, etc..				
E221	Depth 0.25-0.5m	Sum	1		-
	<u>CIVIL AND CONCRETE WORKS</u>				
F230	Civil and concrete works for the construction of the Planted Drying Bed including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	Sum	1		-
	<u>INTERNAL PIPEWORKS</u>				
J400	Supply and placing of internal pipeworks including uPVC drain pipes DN 200, uPVC plain pipes DN 200, bends, fittings, specials end caps, etc. insidethe planted drying bed	Sum	1		-
	<u>WATER PROOFING</u>				
	<u>Protective Layers and Flexible Sheetting</u>				
W422	Flexible sealing foil 25mm thick, or similar approved, laid to the surface of compacted marrum inclined at an angle not exceeding 60 degrees to the horizontal	m ²	50		-
	<u>MISCELLANEOUS WORK</u>				
BUS S-5.1	Supply and place approved soft weathering stones (Gravel 75-150mm)	m ³	35		-
BUS S-5.2	Supply and place approved soft weathering stones (Gravel 100-200mm)	m ³	5		-
BUS S-5.3	Supply and place 50mm wire mesh as in the drawings	m ²	9		-
	<u>EXTERNAL PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Manholes</u>				
	In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include hinged cast iron heavy duty grating manhole cover, size 1.0m by 1.0m clear opening complete, and of the following depths				
K131	Depth not exceeding 1.5m	nr	2		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-5

DESCRIPTION: HORIZONTAL ROCK FILTER AND DISCHARGE PIPE TO OUTFALL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<p><u>Outfall structure</u></p> <p>Construction of outfall structure for treated effluent discharge pipe at the water course of reinforced concrete including earthworks, concrete works, formworks, headwalls, all fittings and pipework, protection works, backfilling, etc.necessary to complete installation and structure</p>				
K231.2	Depth not exceeding 1.5m	nr	1		-
	<p><u>LAYING OF EXTERNAL EFFLUENT PIPES</u></p> <p>Laying of external effluent pipes from Horizontal Rock Filter to Outfall structure including trench excavation, pipe bedding, pipe surround, trench backfilling and laying of pipes, depths not exceeding 1.50 m</p>				-
L531	Diameter not exceeding 200 mm ND	m	63		-
			Carried to Collection		-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-5

DESCRIPTION: HORIZONTAL ROCK FILTER AND DISCHARGE PIPE TO OUTFALL

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	COLLECTION Collection, Page 1 Collection, Page 2				- -
	Cost for 1 Horizontal Rock Filter				-
	Other Horizontal Rock Filters	nr	1	-	-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/BUS/W/9.0.0 series (including references made there-in to other drawings)				
	<u>DEMOLITION AND SITE CLEARANCE</u>				
	<u>General Site Clearance</u>				
D100	General site clearance for toilet	ha	0.01		-
	<u>Trees</u>				-
	<u>Cut and dispose of trees of the following girth; include removal of stump and backfilling the hole left with top soil</u>				-
D210	Girth 500 mm-1 m	nr	1		-
	<u>Stumps</u>				-
	<u>Remove and dispose of stumps of the following diameter; include for grabbing up the roots and backfilling the hole left with top soil</u>				-
D310	Diameter 150-500 mm	nr	1		-
	<u>EARTHWORKS</u>				-
	<u>Excavation for foundations</u>				-
	<u>Topsoil</u>				-
E310	Strip top soil, depth not exceeding 0.15 for toilet foundation	m ³	33		-
	<u>Ordinary Soil</u>				-
	<u>Excavation for foundations in material other than topsoil,rock or artificial hard material, commencing surface is the formation level</u>				-
E322	Depth not exceeding 0.5m	m ³	2		-
E323	Depth 0.5 - 1 m	m ³	27		-
E324	Depth 1 - 2 m	m ³	35		-
	<u>Rock</u>				-
	<u>Excavation for foundations in rock,commencing surface is the exposed surface of the rock</u>				-
E333	Depth 0.5-1m	m ³	1		-
E334	Depth 1 - 2 m	m ³	1		-
	<u>Excavation Ancillaries</u>				-
	<u>Trimming</u>				-
	<u>Trimming of excavated surfaces for whole structure in the following materials</u>				-
E512	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	86		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	7		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	Preparation				
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				
E522	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	149		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	6		-
	Disposal of Excavated Material				
	<u>Disposal of excavated material to approved sites as directed by the Engineer</u>				
E532	Material other than topsoil,rock,or artificial hard material	m ³	47		-
E533	Rock	m ³	2		-
	Filling				
	Structures				
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	18		-
E617	Imported rock of size and grading as specified; include sand blinding on top	m ³	24		-
	Landscaping				
E830	Turfing for lawns around toilet block; include filling with excavated topsoil and the preparation of the surfaces	m ²	105		-
	IN-SITU CONCRETE				
	Provision of Concrete				
	Ordinary Designed Mix Concrete				
	Grade C15				
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				
F231	10mm aggregate	m ³	2		-
	Grade C20				
	<u>Designed mix, grade C20 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				
F251	10mm aggregate	m ³	24		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Placing Mass Concrete</u>				
	Blinding				
	<u>Placing blinding concrete, for footings, grade C15, of the following thickness</u>				
F511	Thickness not exceeding 150mm	m ³	2.00		-
	Bases, Footings and Ground Slabs				-
	<u>Placing mass concrete C20, for ground slab and ramp base of the following thickness</u>				-
F522	Thickness 150-300mm	m ³	14		-
	<u>Placing Reinforced Concrete</u>				-
	Bases, Footings and Ground Slabs				-
	<u>Placing reinforced concrete C20, for footings of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	7		-
	Beams				-
	<u>Placing reinforced concrete, grade C20, for beams of the following cross-sectional area</u>				-
F662	Cross-sectional area 0.03 - 0.1 m ²	m ³	3		-
	<u>CONCRETE ANCILLARIES</u>				-
	<u>Formwork-Fair Finish</u>				-
	Fair Finish Plane Horizontal				-
	<u>Plane fair finish horizontal formwork of the following width</u>				-
G214	Width 0.4 - 1.22m	m ²	5		-
	Fair Finish Plane Vertical				-
	<u>Plane fair finish vertical formwork of the following width</u>				-
G244	Width 0.4 - 1.22m	m ²	106		-
	<u>Reinforcement</u>				-
	<u>Deformed High Yield Steel</u>				-
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 6-16mm	t	1		-
	<u>Steel Fabric</u>				-
	<u>Steel fabric reinforcement to BS4483, fabric reference A142, in concrete floor slab with minimum 200mm end side laps, and of the following mass</u>				-
G563	Nominal mass 2-3 kg/m ²	m ²	87		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Concrete Accessories</u>				
	Finishing of top surfaces				
	<u>Finishing of top surfaces by the following methods</u>				
G811	Class U3 steel trowel finish	m ²	87		-
G812	Wooden trowel finish	m ²	8		-
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				
	<u>Burnt Clay Brickwork</u>				
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				
U511.1	200 mm thick	m ²	92		-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				
U511.2	150 mm thick	m ²	119		-
	<u>Burnt clay pompeii grill brickwork vents, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, as detailed in the drawings of the following sizes</u>				
U511.3	100 mm thick	m ²	13		-
	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u>				
U582	200 mm thick	m	106		-
	<u>PAINTING</u>				
	<u>High Gloss</u>				
	Timber Surfaces				
	<u>External quality weather guard paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>				
V321	Upper surfaces of fascia board inclined at an angle not exceeding 30 degrees to the horizontal	m ²	10		-
	Masonry				
	<u>External quality weather guard paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>				
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal	m ²	60		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
V553	<p><u>Emulsion Paint</u></p> <p>Masonry</p> <p><u>Internal quality vinyl silk paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u></p> <p>Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal</p>	m ²	280		-
	<u>WATER PROOFING</u>				-
	<u>Damp Proofing</u>				-
	Rendering				-
W153	Rendering of wall surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar finished with a wood float	m ²	340		-
	Ceramic Tiles				-
W173	White ceramic wall tiles to internal faces of walls	m ²	14		-
	<u>Protective Layers</u>				-
	<u>Flexible Sheeting</u>				-
	<u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of sand blinded hardcore fill</u>				-
W421	Surfaces of blinding hardcore inclined at an angle not exceeding 30 degrees to the horizontal	m ²	87		-
	<u>Terrazzo floor finish</u>				-
	<u>Uniform Grey terrazo, applied to concrete floors, 25 mm thick, prepared and applied as specified, and finished with grinding</u>				-
W441	Surfaces of floors, skirtings and splash aprons	m ²	157		-
	<u>MISCELLANEOUS WORKS</u>				-
	<u>Structural</u>				-
	<u>Windows</u>				-
	<u>Supply and fix the following mild steel windows to the Engineers' details constructed from standard steel sections primed with red oxide paint, painted with three coats of high gloss paint; complete with all necessary iron mongery, stays, plugging and fixing to wall</u>				-
BUS S-6.1	Top hung double leaf hinged windows overall size 3450 x 1150mm high comprising of 3mm thick mild steel panes welded on a 25x25x3mm thick angle frame and epoxy coated colour blue	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Doors</u>				
	<u>Supply and fix approved solid hardwood doors with three coats of polyurethane varnish on general surfaces of door as described: 50mm two panel framed door comprising 50 x 100mm stiles, top, middle and bottom rails all grooved and with both panels filled with 30 x 100mm vertical tongued and grooved battens with rubber door stops, all iron mongery and locking arrangements of the following sizes</u>				
BUS S-6.2	Single leaf door overall size 800mm x 2100mm (W x H)	nr	10		-
BUS S-6.2.1	Single leaf door overall size 1000mm x 2100mm (W x H)	nr	2		-
BUS S-6.3	800mm x 2100mm (W x H) split into equal bottom and top leafs each leaf with respective iron mongery, locking and wall stay arrangements	nr	2		-
BUS S-6.4	Double leaf door overall size 1750mm x 2100mm (W x H)	nr	2		-
	<u>Supply and fix the following mild steel grill doors to the Engineers' details constructed from 75 x 50 x 2mm hollow steel sections primed with red oxide paint, painted with three coats of high gloss paint; complete with all necessary iron mongery and accessories</u>				-
BUS S-6.5	Single leaf door overall size 1000 x 2100mm high	nr	2		-
	<u>Roofing</u>				-
BUS S-6.6	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board, metal lathe ceiling and eaves, and all roofing timber, gauge 28 blue prepainted GCI sheeting and ridges to the Engineer's satisfaction.	m ²	115		-
	<u>Building Finishes</u>				-
BUS S-6.7	Supply and fix a 450 x 800mm granite "Project Label Plate" to detail	sum	1		-
BUS S-6.8	Supply ND 25mm GI pipe toilet grab rail for the disabled toilet complete with all fittings and ancillaries including anchoring into the floor and wall to the Engineers approval and details	nr	4		-
BUS S-6.9	Building finishes including; constructing 20x100mm high 1:3 cement-sand skirting, 700mm wide C20 concrete splash apron; supply and installation of 10no. toilet paper holders, installation of floor drains with associated pipework and fitting s connected to soak pit, complete to the specifications and as directed by the Engineer	sum	1		-
BUS S-6.10	Supply and install 1 no. wooden worktop 1800x400x20mm thick and 3 no. wooden shelves 4000x600x20mm thick made from solid hard wood timber and finished with formica or medium density fibre boards (MDF), include beading, brackets, support structures; complete to the specifications and as directed by the Engineer	sum	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>Water and Drainage</u>				
BUS S-6.11	Supply and erect 1000 litre (1m ³) high level and 500 litre low level Polyethylene tanks as Polytank, elevated from 2m up to 4m above ground level on a mild steel 80mm steel sectional painted tower or equivalent, complete with access ladders and platforms, including all PN 10 GI/PPR pipework, fittings, gate valves, ball float valve, rain water gutters to low level tank and connection to all water closets, urinal and hand washing facilities in toilet block	sum	1		-
BUS S-6.12	Supply materials and install service line connection including all all PN 10 GI/PPR/HDPE plumbing pipe work, fittings and ancillaries from the distribution main to the overhead water tank	sum	1		-
BUS S-6.13	Construct Urinal facility with perforated DN 20 PPR/GI water pipework, valves, fittings, floor trap, domical removable cast iron grating, gulley trap	sum	1		-
BUS S-6.14	Construct Shower Closet with DN 13 PPR/GI water pipework, valves, fittings, floor trap, domical removable cast iron grating, gulley trap, elevated perforated circular shower head, 13mm diameter chromium plated pillar taps	sum	2		-
BUS S-6.15	Provide materials and construct a hand washing facility complete with wash hand basins, DN 13/20 GI/PPR plumbing pipework, uPVC drainage pipework, all fittings, gulley and bottle traps, valves, 13mm diameter chromium plated pillar taps, waste outlet gratings, all accessories, including single low level wash hand basin for disabled person's usage; as per specifications and drawings and to the Engineer's approval	nr	2		-
BUS S-6.16	Excavate and construct standard manholes in 200mm thick blockwork, internal depth not exceeding 1.0m, bonded in concrete mortar(1:5) and rendered internally with concrete mortar (1:4), concrete benching, complete with and including CI frame and cover, and interconnecting OD 110mm pvc drain pipes to toilet block	nr	4		-
BUS S-6.17	Supply and Install OD 110 mm uPVC PN 6 drainage pipework to BS 4660, complete with spigot and socket joints, all fittings; from toilet block to Septic Tank and Soak Pit	m	78		-
BUS S-6.18	Excavate and construct Septic Tank of effective capacity 35m ³ in blockwork and reinforced concrete, rendered smooth inside complete with inlet and outlet manholes benching, heavy duty cast iron manhole covers	Sum	1		-
BUS S-6.19	Excavate and construct 1500mm top/bottom diameter x 2.0m deep soak pit complete including filling with hardcore, covering with 2 layers of gauge 1000 polyethylene sheet	nr	1		-
BUS S-6.20	Supply and install squatting type low level water closet suite complete with WC pan, heavy duty cistern complete with anti-vandal cage, flush pipe, connected to nearest manhole; all to the Engineer's satisfaction	nr	8		-
BUS S-6.21	Supply and install seat type low level water closet suite complete with WC pan, heavy duty cistern, flush pipe complete with anti-vandal cage, connected to nearest manhole; all to the Engineer's satisfaction	nr	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-6

DESCRIPTION: 13 STANCE WATERBORNE PUBLIC TOILETS- FRONT TO FRONT TYPE

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UShs	AMOUNT UShs
	<u>PROVISIONAL SUMS</u>				
	<u>Electrical Installation</u>				
BUS S-6.22	Allow for electric power connection to the toilet block including processing a customer account with UMEME	sum	1		-
					-
BUS S-6.23	Supply and Install all respective electricals for building lighting; i.e. MCB, metal clad switches, lights, 3core XLPE/SWA/PVC Copper cables, concealed conduits, lights, earthing protection,etc, complete with all accessories as specified and directed by the Engineer	sum	1		-
Carried to Collection					-
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
	Collection, Page 7				-
	Collection, Page 8				-
	Cost for 1No. Toilet Block				-
	Total Cost of Toilet Blocks	nr	2		-
Carried to Summary					

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
 BUSIA WATER SUPPLY AND SANITATION SYSTEM
 BUSIA TOWN
 BILL No. BUS S-7
 DESCRIPTION: 3 STANCE WATERBORNE HEALTH CENTRE TOILET

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>Excavation Ancillaries</u>				-
	Trimming				-
	<u>Trimming of excavated surfaces for whole structure in the following materials</u>				-
E512	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	23		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	2		-
	Preparation				-
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				-
E522	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	30		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	2		-
	Disposal of Excavated Material				-
	<u>Disposal of excavated material to approved sites as directed by the Engineer</u>				-
E532	Material other than topsoil,rock,or artificial hard material	m ³	10		-
E533	Rock	m ³	1		-
	<u>Filling</u>				-
	<u>Structures</u>				-
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				-
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	5		-
E617	Imported rock of size and grading as specified; include sand blinding on top	m ³	4		-
	<u>Landscaping</u>				-
E830	Turfing for lawns around toilet block; include filling with excavated topsoil and the preparation of the surfaces	m ²	46		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-7
DESCRIPTION: 3 STANCE WATERBORNE HEALTH CENTRE TOILET

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	Ordinary Designed Mix Concrete				-
	Grade C15				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F231	10mm aggregate	m ³	1		-
	Grade C20				-
	<u>Designed mix, grade C20 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F251	10mm aggregate	m ³	5		-
	<u>Placing Mass Concrete</u>				-
	Blinding				-
	<u>Placing blinding concrete, for footings, grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m ³	1		-
	Bases, Footings and Ground Slabs				-
	<u>Placing mass concrete C20, for ground slab of the following thickness</u>				-
F522	Thickness 150-300mm	m ³	2		-
	<u>Placing Reinforced Concrete</u>				-
	Bases, Footings and Ground Slabs				-
	<u>Placing reinforced concrete C20, for footings of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	2		-
	Beams				-
	<u>Placing reinforced concrete, grade C20, for beams of the following cross-sectional area</u>				-
F662	Cross-sectional area 0.03 - 0.1 m ²	m ³	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-7
DESCRIPTION: 3 STANCE WATERBORNE HEALTH CENTRE TOILET

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>CONCRETE ANCILLARIES</u>				-
	<u>Formwork-Fair Finish</u>				-
	<u>Fair Finish Plane Horizontal</u>				-
	<u>Plane fair finish horizontal formwork of the following width</u>				-
G214	Width 0.4 - 1.22m	m ²	1		-
	<u>Fair Finish Plane Vertical</u>				-
	<u>Plane fair finish vertical formwork of the following width</u>				-
G244	Width 0.4 - 1.22m	m ²	24		-
	<u>Reinforcement</u>				-
	<u>Deformed High Yield Steel</u>				-
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 6-16mm	t	0.2		-
	<u>Steel Fabric</u>				-
	<u>Steel fabric reinforcement to BS4483, fabric reference A142, in concrete floor slab with minimum 200mm end side laps, and of the following mass</u>				-
G563	Nominal mass 2-3 kg/m ²	m ²	14		-
	<u>Concrete Accessories</u>				-
	<u>Finishing of top surfaces</u>				-
	<u>Finishing of top surfaces by the following methods</u>				-
G811	Class U3 steel trowel finish	m ²	14		-
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				-
	<u>Burnt Clay Brickwork</u>				-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.1	200 mm thick	m ²	38		-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.2	150 mm thick	m ²	13		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-7
DESCRIPTION: 3 STANCE WATERBORNE HEALTH CENTRE TOILET

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
U511.3	<u>Burnt clay pompeii grill brickwork vents, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, as detailed in the drawings of the following sizes</u> 100 mm thick	m ²	4		-
U582	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u> 200 mm thick PAINTING High Gloss Timber Surfaces <u>External quality weather guard paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>	m	17		-
V321	Upper surfaces of fascia board inclined at an angle not exceeding 30 degrees to the horizontal Masonry <u>External quality weather guard paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	4		-
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal Emulsion Paint Masonry <u>Internal quality vinyl silk paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	29		-
V553	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal WATER PROOFING Damp Proofing Rendering	m ²	62		-
W153	Rendering of wall surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar finished with a wood float Ceramic Tiles	m ²	90		-
W173	White ceramic wall tiles to internal faces of walls	m ²	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-7
DESCRIPTION: 3 STANCE WATERBORNE HEALTH CENTRE TOILET

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>Protective Layers</u>				-
	<u>Flexible Sheeting</u>				-
	<u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of sand blinded hardcore fill</u>				-
W421	Surfaces of blinding hardcore inclined at an angle not exceeding 30 degrees to the horizontal	m ²	14		-
	<u>Terrazzo floor finish</u>				-
	<u>Uniform Grey terrazo, applied to concrete floors, 25 mm thick, prepared and applied as specified, and finished with grinding</u>				-
W441	Surfaces of floors, skirtings and splash aprons	m ²	36		-
	<u>MISCELLANEOUS WORKS</u>				-
	<u>Structural</u>				-
	<u>Doors</u>				-
	<u>Supply and fix approved solid hardwood doors with three coats of polyurethane varnish on general surfaces of door as described; 50mm two panel framed door comprising 50 x 100mm stiles, top, middle and bottom rails all grooved and with both panels filled with 30 x 100mm vertical tongued and grooved battens with rubber door stops, all iron mongery and locking arrangements of the following sizes</u>				-
MAY 4.2.1	Single leaf door overall size 800mm x 2100mm (W x H)	nr	3		-
	<u>Supply and fix the following mild steel grill doors to the Engineers' details constructed from 75 x 50 x 2mm hollow steel sections primed with red oxide paint, painted with three coats of high gloss paint; complete with all necessary iron mongery and accessories</u>				-
MAY 4.2.2	Single leaf door overall size 1000 x 2100mm high	nr	1		-
	<u>Roofing</u>				-
MAY 4.2.3	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board, metal lathe ceiling and eaves, and all roofing timber, gauge 28 blue prepainted GCI sheeting and ridges to the Engineer's satisfaction.	m ²	22		-
	<u>Building Finishes</u>				-
MAY 4.2.4	Supply and fix a 450 x 800mm granite "Project Label Plate" to detail	sum	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-7

DESCRIPTION: 3 STANCE WATERBORNE HEALTH CENTRE TOILET

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
MAY 4.2.5	Supply ND 25mm GI pipe toilet grab rail for the disabled toilet complete with all fittings and ancillaries including anchoring into the floor and wall to the Engineers approval and details	nr	2		-
MAY 4.2.6	Building finishes including; constructing 20x100mm high 1:3 cement-sand skirting, 700mm wide C20 concrete splash apron; supply and installation of 2no. toilet paper holders, complete to the specifications and as directed by the Engineer	sum	1		-
	<u>Water and Drainage</u>				-
MAY 4.2.7	Supply and erect 1000 litre (1m ³) high level and 500 litre low level Polyethylene tanks as Polytank, elevated from 2m up to 4m above ground level on a mild steel 80mm steel sectional painted tower or equivalent, complete with access ladders and platforms, including all PN 10 GI/PPR pipework, fittings, gate valves, ball float valve, rain water gutters to low level tank and connection to all water closets, urinal and hand washing facilities in toilet block	sum	1		-
MAY 4.2.8	Supply materials and install service line connection including all all PN 10 GI/PPR/HDPE plumbing pipe work, fittings and ancillaries from the distribution main to the overhead water tank	sum	1		-
MAY 4.2.9	Construct Shower Closet with DN 13 PPR/GI water pipework, valves, fittings, floor trap, domical removable cast iron grating, gully trap, elevated perforated circular shower head, 13mm diameter chromium plated pillar taps	nr	1		-
MAY 4.2.10	Provide materials and construct a hand washing facility complete with wash hand basins, DN 13/20 GI/PPR plumbing pipework, uPVC drainage pipework, all fittings, gully and bottle traps, valves, 13mm diameter chromium plated pillar taps, waste outlet gratings, all accessories, including single low level wash hand basin for disabled person's usage; as per specifications and drawings and to the Engineer's approval	nr	1		-
MAY 4.2.11	Excavate and construct standard manholes in 200mm thick blockwork, internal depth not exceeding 1.0m, bonded in concrete mortar(1:5) and rendered internally with concrete mortar (1:4), concrete benching, complete with and including CI frame and cover, and interconnecting OD 110mm pvc drain pipes to toilet block	nr	1		-
MAY 4.2.12	Supply and Install OD 110 mm uPVC PN 6 drainage pipework to BS 4660, complete with spigot and socket joints, all fittings; from toilet block to Septic Tank and Soak Pit	m	24		-
MAY 4.2.13	Excavate and construct Septic Tank of effective capacity 15m ³ in blockwork and reinforced concrete, rendered smooth inside complete with inlet and outlet manholes benching, heavy duty cast iron manhole covers	Sum	1		-
MAY 4.2.14	Excavate and construct 1500mm top/bottom diameter x 2.0m deep soak pit complete including filling with hardcore, covering with 2 layers of gauge 1000 polyethylene sheet	nr	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-7

DESCRIPTION: 3 STANCE WATERBORNE HEALTH CENTRE TOILET

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
	Collection, Page 7				-
	Collection, Page 8				-
	Cost for 1No. Toilet Block				-
	Total Cost of Toilet Blocks	nr	1		-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-8
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	Excavation Ancillaries				-
	Trimming				-
	<u>Trimming of excavated surfaces for whole structure in the following materials</u>				-
E512	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	54		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	7		-
	Preparation				-
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				-
E522	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	35		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	6.0		-
	Disposal of Excavated Material				-
	<u>Disposal of excavated material to approved sites as directed by the Engineer</u>				-
E532	Material other than topsoil,rock,or artificial hard material	m ³	80		-
E533	Rock	m ³	3		-
	Filling				-
	Structures				-
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				-
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	5		-
E617	Imported rock of size and grading as specified; include sand blinding on top	m ³	4		-
	Landscaping				-
E830	Turfing for lawns around toilet block; include filling with excavated topsoil and the preparation of the surfaces	m ²	24		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-8
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	Ordinary Designed Mix Concrete				-
	Grade C15				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F231	10mm aggregate	m ³	1		-
	Grade C20				-
	<u>Designed mix, grade C20 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F241	10mm aggregate	m ³	13		-
	<u>Placing Mass Concrete</u>				-
	Blinding				-
	<u>Placing blinding concrete, for footings, grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m ³	1		-
	Bases, Footings and Ground Slabs				-
	<u>Placing mass concrete C20, for vault ground slab of the following thickness</u>				-
F522.1	Thickness 150-300mm	m ³	4		-
	<u>Placing mass concrete C20, for ground slab and ramp base of the following thickness</u>				-
F522.2	Thickness 150-300mm	m ³	5		-
	<u>Placing Reinforced Concrete</u>				-
	Bases, Footings and Ground Slabs				-
	<u>Placing reinforced concrete C20, for footings of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	2		-
	Beams				-
	<u>Placing reinforced concrete, grade C20, for beams of the following cross-sectional area</u>				-
F662	Cross-sectional area 0.03 - 0.1 m ²	m ³	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-8
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>CONCRETE ANCILLARIES</u>				-
	<u>Formwork-Fair Finish</u>				-
	<u>Fair Finish Plane Horizontal</u>				-
	<u>Plane fair finish horizontal formwork of the following width</u>				-
G214	Width 0.4 - 1.22m	m ²	2		-
G215	Width exceeding 1.22m	m ²	14		-
	<u>Fair Finish Plane Vertical</u>				-
	<u>Plane fair finish vertical formwork of the following width</u>				-
G244	Width 0.4 - 1.22m	m ²	47		-
	<u>Reinforcement</u>				-
	<u>Deformed High Yield Steel</u>				-
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 6-16mm	t	0.5		-
	<u>Steel Fabric</u>				-
	<u>Steel fabric reinforcement to BS4483, fabric reference A142, in concrete floor slab with minimum 200mm end side laps, and of the following mass</u>				-
G563	Nominal mass 2-3 kg/m ²	m ²	49		-
	<u>Concrete Accessories</u>				-
	<u>Finishing of top surfaces</u>				-
	<u>Finishing of top surfaces by the following methods</u>				-
G811	Class U3 steel trowel finish	m ²	49		-
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				-
	<u>Burnt Clay Brickwork</u>				-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.1	200 mm thick	m ²	77		-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.2	150 mm thick	m ²	35		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-8
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
U511.3	<u>Burnt clay pompeii grill brickwork vents, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, as detailed in the drawings of the following sizes</u> 100 mm thick	m ²	5		-
U582	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u> 200 mm thick PAINTING High Gloss Timber Surfaces <u>External quality weather guard paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>	m	28		-
V321	Upper surfaces of fascia board inclined at an angle not exceeding 30 degrees to the horizontal Masonry <u>External quality weather guard paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	6		-
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal Emulsion Paint Masonry <u>Internal quality vinyl silk paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	42		-
V553	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal WATER PROOFING Damp Proofing Rendering	m ²	75		-
W153	Rendering of wall surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar finished with a wood float Ceramic Tiles	m ²	187		-
W173	White ceramic wall tiles to internal faces of walls	m ²	12		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-8

DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
	Collection, Page 7				-
	Collection, Page 8				-
	Cost for 1No. Toilet Block				-
	Total Cost of Toilet Blocks	nr	2		-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-9
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	Excavation Ancillaries				-
	Trimming				-
	<u>Trimming of excavated surfaces for whole structure in the following materials</u>				-
E512	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	54		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	7		-
	Preparation				-
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				-
E522	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	35		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	6		-
	Disposal of Excavated Material				-
	<u>Disposal of excavated material to approved sites as directed by the Engineer</u>				-
E532	Material other than topsoil,rock,or artificial hard material	m ³	80		-
E533	Rock	m ³	3		-
	Filling				-
	Structures				-
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				-
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	5		-
E617	Imported rock of size and grading as specified; include sand blinding on top	m ³	4		-
	Landscaping				-
E830	Turfing for lawns around toilet block; include filling with excavated topsoil and the preparation of the surfaces	m ²	24		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-9
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	Ordinary Designed Mix Concrete				-
	Grade C15				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F231	10mm aggregate	m ³	1		-
	Grade C20				-
	<u>Designed mix, grade C20 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F241	10mm aggregate	m ³	13		-
	<u>Placing Mass Concrete</u>				-
	Blinding				-
	<u>Placing blinding concrete, for footings, grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m ³	1		-
	Bases, Footings and Ground Slabs				-
	<u>Placing mass concrete C20, for vault ground slab of the following thickness</u>				-
F522.1	Thickness 150-300mm	m ³	4		-
	<u>Placing mass concrete C20, for ground slab and ramp base of the following thickness</u>				-
F522.2	Thickness 150-300mm	m ³	5		-
	<u>Placing Reinforced Concrete</u>				-
	Bases, Footings and Ground Slabs				-
	<u>Placing reinforced concrete C20, for footings of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	2		-
	Beams				-
	<u>Placing reinforced concrete, grade C20, for beams of the following cross-sectional area</u>				-
F662	Cross-sectional area 0.03 - 0.1 m ²	m ³	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-9
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>CONCRETE ANCILLARIES</u>				-
	<u>Formwork-Fair Finish</u>				-
	<u>Fair Finish Plane Horizontal</u>				-
	<u>Plane fair finish horizontal formwork of the following width</u>				-
G214	Width 0.4 - 1.22m	m ²	2		-
G215	Width exceeding 1.22m	m ²	14		-
	<u>Fair Finish Plane Vertical</u>				-
	<u>Plane fair finish vertical formwork of the following width</u>				-
G244	Width 0.4 - 1.22m	m ²	47		-
	<u>Reinforcement</u>				-
	<u>Deformed High Yield Steel</u>				-
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 6-16mm	t	0.5		-
	<u>Steel Fabric</u>				-
	<u>Steel fabric reinforcement to BS4483, fabric reference A142, in concrete floor slab with minimum 200mm end side laps, and of the following mass</u>				-
G563	Nominal mass 2-3 kg/m ²	m ²	49		-
	<u>Concrete Accessories</u>				-
	<u>Finishing of top surfaces</u>				-
	<u>Finishing of top surfaces by the following methods</u>				-
G811	Class U3 steel trowel finish	m ²	49		-
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				-
	<u>Burnt Clay Brickwork</u>				-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.1	200 mm thick	m ²	77		-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.2	150 mm thick	m ²	38		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
BUSIA TOWN
BILL No. BUS S-9
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
U511.3	<u>Burnt clay pompeii grill brickwork vents, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, as detailed in the drawings of the following sizes</u> 100 mm thick	m ²	5		-
U582	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u> 200 mm thick PAINTING High Gloss Timber Surfaces <u>External quality weather guard paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>	m	30		-
V321	Upper surfaces of fascia board inclined at an angle not exceeding 30 degrees to the horizontal Masonry <u>External quality weather guard paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	6		-
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal Emulsion Paint Masonry <u>Internal quality vinyl silk paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	42		-
V553	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal WATER PROOFING Damp Proofing Rendering	m ²	80		-
W153	Rendering of wall surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar finished with a wood float Ceramic Tiles	m ²	193		-
W173	White ceramic wall tiles to internal faces of walls	m ²	5		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-9

DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	Protective Layers				-
	Flexible Sheeting				-
	<u>Flexible polyethylene sheeting, gauge 1000, or similar approved, laid to the surface of sand blinded hardcore fill</u>				-
W421	Surfaces of blinding hardcore inclined at an angle not exceeding 30 degrees to the horizontal	m ²	31		-
	Terrazzo floor finish				-
	<u>Uniform Grey terrazo, applied to concrete floors, 25 mm thick, prepared and applied as specified, and finished with grinding</u>				-
W441	Surfaces of floors, skirtings and splash aprons	m ²	105		-
	MISCELLANEOUS WORKS				-
	Structural				-
	Doors				-
	<u>Supply and fix approved solid hardwood doors with three coats of polyurethane varnish on general surfaces of door as described; 50mm two panel framed door comprising 50 x 100mm stiles, top, middle and bottom rails all grooved and with both panels filled with 30 x 100mm vertical tongued and grooved battens with rubber door stops, all iron mongery and locking arrangements of the following sizes</u>				-
MAY 4.4.1	Single leaf door overall size 800mm x 2100mm (W x H)	nr	6		-
	<u>Supply and fix the following mild steel grill doors to the Engineers' details constructed from 75 x 50 x 2mm hollow steel sections primed with red oxide paint, painted with three coats of high gloss paint; complete with all necessary iron mongery and accessories</u>				-
MAY 4.4.2	Single leaf door overall size 1000 x 2100mm high	nr	1		-
	Vault Access Slabs				-
	<u>Supply and Install pre-fabricated concrete slabs 120mm thick, inclusive of the squat pit and leg placements and of the following dimensions</u>				-
MAY 4.4.3	1200mm x 1400mm (W x L)	nr	5		-
MAY 4.4.4	Supply and complete installation of corrosion proof manhole access covers 1000mm x 900mm complete as specified including lifting hooks	nr	5		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-9

DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>Roofing</u>				-
MAY 4.4.5	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board, all roofing timber, gauge 28 blue prepainted GCI sheeting and ridges to the Engineer's satisfaction.	m ²	45		-
	<u>Building Finishes</u>				-
MAY 4.4.6	Supply and fix a 450 x 800mm granite "Project Label Plate" to detail	sum	1		-
MAY 4.4.7	Supply ND 25mm GI pipe toilet grab rail for the disabled toilet complete with all fittings and ancillaries including anchoring into the floor and wall to the Engineers approval and details	nr	2		-
MAY 4.4.8	Supply and Install OD 110 mm uPVC PN 6 vent pipe, complete with Tee, wire gauze fly screens and all ancillaries	m	25		-
MAY 4.4.9	Building finishes including; constructing 20x100mm high 1:3 cement-sand skirting, 700mm wide C20 concrete splash apron; supply and installation of 5no. toilet paper holders, complete to the specifications and as directed by the Engineer	sum	1		-
	<u>Water and Drainage</u>				-
MAY 4.4.10	Supply and erect a 500 litre Polyethylene tank as Polytank, elevated up to 1.0m above ground level on a brickwork support structure, complete with all rain water gutters, pipework, fittings, and connection to hand washing tap stand in toilet block	sum	1		-
MAY 4.4.11	Supply materials and install service line connection including all all PN 10 GI/PPR/HDPE plumbing pipe work, fittings and ancillaries from the distribution main to the overhead water tank	sum	1		-
MAY 4.4.12	Construct Shower Closet with DN 13 PPR/GI water pipework, valves, fittings, floor trap, domical removable cast iron grating, gully trap, elevated perforated circular shower head, 13mm diameter chromium plated pillar taps	nr	1		-
MAY 4.4.13	Provide materials and construct a 2no. tap hand washing tap stand complete with DN 13mm GI pipework, uPVC drainage pipework, all fittings, DN 13mm taps, waste outlet grating, all accessories; as per specifications and drawings and to the Engineer's approval	nr	1		-
MAY 4.4.14	Excavate and construct 1500mm top/bottom diameter x 2.0m deep soak pit complete including filling with hardcore, covering with 2 layers of gauge 1000 polyethylene sheet and	nr	1		-
MAY 4.4.15	Supply and Install OD 110 mm uPVC PN 6 pipework to BS 4660, complete with spigot and socket joints, all fittings; from hand washing basin and shower closet to Soak Pit	m	12		-
MAY 4.4.16	Supply and place pre-painted smooth wooden squat covers complete with lifting handles to the approval of the engineer	nr	5		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

BUSIA TOWN

BILL No. BUS S-9

DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
	Collection, Page 7				-
	Collection, Page 8				-
	Cost for 1No. Toilet Block				-
	Total Cost of Toilet Blocks	nr	2		-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-1

DESCRIPTION: FEACAL SLUDGE TREATMENT PLANT SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/NNK/S/0.0.0 series (including references made there-in to other drawings)</p> <p>DEMOLITION AND SITE CLEARANCE</p> <p>General Site Clearance</p>				
D100	General site clearance for Works	ha	1		-
	<p>Trees</p>				
D210	Cut and dispose of trees of tirth 500 mm-1 m; include removal of stump and backfilling the hole left with top soil	nr	15		-
	<p>EARTHWORKS</p> <p>Excavation for Cuttings</p> <p>Topsoil</p>				
E210.1	Strip top soil,depth not exceeding 0.3m for Feacal Sludge Treatment Plants and stockpile for use as over burden	m ³	893		-
	<p>Excavation</p> <p>Excavation for cuttings, including trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal and preparation of excavated surfaces</p>				
E221.1	Depth 0.25-2.5m	m ³	3,744		-
	<p>Disposal of Excavated Material</p>				
E531	Disposal of excess excavated material of all type of soil to sites as specified and as directed by the Engineer	m ³	3,744		-
	<p>Filling</p> <p><u>Filling by methods specified and to depths as shown in the drawings with the following materials</u></p> <p>Embankments</p>				
E623	Excavated rockfill to intake structure stabilisation (subgrade stabilisation)	m ³	3,653		-
E624	Filling to embankments of ponds by methods specified and to depths as shown in the drawings with selected excavated material or imported material other than topsoil,rock or artificial hard materialthe following materials	m ³	8,814		-
	<p>ROADS AND PAVINGS</p> <p>Sub-Bases</p>				
R114.1	Flexible road sub-base of granular material as specified, and stabilised and compacted as specified, of the following thickness: Depth 150-200 mm	m ²	1,340		-
	<p>Bases</p>				
R114.2	Flexible road base of granular material as specified, and stabilised and compacted as specified, of the following thickness Depth 150-200 mm	m ²	1,340		-
	<p>Walkways</p>				
R912	Concrete paved walkway; include sand bedding, earthworks and edge protection	m ²	90		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-1

DESCRIPTION: FEACAL SLUDGE TREATMENT PLANT SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	<u>MISCELLANEOUS WORK</u>				
	<u>Fences</u>				
X135	100x100mm Concrete post of C25 concrete and wire galvanised wire chain link fence of gauge 10 to BS 1722, with triple row of barbed wire on top, anchored into blockwork dwarf wall as per drawings, height 2-2.5 m	m	502		-
	<u>Gates</u>				
X235	Metal field gate to BS 3470 of width 3-3.5 m , double leaf	nr	1		-
			Carried to Collection		-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-1

DESCRIPTION: FEACAL SLUDGE TREATMENT PLANT SITE WORKS

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	COLLECTION Collection, Page 1 Collection, Page 2				- -
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-2
DESCRIPTION: SCREEN, GRIT CHAMBER AND INLET CHANNENLS

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	<p>Preamble:</p> <p>The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/NNK/S/1.0.0 series (including references made there-in to other drawings)</p> <p><u>EARTHWORKS</u></p> <p><u>General Excavation</u></p> <p>Ordinary Soil</p> <p>General excavation, for screen and grit channel, including trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal and preparation of excavated surfaces. Depth 0.25-0.5m</p>				
E422	For Grit Chamber	m ³	6		-
E423	For Inlet Channels	m ³	20		-
	<p>Disposal of Excavated Material</p>				
E532	Disposal of excess excavated material of all type of soil to sites as specified and as directed by the Engineer	m ³	16		-
	<p><u>CIVIL AND CONCRETE WORKS AND IN-SITU CHAMBERS</u></p> <p>Grit Chamber</p>				
F600	Civil and concrete works for the construction of the Grit Chamber including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	Sum	1		-
	<p>Inlet Channel</p>				
F601	Civil and concrete works for the construction of the Inlet Channel including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	m	95		-
	<p>Inlet Weir Chambers</p> <p>In-situ concrete inlet weir chambers as specified, including all necessary pipework and pipe inserts, and of the following depths</p>				
K231.1	Depth not exceeding 1.5m	nr	1		-
	<p>Outlet Weir Chambers</p> <p>In-situ concrete Outlet weir chambers as specified, including all necessary pipework and pipe inserts, and of the following depths</p>				
K231.2	Depth not exceeding 1.5m	nr	1		-
	<p>Handstocks: Hand Operated</p>				
J881	All flanged CI Handstocks to BS 5150 ,flanges to BS 4505, for operation by hand wheel,for the following sizes;include the supply of hand wheel : 200 mm ND	nr	8		-
	<p><u>MISCELLANEOUS WORKS</u></p> <p><u>Chequer Plate Flooring</u></p> <p>Perforated stainless steel trough to BS 4592, galvanised to BS729, 6mm thick, complete with frames and supports, fixed into a concrete structure, and of the following widths</p>				
NNK S-2.1	Width not exceeding 0.5 m	m ²	1		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-2

DESCRIPTION: SCREEN, GRIT CHAMBER AND INLET CHANNENLS

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	<u>Screens</u>				
NNK S-2.2	Supply and fix coarse screens in galvanized steel ; include guide channel and fixing to the concrete wall	nr	1		-
	<u>Sieve Basket</u>				
NNK S-2.3	Supply and fix sieve basket in galvanized steel include fixing to the concrete wall	nr	1		-
	<u>Water Supply</u>				
NNK S-2.4	Provide water supply for screen wash; include stand pipe, hoses, e.t.c	sum	1		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-2

DESCRIPTION: SCREEN, GRIT CHAMBER AND INLET CHANNENLS

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	COLLECTION Collection, Page 1 Collection, Page 2				- -
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-3

DESCRIPTION: PLANTED DRYING BEDS

ITEM NO.	ITEM DESCRIPTION	UNIT	Original Qty	RATE UShs	Amount UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/NNK/S/1.1.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u> Eartworks includingg general excavation, trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal, preparation of excavated surfaces, filling of embankments and disposal of excess material to dumping site, etc..				
E220	Depth 0.25-0.5m	Sum	1		-
	<u>CIVIL AND CONCRETE WORKS</u>				
F230	Civil and concrete works for the construction of the Planted Drying Bed including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	Sum	1		-
	<u>INTERNAL PIPEWORKS</u>				
J400	Supply and placing of internal pipeworks including uPVC drain pipes DN 200, uPVC plain pipes DN 200, bends, fittings, specials end caps, etc. insidethe planted drying bed	Sum	1		-
	<u>WATER PROOFING</u>				
	<u>Protective Layers and Flexible Sheeting</u>				
W422	Flexible sealing foil 25mm thick, or similar approved, laid to the surface of compacted marrum inclined at an angle not exceeding 60 degrees to the horizontal	m ²	45		-
	<u>FILTER MEDIA</u>				
NNK S-3.1	Supply and place approved filter media (Sand 0.3-0.75mm)	m ³	6		-
NNK S-3.2	Supply and place approved filter support media (Medium Gravel 10-25mm)	m ³	8		-
NNK S-3.3	Supply and place approved filter support media (Coarse Gravel 25-50mm)	m ³	31		-
NNK S-3.4	Supply and place / plant approved Phragmytes Australis Shoots (8-10 shoots/m ²)	nr	500		-
	<u>VENT PIPES</u>				
	200 mm uPVC Vent pipe, complete with plactic mesh attached at end of pipe and including a pipe fastening system to fasten the pipe onto the bed surface				
NNK S-3.5	Length not exceeding 3.5m	nr	4		-
	<u>OTHER WORKS</u>				
NNK S-3.6	Perforated Drainage Pipe Protection mesh placed around the DN200 perforated pipe for its protection	Sum	1		-
NNK S-3.7	Supply and place approved erosion protection stones grade (20/40mm)	m ³	2		-
NNK S-3.8	Filling bed with water	m ³	75		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-3

DESCRIPTION: PLANTED DRYING BEDS

ITEM NO.	ITEM DESCRIPTION	UNIT	Original Qty	RATE UShs	Amount UShs
	<u>EXTERNAL PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Manholes</u>				
	In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include hinged cast iron heavy duty grating manhole cover, size 1.0m by 1.0m clear opening complete, and of the following depths				
K133	Depth 2-2.5m	nr	1		-
	<u>LAYING OF EXTERNAL EFFLUENT PIPES</u>				
	Laying of external effluent pipes from Planted Drying Beds to Constructed Wetlands including trench excavation, pipe bedding, pipe surround, trench backfilling and laying of pipes Diameter not exceeding 200 mm ND				
L531		m	17		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-3

DESCRIPTION: PLANTED DRYING BEDS

ITEM NO.	ITEM DESCRIPTION	UNIT	Original Qty	RATE UShs	Amount UShs
	<p>COLLECTION</p> <p>Collection, Page 1 Collection, Page 2</p>				<p>- -</p>
	Cost for 1 Planted Drying Bed				-
	Other Planted Drying Beds	nr	2	-	-
	Carried to Summary				-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-4

DESCRIPTION: CONSTRUCTED WETLANDS

ITEM NO.	ITEM DESCRIPTION	UNIT	Qty	RATE UShs	Amount UShs
	Preamble: The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/NNK/S/2.1.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u> Eartworks includingg general excavation, trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal, preparation of excavated surfaces, filling of embankments and disposal of excess material to dumping site, etc..				
E221	Depth 0.25-0.5m	Sum	1		-
	<u>CIVIL AND CONCRETE WORKS</u> Civil and concrete works for the construction of the Planted Drying Bed including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.				
F230		Sum	1		-
	<u>INTERNAL PIPEWORKS</u> Supply and placing of internal pipeworks including uPVC drain pipes DN 200, uPVC plain pipes DN 200, bends, fittings, specials end caps, etc. insidethe planted drying bed				
J400		Sum	1		-
	<u>WATER PROOFING</u> <u>Protective Layers and Flexible Sheeting</u> Flexible sealing foil 25mm thick, or similar approved, laid to the surface of compacted marrum inclined at an angle not exceeding 60 degrees to the horizontal				
W422		m ²	50		-
	<u>MISCELLANEOUS WORK</u> <u>Filter Media</u>				
NNK S-4.1	Supply and place approved filter media (Sand 0.3-1.5mm)	m ³	4		-
NNK S-4.2	Supply and place approved filter support media (Medium Gravel 3-20mm)	m ³	5		-
NNK S-4.3	Supply and place approved filter support media (Coarse Gravel 20-60mm)	m ³	16		-
NNK S-4.4	Supply and place / plant approved Phragmytes Australis Shoots (8-10 shoots/m ²)	nr	330		-
	<u>Vent Pipes</u> 200 mm uPVC Vent pipe, complete with plactic mesh attached at end of pipe and including a pipe fastening system to fasten the pipe onto the bed surface				
NNK S-4.5	Length not exceeding 2.5m	nr	4		-
	<u>Other Works</u> Perforated Drainage Pipe Protection mesh placed around the DN200 perforated pipe for its protection				
NNK S-4.6		Sum	1		-
NNK S-4.7	Supply and place pipe support system including 500x500 mm erosion protection stone plate as in the drawing	Sum	1		-
NNK S-4.8	Supply,place and set to work steel plate as in the drawing	Sum	1		-
NNK S-4.9	Filling bed with water	m ³	12		-
				Carried to Collection	-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-4

DESCRIPTION: CONSTRUCTED WETLANDS

ITEM NO.	ITEM DESCRIPTION	UNIT	Qty	RATE UShs	Amount UShs
	<u>EXTERNAL PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Manholes</u>				
K131	In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include hinged cast iron heavy duty grating manhole cover, size 1.0m by 1.0m clear opening complete, and of the following depths Depth not exceeding 1.5m	nr	1		-
	<u>LAYING OF EXTERNAL EFFLUENT PIPES</u>				
L531	Laying of external effluent pipes from Constructed Wetlands to Horizontal Rock Filters including trench excavation, pipe bedding, pipe surround, trench backfilling and laying of pipes, depths not exceeding 1.50 m Diameter not exceeding 200 mm ND	m	10		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-4

DESCRIPTION: CONSTRUCTED WETLANDS

ITEM NO.	ITEM DESCRIPTION	UNIT	Qty	RATE UShs	Amount UShs
	<p>COLLECTION</p> <p>Collection, Page 1 Collection, Page 2</p>				<p>- -</p>
	<p>Cost for 1 Constructed Wetland</p>				-
	<p>Other Constructed Wetlands</p>	nr	1	-	-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-5
DESCRIPTION: HORIZONTAL ROCK FILTER AND DISCHARGE PIPE TO OUTFALL

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	The works under this bill are covered under Part 3 of the Particular Specifications. The relevant drawings are the DRAWING MWE/LOT1/NKK/S/3.1.0 series (including references made there-in to other drawings)				
	<u>EARTHWORKS</u>				
	Eartworks includingg general excavation, trimming of excavated surfaces inclined at an angle not exceeding 45 degrees to the horizontal, preparation of excavated surfaces, filling of embankments and disposal of excess material to dumping site, etc..				
E221	Depth 0.25-0.5m	Sum	1		-
	<u>CIVIL AND CONCRETE WORKS</u>				
F230	Civil and concrete works for the construction of the Planted Drying Bed including blinding concrete, reinforced concrete C25 for base slab and walls, shuttering, etc.	Sum	1		-
	<u>INTERNAL PIPEWORKS</u>				
J400	Supply and placing of internal pipeworks including uPVC drain pipes DN 200, uPVC plain pipes DN 200, bends, fittings, specials end caps, etc. insidethe planted drying bed	Sum	1		-
	<u>WATER PROOFING</u>				
	<u>Protective Layers and Flexible Sheeting</u>				
W422	Flexible sealing foil 25mm thick, or similar approved, laid to the surface of compacted marrum inclined at an angle not exceeding 60 degrees to the horizontal				
	<u>MISCELLANEOUS WORK</u>				
NNKS-5.1	Supply and place approved soft weathering stones (Gravel 75-150mm)	m ³	20		-
NNKS-5.2	Supply and place approved soft weathering stones (Gravel 100-200mm)	m ³	3		-
NNKS-5.3	Supply and place 50mm wire mesh as in the drawings	m ²	6		-
	<u>EXTERNAL PIPEWORK-MANHOLES AND PIPEWORK ANCILLARIES</u>				
	<u>Manholes</u>				
	In situ concrete manhole with reinforced concrete base or footing, include cast in pipe pieces for inlet and outlet as specified, include step irons as specified, include hinged cast iron heavy duty grating manhole cover, size 1.0m by 1.0m clear opening complete, and of the following depths				
K131	Depth not exceeding 1.5m	nr	2		-
					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-5
DESCRIPTION: HORIZONTAL ROCK FILTER AND DISCHARGE PIPE TO OUTFALL

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	<p><u>Outfall structure</u></p> <p>Construction of outfall structure for treated effluent discharge pipe at the water course of reinforced concrete including earthworks, concrete works, formworks, headwalls, all fittings and pipework, protection works, backfilling, etc.necessary to complete installation and structure</p>				
K231.2	Depth not exceeding 1.5m	nr	1		-
	<p><u>LAYING OF EXTERNAL EFFLUENT PIPES</u></p> <p>Laying of external effluent pipes from Horizontal Rock Filter to Outfall structure including trench excavation, pipe bedding, pipe surround, trench backfilling and laying of pipes, depths not exceeding 1.50 m</p>				
L531	Diameter not exceeding 200 mm ND	m	75		-
					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-5

DESCRIPTION: HORIZONTAL ROCK FILTER AND DISCHARGE PIPE TO OUTFALL

ITEM NO.	ITEM DESCRIPTION	UNIT	Quantity	RATE UShs	Amount UShs
	<p>COLLECTION</p> <p>Collection, Page 1 Collection, Page 2</p>				<p>- -</p>
	<p>Cost for 1 Horizontal Rock Filter</p>				<p>-</p>
	<p>Other Horizontal Rock Filters</p>	<p>nr</p>	<p>1</p>	<p>-</p>	<p>-</p>
	Carried to Summary				<p>-</p>

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-6
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	Excavation Ancillaries				-
	Trimming				-
	<u>Trimming of excavated surfaces for whole structure in the following materials</u>				-
E512	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	54		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	7		-
	Preparation				-
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				-
E522	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	35		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	6		-
	Disposal of Excavated Material				-
	<u>Disposal of excavated material to approved sites as directed by the Engineer</u>				-
E532	Material other than topsoil,rock,or artificial hard material	m ³	80		-
E533	Rock	m ³	3		-
	Filling				-
	Structures				-
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				-
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	5		-
E617	Imported rock of size and grading as specified; include sand blinding on top	m ³	4		-
	Landscaping				-
E830	Turfing for lawns around toilet block; include filling with excavated topsoil and the preparation of the surfaces	m ²	24		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-6
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	Ordinary Designed Mix Concrete				-
	Grade C15				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F231	10mm aggregate	m ³	1		-
	Grade C20				-
	<u>Designed mix, grade C20 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F241	10mm aggregate	m ³	13		-
	<u>Placing Mass Concrete</u>				-
	Blinding				-
	<u>Placing blinding concrete, for footings, grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m ³	1		-
	Bases, Footings and Ground Slabs				-
	<u>Placing mass concrete C20, for vault ground slab of the following thickness</u>				-
F522.1	Thickness 150-300mm	m ³	4		-
	<u>Placing mass concrete C20, for ground slab and ramp base of the following thickness</u>				-
F522.2	Thickness 150-300mm	m ³	5		-
	<u>Placing Reinforced Concrete</u>				-
	Bases, Footings and Ground Slabs				-
	<u>Placing reinforced concrete C20, for footings of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	2		-
	Beams				-
	<u>Placing reinforced concrete, grade C20, for beams of the following cross-sectional area</u>				-
F662	Cross-sectional area 0.03 - 0.1 m ²	m ³	2		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-6
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>CONCRETE ANCILLARIES</u>				-
	<u>Formwork-Fair Finish</u>				-
	<u>Fair Finish Plane Horizontal</u>				-
	<u>Plane fair finish horizontal formwork of the following width</u>				-
G214	Width 0.4 - 1.22m	m ²	2		-
G215	Width exceeding 1.22m	m ²	14		-
	<u>Fair Finish Plane Vertical</u>				-
	<u>Plane fair finish vertical formwork of the following width</u>				-
G244	Width 0.4 - 1.22m	m ²	47		-
	<u>Reinforcement</u>				-
	<u>Deformed High Yield Steel</u>				-
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 6-16mm	t	0.5		-
	<u>Steel Fabric</u>				-
	<u>Steel fabric reinforcement to BS4483, fabric reference A142, in concrete floor slab with minimum 200mm end side laps, and of the following mass</u>				-
G563	Nominal mass 2-3 kg/m ²	m ²	49		-
	<u>Concrete Accessories</u>				-
	<u>Finishing of top surfaces</u>				-
	<u>Finishing of top surfaces by the following methods</u>				-
G811	Class U3 steel trowel finish	m ²	49		-
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				-
	<u>Burnt Clay Brickwork</u>				-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.1	200 mm thick	m ²	77		-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.2	150 mm thick	m ²	35		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-6
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
U511.3	<u>Burnt clay pompeii grill brickwork vents, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, as detailed in the drawings of the following sizes</u> 100 mm thick	m ²	5		-
U582	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u> 200 mm thick PAINTING High Gloss Timber Surfaces <u>External quality weather guard paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>	m	28		-
V321	Upper surfaces of fascia board inclined at an angle not exceeding 30 degrees to the horizontal Masonry <u>External quality weather guard paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	6		-
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal Emulsion Paint Masonry <u>Internal quality vinyl silk paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	42		-
V553	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal WATER PROOFING Damp Proofing Rendering	m ²	75		-
W153	Rendering of wall surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar finished with a wood float Ceramic Tiles	m ²	187		-
W173	White ceramic wall tiles to internal faces of walls	m ²	12		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-6

DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- BOYS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	COLLECTION				
	Collection, Page 1				-
	Collection, Page 2				-
	Collection, Page 3				-
	Collection, Page 4				-
	Collection, Page 5				-
	Collection, Page 6				-
	Collection, Page 7				-
	Collection, Page 8				-
	Cost for 1No. Toilet Block				-
	Total Cost of Toilet Blocks	nr	2		-
Carried to Summary					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
BUSIA WATER SUPPLY AND SANITATION SYSTEM
KUMI-NYERO-NGORA
BILL No. KUM S-7
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	Excavation Ancillaries				-
	Trimming				-
	<u>Trimming of excavated surfaces for whole structure in the following materials</u>				-
E512	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	54		-
E513	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	7		-
	Preparation				-
	<u>Preparation of excavated surfaces for whole structure in the following materials</u>				-
E522	Material other than topsoil,rock,or artificial hard material inclined at an angle not exceeding 45 degrees to the horizontal	m ²	35		-
E523	Rock surfaces inclined at an angle not exceeding 45 degrees to the horizontal	m ²	6		-
	Disposal of Excavated Material				-
	<u>Disposal of excavated material to approved sites as directed by the Engineer</u>				-
E532	Material other than topsoil,rock,or artificial hard material	m ³	80		-
E533	Rock	m ³	3		-
	Filling				-
	Structures				-
	<u>Filling to Structures by methods specified and to depths as shown in the drawings with the following materials</u>				-
E614	Selected excavated material other than topsoil, rock or artificial hard material	m ³	5		-
E617	Imported rock of size and grading as specified; include sand blinding on top	m ³	4		-
	Landscaping				-
E830	Turfing for lawns around toilet block; include filling with excavated topsoil and the preparation of the surfaces	m ²	24		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)
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KUMI-NYERO-NGORA
BILL No. KUM S-7
DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>IN-SITU CONCRETE</u>				-
	<u>Provision of Concrete</u>				-
	Ordinary Designed Mix Concrete				-
	Grade C15				-
	<u>Designed mix, grade C15 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F231	10mm aggregate	m ³	1		-
	Grade C20				-
	<u>Designed mix, grade C20 concrete, to BS 5328, with ordinary portland cement to BS 12, aggregate to BS882, for the following aggregate sizes</u>				-
F241	10mm aggregate	m ³	13		-
	<u>Placing Mass Concrete</u>				-
	Blinding				-
	<u>Placing blinding concrete, for footings, grade C15, of the following thickness</u>				-
F511	Thickness not exceeding 150mm	m ³	1		-
	Bases, Footings and Ground Slabs				-
	<u>Placing mass concrete C20, for vault ground slab of the following thickness</u>				-
F522.1	Thickness 150-300mm	m ³	4		-
	<u>Placing mass concrete C20, for ground slab and ramp base of the following thickness</u>				-
F522.2	Thickness 150-300mm	m ³	5		-
	<u>Placing Reinforced Concrete</u>				-
	Bases, Footings and Ground Slabs				-
	<u>Placing reinforced concrete C20, for footings of the following thickness</u>				-
F622	Thickness 150-300mm	m ³	2		-
	Beams				-
	<u>Placing reinforced concrete, grade C20, for beams of the following cross-sectional area</u>				-
F662	Cross-sectional area 0.03 - 0.1 m ²	m ³	2		-
Carried to Collection					-

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ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	<u>CONCRETE ANCILLARIES</u>				-
	<u>Formwork-Fair Finish</u>				-
	<u>Fair Finish Plane Horizontal</u>				-
	<u>Plane fair finish horizontal formwork of the following width</u>				-
G214	Width 0.4 - 1.22m	m ²	2		-
G215	Width exceeding 1.22m	m ²	14		-
	<u>Fair Finish Plane Vertical</u>				-
	<u>Plane fair finish vertical formwork of the following width</u>				-
G244	Width 0.4 - 1.22m	m ²	47		-
	<u>Reinforcement</u>				-
	<u>Deformed High Yield Steel</u>				-
	<u>High yield ribbed bars to BS 4449 and of the following sizes</u>				-
G524	Nominal size, 6-16mm	t	0.5		-
	<u>Steel Fabric</u>				-
	<u>Steel fabric reinforcement to BS4483, fabric reference A142, in concrete floor slab with minimum 200mm end side laps, and of the following mass</u>				-
G563	Nominal mass 2-3 kg/m ²	m ²	49		-
	<u>Concrete Accessories</u>				-
	<u>Finishing of top surfaces</u>				-
	<u>Finishing of top surfaces by the following methods</u>				-
G811	Class U3 steel trowel finish	m ²	49		-
	<u>BRICKWORK, BLOCKWORK AND MASONRY</u>				-
	<u>Burnt Clay Brickwork</u>				-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.1	200 mm thick	m ²	77		-
	<u>Solid burnt clay brickwork to BS 3921, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, and of the following thicknesses</u>				-
U511.2	150 mm thick	m ²	38		-
Carried to Collection					-

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ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
U511.3	<u>Burnt clay pompeii grill brickwork vents, jointed with ordinary 1:4 cement mortar, hoop irons every three courses, as detailed in the drawings of the following sizes</u> 100 mm thick	m ²	5		-
U582	<u>Damp proof course of bitumen impregnated fabric to BS 6398 for the following wall thickness</u> 200 mm thick PAINTING High Gloss Timber Surfaces <u>External quality weather guard paint, two coats, to the following timber surfaces; include surface preparation and undercoat as specified</u>	m	30		-
V321	Upper surfaces of fascia board inclined at an angle not exceeding 30 degrees to the horizontal Masonry <u>External quality weather guard paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	6		-
V333	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal Emulsion Paint Masonry <u>Internal quality vinyl silk paint, two coats, to the following smooth concrete surfaces; include surface preparation and undercoat as specified</u>	m ²	42		-
V553	Surfaces of walls inclined at an angle exceeding 60 degrees to the horizontal WATER PROOFING Damp Proofing Rendering	m ²	80		-
W153	Rendering of wall surfaces to walls inclined at an angle exceeding 60 degrees to the horizontal in 1:3 ordinary cement mortar finished with a wood float Ceramic Tiles	m ²	193		-
W173	White ceramic wall tiles to internal faces of walls	m ²	5		-
Carried to Collection					-

INTEGRATED WATER MANAGEMENT DEVELOPMENT PROJECT (IWMDP)

BUSIA WATER SUPPLY AND SANITATION SYSTEM

KUMI-NYERO-NGORA

BILL No. KUM S-7

DESCRIPTION: 6 STANCE SINGLE VAULT VIP SCHOOL TOILETS- GIRLS

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE UGX	AMOUNT UGX
	Roofing				-
MAY 4.4.5	Construct roofing, complete as in the drawings and as specified; include tie beams, purlins, rafters, struts, wall plate, fascia board, all roofing timber, gauge 28 blue prepainted GCI sheeting and ridges to the Engineer's satisfaction.	m ²	45		-
	Building Finishes				-
MAY 4.4.6	Supply and fix a 450 x 800mm granite "Project Label Plate" to detail	sum	1		-
MAY 4.4.7	Supply ND 25mm GI pipe toilet grab rail for the disabled toilet complete with all fittings and ancillaries including anchoring into the floor and wall to the Engineers approval and details	nr	2		-
MAY 4.4.8	Supply and Install OD 110 mm uPVC PN 6 vent pipe, complete with Tee, wire gauze fly screens and all ancillaries	m	25		-
MAY 4.4.9	Building finishes including; constructing 20x100mm high 1:3 cement-sand skirting, 700mm wide C20 concrete splash apron; supply and installation of 5no. toilet paper holders, complete to the specifications and as directed by the Engineer	sum	1		-
	Water and Drainage				-
MAY 4.4.10	Supply and erect a 500 litre Polyethylene tank as Polytank, elevated up to 1.0m above ground level on a brickwork support structure, complete with all rain water gutters, pipework, fittings, and connection to hand washing tap stand in toilet block	sum	1		-
MAY 4.4.11	Supply materials and install service line connection including all all PN 10 GI/PPR/HDPE plumbing pipe work, fittings and ancillaries from the distribution main to the overhead water tank	sum	1		-
MAY 4.4.12	Construct Shower Closet with DN 13 PPR/GI water pipework, valves, fittings, floor trap, domical removable cast iron grating, gully trap, elevated perforated circular shower head, 13mm diameter chromium plated pillar taps	nr	1		-
MAY 4.4.13	Provide materials and construct a 2no. tap hand washing tap stand complete with DN 13mm GI pipework, uPVC drainage pipework, all fittings, DN 13mm taps, waste outlet grating, all accessories; as per specifications and drawings and to the Engineer's approval	nr	1		-
MAY 4.4.14	Excavate and construct 1500mm top/bottom diameter x 2.0m deep soak pit complete including filling with hardcore, covering with 2 layers of gauge 1000 polyethylene sheet and	nr	1		-
MAY 4.4.15	Supply and Install OD 110 mm uPVC PN 6 pipework to BS 4660, complete with spigot and socket joints, all fittings; from hand washing basin and shower closet to Soak Pit	m	12		-
MAY 4.4.16	Supply and place pre-painted smooth wooden squat covers complete with lifting handles to the approval of the engineer	nr	5		-
Carried to Collection					-

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