



PROCUREMENT DOCUMENTS

Volume I:

BILLS OF QUANTITIES Procurement of

Eastern Nairobi Water & Sewerage Network Intensification Project

ICB No: AWWDA.....

Athi Water Works Development Agency
KENYA

	BILL NO. 1: PRELIMINARIES AND GENERAL ITEMS				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
1	CONTRACTUAL REQUIREMENTS			(11011)	(11011)
1.1	Allow for provision of Perfomance Security In accordance with the Conditions of Contract	Item	L.S		
1.2	Allow for provision of Insurance for Works and Contractor's Equipment in accordance with the Conditions of Contract	Item	L.S		
1.3	Allow for provision of Third Party Insurance (including Employer's property) in accordance with the Conditions of Contract	Item	L.S		
2	SPECIAL REQUIREMENTS				
2.1	Contractor's Camp and Storage Yard: Allow for erection of the Contractor's Camp(s), Offices, Storage Yard and other facilities including mobilization, demobilization and movement of the works site on Completion. Include for mobillization of all equipment, temporary measures, machines, tools, materials, facilities for workers, water and electricity supply etc. all as specified for execution of the Works, for the entire Contract Period. The Employer has no available land to offer for Contractor's Camp, storage of materials etc. Identification and procurement of suitable area of land for Contractor's Camp whether rented or purchased is the responsibility of the Contractor. Details of proposed camp / stores, location of land where the Contractor will establish his camp(s) to be submitted with the Bid.	ltem	L.S		
2.2	Test running of the works: Contractor to test-run the newly constructed facilities for a period of 4 weeks upon completion of the Works. Test running to be carried out in close liaison with the Water Services Provider's staff. The contractor to allow for 'on-job' training of OPeration and Maintenance Staff, tools etc. and ensure the operations are carried out full time on 24 hour basis, all in accordance with the General and Particular Conditions of the Bidding Document	ltem	L.S		
2.3	Allow for provision of As-Built Drawings in accordance with the General and Particular Specifications of the Bidding Document	Item	L.S		
3	Specified Requirements				
3.1	Sign Boards and Plaque Provision, fixing, maintaining and removal of site signboards as per drawings in Bidding Document	nr	12		
	Offices for the Pecident Engineer and Staff				
3.2	Offices for the Resident Engineer and Staff Provide for rented Site offices for the supervision team in accordance with the Specifications in the Bidding Document, all to the Engineer's Approval	month	18		

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BILL NO. 1: PRELIMINARIES AND GENI	ERAL ITEMS

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
3.3	Provisional Sum for provision of furniture and equipment for the Resident Engineer's Offices as specified under Clause 1.17 of the Employer's Requirements. To include furniture, laptop computers, mobile phones, digital cameras, printers e.t.c. Final List of Furniture & Equipment to be procured will be provided by the Resident Engineer prior to commencement of Works. The furniture and equipment to revert to the Employer at the end of the Contract. All furniture and equipment to be made in good working order before returning to the Employer.	ltem	P.S		5,000,000
3.4	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.4 above	%	5,000,000		
3.5	Provide maintenance of site office including provision of water, electricity, bevarages, toiletries, security etc. in accordance with the Specifications in the Bidding Document	month	18		
3.6	Provide for maintanance of communication facilities including, airtime, internet subscription etc. for the Project Site Office and the Supervision Staff, in accordance with the Specifications in the Bidding Document	month	18		
3.7	Provide for rented Site offices for the Community Outreach Consultant as specified under the Employers Requirements	month	18		
	Services for Engineer's Staff				
3.8	Provisional Sum of KShs 17,640,000 for Supply of three (3No) Double Cabin Vehicles (2800cc) for use by Engineer and staff, including registration, inspection etc as described in the Specifications. Vehicles to revert to the Employer after completion of the Contract.	Item	P.S		17,640,000
3.9	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.9 above	%	17,640,000		
3.10	Provide for maintenance, running, servicing and insurance costs of the vehicles on items 3.9 and 3.11 as directed by the Engineer.	km	250,000		
3.11	Provisional Sum for Supply of one (1No) Double Cabin Vehicles (2800cc) for use by the Resident Sociologist in undertaking field Community Outreach activities, as described in the Specifications. Vehicles to revert to the Employer.	Item	P.S		5,880,000
3.12	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.13 above	%	5,880,000		
3.15	Provide for maintenance, running, servicing and comprehensive insurance costs of the vehicles on item 3.13 as directed by the Engineer.	km	30,000		

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BILL NO. 1: PRELIMINARIES	AND GENERAL ITEMS

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
				()	(11011)
	Provisional Sum for monthly maintenance of office equipment				
3.16	(printers, cameras etc) for use by the Engineer's Staff	month	18		
	Equipment for Engineer's Staff				
	Attendance Upon Engineer's Staff				
3.17	Provide for attendance upon Engineer's Staff by drivers (5No.)	month	18		
3.21	Provide for attendance upon Engineer's staff by office Administrators (2 No.)	month	18		
3.22	Provide for attendance upon Engineer's staff by office assistants and chainmen (4No.)	month	18		
	Testing of Materials and Works				
3.23	Provisional sum for testing of materials as may be directed by the Engineer	ltem	PS		600,000
	Other Provisional sums				
3.24	Allow a provisional Sum for fees requested by various authorities and agencies including TELKOM, CABLE companies, NCWSC, road authorities etc). This sum in to cover the identification and relocation of the said services.	Item	P.S		4,000,000
	Allow a provisional sum of Kshs. 7,000,000 to cover cost for				
3.25.1	capacity building , youth empowerment, training and internship to be expended by the project manager.	Item	P.S		7,000,000
2.26	All D :: 1 (: 1 : 1 : 1 : 1 : 1 : 1 : 1 : 1				
3.26	Allow a Provisional sum for implementing safeguards/ESMP due diligence while undertaking the work to be expended as directed by the Engineer.	ltem	P.S		5,000,000
	Allers - Descriptional consent VEC 4 000 000 / the heart state of the least				
3.27	Allow a Provisional sum of KES 4,000,000/- , to be spent in whole or part, for Community sensitization and RAP implementation activities, to be spent as directed by the Engineer	Item	P.S		4,000,000
3.28	Include Percentage addition to item (3.25.1 to 3.27) for overheads and profits	%	20,600,000		
3.29	Allow for a sum for implementation ESHS including for ESIA, PSEA, GBV, HIV as described in the technologal specifications.	Item	L.S		
3.23	Contractors will be evaluated on the responsiveness to provisions in the specifications on a pass or fail basis.	itom	2.0		
	Bidders are advised to refer to ITB 35.2 a) to e), and evaluation				
	criteria 1.1 on ESHS methodology evaluation while quoting for this item. Cost to be carried forward from the ESHS Cost schedule.				
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BILL NO. 1: PRELIMINARIES AND GENERAL ITEMS

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
3.30	Allow for a sum for Security implementation carried forward from the Security Cost Schedule	Item	L.S		
	Bidders are advised to refer to ITB 35.2 a) to e), and evaluation criteria 1.2 on Security methodology evaluation while quoting for this item. Cost to be carried forward from the Security Cost schedule				
3.31	Provisional Sum of KShs 1,000,000 for Inspection and Witness Testing of Pipes, Fittings and Equipment at manufacturer's premises by the Employer, Engineer and their representatives to be expended as directed by the Engineer	Item	P.S		1,000,000
3.31.1	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.31 above	%	1,000,000		
4	Mothod Polated Charges				
4.1	Method Related Charges In addition to the items listed hereunder, the Bidder is to insert such items as he may decide to cover, items of work relating to his intended method of executing the works, costs of which are not to be considered as allowed in the rates and prices for the other items. (Bidder to list the considered items)	Item	L.S		
5.0	Environmental conservation and climate resilience interventions				
5.1	Allow a Provisional sum of KES 3,000,000/-, to be spent in whole or part, for Environmental Conservation and climate Ressiliance Program activities and campaigns to be spent as directed by the Engineer (eg water harvesting for schools, tree planting etc)	PS			1,500,000
	% Adjustment to the provisional sum for Item 5.1		1,500,000		
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BILL NO. 1: PRELIMINARIES AND GENERAL ITEMS AMOUNT ITEM DESCRIPTION UNIT QUANTITY RATE (KSH) (KSH) No. COLLECTION PAGE From Page 1 From Page 2 From Page 3 From Page 4

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BILL 1 SUMMARY TAKEN TO GRAND SUMMARY

CLASS A - TESTING AND SETTING OUT OF WORKS Testing and Commissioning of the Pipeline including flushing and sterlishing in accordance with the Specification Clause 5.19 & 5.20 A260.1 OD813	ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
Testing and Commissioning of the Pipeline including flushing and stertising in accordance with the Specification Clause 5.19 8.5 20 A260.1 OD813		CLASS A - TESTING AND SETTING OUT OF WORKS				
sterlising in accordance with the Specification Clause 5.19 & 5.20 A260.1 OD813		GEAGG AT TESTING AND GETTING GOT OF WORKS				
A260.1 OD813						
A260.2 OD500 mm 3250 mm 3250 mm 5200 mm 52200 mm 4700 m		sterilsing in accordance with the Specification Clause 5.19 & 5.20				
A260.3 OD500 mm 3250 mm 5200 mm 5200 mm 5200 mm 5200 mm 5200 od A260.5 OD315 mm 4700 m	A260.1	OD813	m	3300		
A260.4 QD400 mm 5200 mm 4700 m	A260.2	OD630	m	1000		
Method Related Charges The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment. The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to provent collapse, such as trench boxes); shoring (bracing designed to provent collapse, such as trench boxes); shoring or silder-all systems); and sloping or benching trench walls away from the trench bottom at 335.1 Cost relating to the above mentioned specific conditions Item L.S Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	A260.3	OD500	m	3250		
The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment. The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi, Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as the hoxes); shoring (bracing designed to prevent collapse, such as the hoxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at 335.1 Cost relating to the above mentioned specific conditions Item L.S Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	A260.4	OD400	m	5200		
The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment. The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as the hoxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at 35.1 Cost relating to the above mentioned specific conditions Item L.S Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	A260.5	OD315	m	4700		
active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment. The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at A35.1 Cost relating to the above mentioned specific conditions Item L.S Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc. A35.3 Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)		Method Related Charges				
necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at A35.1 Cost relating to the above mentioned specific conditions Item L.S Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc. A35.3 Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)		active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and				
A35.2 Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc. A35.3 Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary) i) Item L.S		necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems);				
payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc. A35.3 Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary) i) Item L.S	435.1	Cost relating to the above mentioned specific conditions	Item	L.S		
be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary) i) Item L.S	√35.2	payment for access, accidental damage, temporary access to	Item	L.S		
	\35.3	be required. These should be indicated below with pricing for each				
ii) Item L.S		i)	Item	L.S		
		ii)	Item	L.S		
		, , , , , , , , , , , , , , , , , , ,				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	17450		
	CLASS I - PIPEWORK - PIPES				
14	STEEL PIPES (External Epoxy Coated and Internal cement mortar lined) - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Include supply jointing material, bolts, nuts, gaskets etc as applicable.				
1441.1	Outer Diameter 813mm - not in trenches	m	3300		
1441.2	Outer Diameter 630mm - not in trenches	m	1000		
I431.1	Outer Diameter 500mm - not in trenches	m	3250		
I431.2	Outer Diameter 400mm - not in trenches	m	5200		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442.1	Outer Diameter 813mm in trenches, depth not exceeding 1.5m	m	825		
1443.1	-Ditto- but depth 1.5m - 2.0m	m	1155		
1444.1	-Ditto- but depth > 2.0m	m	1320		
1442.2	Outer Diameter 630mm in trenches, depth not exceeding 1.5m	m	250		
1443.2	-Ditto- but depth 1.5m - 2.0m	m	350		
1444.2	-Ditto- but depth > 2.0m	m	400		
1432.1	Outer Diameter 500mm in trenches, depth not exceeding 1.5m	m	813		
1433.1	-Ditto- but depth 1.5m - 2.0m	m	1138		
1434.1	-Ditto- but depth > 2.0m	m	1300		
1432.2	Outer Diameter 400mm in trenches, depth not exceeding 1.5m	m	1300		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	1820		
1434.2	-Ditto- but depth > 2.0m	m	2080		
	For River aerial crossings - Supply, Transport to site and store in secure place. Include supply of jointing material, bolts, nuts, gaskets etc as applicable for Steel sections and Install as per Drawing Detail AFE0006-C0-253 or as directed by the Resident Engineer.				
1421.1	Outer Diameter 500mm	m	100		
l421.2	Outer Diameter 400mm	m	50		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
1421.3	Outer Diameter 315mm	m	100		
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
1731.1	Outer Diameter 315mm - not in trenches	m	4700		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1722.1	Outer Diameter 315mm in trenches, depth not exceeding 1.5m	m	1175		
1722.2	-Ditto- but depth 1.5m - 2.0m	m	1645		
1722.3	-Ditto- but depth > 2.0m	m	1880		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J3	STEEL FITTINGS (External Epoxy Coated and Internal cement mortar lined) - Pressure Rating of PN16				
	of jointing materials, bolts, nuts, gaskets etc as Applicable. Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J31	Bends				
	Plain Ended Bends				
J334.1	Outer Diameter 813mm 90° bend	nr	2		
J334.2	-Ditto- but 45° bend	nr	1		
J334.3	-Ditto- but 22.5° bend	nr	3		
J334.4	-Ditto- but 11.25° bend	nr	5		
J334.5	Outer Diameter 630mm 22.5° bend	nr	1		
J334.6	-Ditto- but 11.25° bend	nr	3		
J333.1	Outer Diameter 500mm 45° bend	nr	1		
J333.2	-Ditto- but 22.5° bend	nr	1		
J333.3	-Ditto- but 11.25° bend	nr	7		
J333.4	Outer Diameter 400mm 45° bend	nr	6		
J333.5	-Ditto- but 22.5° bend	nr	4		
J333.6	-Ditto- but 11.25° bend	nr	7		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J32	Junctions and Branches			(NOII)	(KSH)
	All flanged Tee				
J323.1	Outer Diameter 813mm x 350mm	nr	1		
J323.2	Outer Diameter 813mm x 250mm	nr	1		
J323.3	Outer Diameter 630mm x 315mm	nr	1		
J323.4	Outer Diameter 630mm x 250mm	nr	1		
J323.5	Outer Diameter 500mm x 200mm	nr	1		
J323.6	Outer Diameter 500mm x 110mm	nr	2		
J323.7	Outer Diameter 400mm x 315mm	nr	1		
J323.8	Outer Diameter 400mm x 200mm	nr	1		
J323.9	Outer Diameter 400mm x 160mm	nr	1		
J323.10	Outer Diameter 400mm x 110mm	nr	1		
	Flange Tee for Air Valve				
J323.11	Outer Diameter 813mm x 100mm	nr	2		
J323.12	Outer Diameter 500mm x 100mm	nr	2		
J323.13	Outer Diameter 400mm x 80mm	nr	3		
J323.14	Outer Diameter 315mm x 80mm	nr	2		
	All Flanged Inverted Tee for Washout)				
J323.16	Outer Diameter 830mm x 150mm	nr	1		
J323.17	Outer Diameter 630mm x 100mm	nr	1		
J323.18	Outer Diameter 500mm x 100mm	nr	2		
J323.19	Outer Diameter 400mm x 80mm	nr	2		
J33	<u>Tapers</u>				
	All Flanged Concentric Taper				
J332.1	813 x 630mm	nr	1		
J332.2	630 x 500mm	nr	1		
J332.3	500 x 400mm	nr	1		
J332.4	400 x 315mm	nr	1		
J34	Double Collars				
	Stepped Couplings				
J341.1	Outer Diameter 315mm flange steel/HDPE stepped coupling	nr	6		
J341.4	Outer Diameter 150mm flange steel/HDPE stepped coupling (For Washout)	nr	1		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J341.5	Outer Diameter 100mm flange steel/HDPE stepped coupling (For Washout)	nr	3		
J341.6	Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout)	nr	2		
	Couplings				
J341.1	OD 813	nr	4		
		pr	2		
J341.2	OD 630	nr	2		
J341.3	OD 500	nr	5		
J341.4	OD 400	nr	5		
J35	Adaptors				
	Flanged Adaptor				
J351.1	Outer Diameter 813mm flanged adaptor	nr	2		
J351.2	Outer Diameter 630mm flanged adaptor	nr	2		
J351.3	Outer Diameter 500mm flanged adaptor	nr	3		
J351.4	Outer Diameter 400mm flanged adaptor	nr	4		
J351.5	Outer Diameter 315mm flanged adaptor	nr	2		
J351.6	Outer Diameter 250mm flanged adaptor	nr	3		
J351.7	Outer Diameter 200mm flanged adaptor	nr	1		
J351.8	Outer Diameter 150mm flanged adaptor (for Washout)	nr	1		
J351.9	Outer Diameter 100mm flanged adaptor (for Washout)	nr	3		
J351.10	Outer Diameter 80mm flanged adaptor (for Washout)	nr	2		
J351.11	Diameter 100mm flanged adaptor (for Air Valve)	nr	4		
	Diameter 80mm flanged adaptor (for Air valve)		5		
		nr	3		
J38	Straight Specials as specified				
	Plain Ended Pipes				
J381.1	315mm diameter Plain Ended Pipe piece (1.2m)	nr	6		
J381.4	150mm diameter plain ended steel, 2000mm long (for Washout)	nr	1		
J381.5	-Ditto- but DN100	nr	3		
J381.6	-Ditto- but DN80	nr	2		
J383.1	813mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	4		
J383.2	-Ditto- but DN500	nr	4		
J383.3	-Ditto- but DN400	nr	6		
		1	+		

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	BILL No. 2 - PRIMARY MAIN				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J383.4	-Ditto- but DN315	nr	4		
J383.6	813mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	2		
J383.7	-Ditto- but DN500	nr	4		
J383.8	-Ditto- but DN400	nr	4		
	Flanged Spigot Pipes				
J383.9	813mm diameter flanged spigot pipe	nr	4		
J383.10	-Ditto- but DN630	nr	2		
J383.11	-Ditto- but DN500	nr	5		
J383.12	-Ditto- but DN400	nr	3		
J383.13	-Ditto- but DN315	nr	4		
J383.14	-Ditto- but DN250	nr	2		
J383.15	-Ditto- but DN200	nr	1		
	All Flanged Pipes				
J383.16	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	5		
J383.17	100mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	4		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	10		
J6	HDPE FITTINGS - Pressure Rating of PN16				
J61	Bends				
J611.1	Outer Diameter 315mm 45° bend	nr	4		
J62	Junctions and Branches				
J623.1	Outer Diameter 315mm x 315mm - Tee	nr	1		
J623.2	Outer Diameter 315mm x 200mm - Tee	nr	1		
J623.2	Outer Diameter 315mm x 110mm - Tee	nr	3		
J623.3	Outer Diameter 315mm x 90mm - Tee	nr	1		
J63	Tapers				
	Concentric Taper				
J632.4	Supply and Install Concentric Taper of 315 x 90mm	nr	1		
			+		

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	BILL No. 2 - PRIMARY MAIN				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Outer Diameter 150mm flanged sluice valve for Washout	nr	1		
J811.2	Nominal Diameter 100mm flanged sluice valve for Washout	nr	3		
J811.3	Nominal Diameter 80mm flanged sluice valve for Washout	nr	2		
J811.4	Nominal Diameter 150mm flap valve for Washout	nr	1		
J811.5	Nominal Diameter 100mm flap valve for Washout	nr	3		
J811.6	Nominal Diameter 80mm flap valve for Washout	nr	2		
J811.7	Nominal Diameter 100mm flanged sluice valve for Air Valve	nr	4		
J811.8	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	5		
J811.8	Outer Diameter 813mm flanged sluice valve	nr	1		
J811.9	Outer Diameter 630mm flanged sluice valve	nr	1		
J811.10	Outer Diameter 500mm flanged sluice valve	nr	2		
J811.11			4		
	Outer Diameter 400mm flanged sluice valve	nr			
J811.12	Outer Diameter 315mm flanged sluice valve	nr	3		
J86	Air Valves as specified				
J861.1	Nominal Diameter 100mm Combination air valve	nr	4		
J861.2	Nominal Diameter 80mm Combination air valve	nr	8		
J87	Pressure Reducing Valves as specified				
J871.1	Outer Diameter 400mm	nr	2		
J91	Flanged Water Meters				
J911.1	OD 813	nr	1		
J911.2	OD 630	nr	1		
J911.3	OD 500	nr	1		
J911.4	OD 400	nr	1		
J911.5	OD 315	nr	1		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK				
	ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133.1	In situ concrete chamber, internal size 2500mm x 2500mm, depth not exceeding 2.0m	nr	11		
	Meter Chambers				
K133.2	In situ concrete chamber, internal size 2500mm x 2500mm, depth not exceeding 2.0m	nr	5		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 200-630mm	nr	5		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	1500		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	600		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K 7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 110-250mm	m	550		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 110-250mm	m	1500		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	12		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	18		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	6		
K87	Washout Outfall structures				
(871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	6		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	8000		
L112	Excavation in Hard rock (Description as specified)	m ³	3500		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	<u>Surrounds</u>				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 813-200mm	m	13960		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 813-200mm	m	3490		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	1400		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m	750		

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L7				(KSH)	(KSH)
	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L74	Volume:- 0.5 - 1m³				
L743	To pipes Outer Diameter 200 - 400mm	nr	8		
L76	Volume:- 2.0 - 4.0m ³				
L763.1	To pipes Outer Diameter 400 - 630mm	nr	51		
L76	Volume:- 4.0 - 5.0m ³				
L763.2	To pipes Outer Diameter 630 - 813mm	nr	24		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 813-200mm.	m	250		
	Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	38		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	lii)				
X64	Provide and install to functional level 10,000m³ Tank, with 150mm wide by 75mm deep and 500m long half-round gutters or equivalent, strainers and construct a concrete pad for the tank - to be utilised for water harvesting. All items and works to be approved by the Resident Engineer for schools within the project area.	nr	10		

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	BILL No. 2 - PRIMARY MAIN						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUN1 (KSH)		
	Bill 2 Collection Sheet						
	Page No. 1 of 10						
	Page No. 2 of 10						
	Page No. 3 of 10						
	Page No. 4 of 10						
	Page No. 5 of 10						
	Page No. 6 of 10						
	Page No. 7 of 10						
	Page No. 8 of 10						
	Page No. 9 of 10						
	Page No. 10 of 10						
ILL 2 TO	L OTAL CARRIED FORWARD TO SUMMARY SHEET						

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	OD315	m	4000		
A260.2	OD250	m	1250		
A260.3	OD200	m	7550		
A260.4	OD110	m	5872		
A260.5	OD90	m	4250		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
\35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	lii)	Item	L.S		-
	-				
			<u> </u>		
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	BILL No. 4 - MIHANG'O DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	22922		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
I441.1	Outer Diameter 315mm - not in trenches	m	4000		
1441.2	Outer Diameter 250mm - not in trenches	m	1250		
I431.1	Outer Diameter 200mm - not in trenches	m	7550		
I431.2	Outer Diameter 110mm - not in trenches	m	5872		
I431.3	Outer Diameter 90mm - not in trenches	m	4250		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442.1	Outer Diameter 315mm in trenches, depth not exceeding 1.5m	m	1000		
I443.1	-Ditto- but depth 1.5m - 2.0m	m	1400		
1444.1	-Ditto- but depth > 2.0m	m	1600		
1442.2	Outer Diameter 250mm in trenches, depth not exceeding 1.5m	m	313		
I443.2	-Ditto- but depth 1.5m - 2.0m	m	438		
1444.2	-Ditto- but depth > 2.0m	m	500		
I432.1	Outer Diameter 200mm in trenches, depth not exceeding 1.5m	m	1888		
I433.1	-Ditto- but depth 1.5m - 2.0m	m	2643		
I434.1	-Ditto- but depth > 2.0m	m	3020		
1432.2	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	1468		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	2055		
1434.2	-Ditto- but depth > 2.0m	m	2349		
I432.3	Outer Diameter 90mm in trenches, depth not exceeding 1.5m	m	1063		
I433.3	-Ditto- but depth 1.5m - 2.0m	m	1488		
1434.3	-Ditto- but depth > 2.0m	m	1700		
	For River aerial crossings - Supply Steel Pipe sections, Transport to site and store in secure place. Include supply of jointing material, bolts, nuts, gaskets etc as applicable for Steel sections and Install as per Drawing Detail AFE0006-C0-253 or as directed by the Resident Engineer.				
I421.1	Outer Diameter 315mm	m	30		
I421.2	Outer Diameter 200mm	m	220		
I421.3	Outer Diameter 110mm	m	160		
2 1.0		111	100		
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	BILL No. 4 - MIHANG'O DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends		+ +		
J611.1	Outer Diameter 315mm 90° bend	nr	4		
J611.2	-Ditto- but 45° bend	nr	10		
J611.3	-Ditto- but 22.5° bend	nr	10		
J613.1	Outer Diameter 250mm 45° bend	nr	6		
J613.2	Outer Diameter 200mm 90° bend	nr	9		
J613.3	-Ditto- but 45° bend	nr	15		
J613.7	-Ditto- but 22.5° bend	nr	11		
J613.4	Outer Diameter 110mm 90° bend	nr	26		
J613.5	-Ditto- but 45° bend	nr	52		
J613.6	-Ditto- but 22.5° bend	nr	12		
J613.7	Outer Diameter 90mm 45° bend	nr	13		
J613.8	-Ditto- but 22.5° bend	nr	14		
J613.9	-Ditto- but 11.25° bend	nr	8		
J62	Junctions and Branches	111	-		
002	Tees				
J623.1	Outer Diameter 315mm x 315mm	nr	2		
J623.2	Outer Diameter 315mm x 250mm	nr	1		
J623.3	Outer Diameter 315mm x 200mm	nr	1		
J623.4	Outer Diameter 315mm x 110mm	nr	6		
J623.5	Outer Diameter 250mm x 110mm	nr	1		
J623.6	Outer Diameter 200mm x 200mm	nr	2		
J623.7	Outer Diameter 200mm x 160mm		1		
J623.7	Outer Diameter 200mm x 110mm	nr nr	9		
J623.9	Outer Diameter 110mm x 110mm	nr	9		
	Outer Diameter 110mm x 90mm	nr	1		
J623.11	Outer Diameter 90mm x 90mm	nr	2		
3020.11	Sale: Statistical Continue Con	111	-		
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	BILL No. 4 - MIHANG'O DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Tees for Air Valve				
J623.12	Outer Diameter 315mm x 80mm	nr	14		
	Outer Diameter 250mm x 80mm	nr	5		
J623.14	Outer Diameter 200mm x 80mm	nr	29		
J623.15	Outer Diameter 110mm x 80mm	nr	50		
J623.16	Outer Diameter 90mm x 80mm	nr	15		
	Inverted Tee for Washout)				
J623.17	Outer Diameter 315mm x 80mm	nr	6		
J623.18	Outer Diameter 250mm x 80mm	nr	2		
J623.19	Outer Diameter 200mm x 80mm	nr	13		
J623.20	Outer Diameter 110mm x 80mm	nr	30		
J623.21	Outer Diameter 90mm x 80mm	nr	6		
J63	<u>Tapers</u>				
	Concentric Taper				
J632.1	315 x 200mm	nr	1		
J632.2	315 x 110mm	nr	2		
J632.3	250 x 200mm	nr	1		
J632.4	250 x 110mm	nr	1		
J632.5	200 x 110mm	nr	5		
J64	Double Collars				
	Stepped Couplings				
J641.1	Outer Diameter 315mm flange steel/HDPE stepped coupling	nr	2		
J641.2	Outer Diameter 250mm flange steel/HDPE stepped coupling	nr	4		
J641.3	Outer Diameter 200mm flange steel/HDPE stepped coupling	nr	14		
J641.4	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	40		
J641.5	Outer Diameter 90mm flange steel/HDPE stepped coupling	nr	6		
J641.6	Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout)	nr	57		
J65	Adaptors				
	Flanged Adaptor				
J651.1	Outer Diameter 315mm flanged adaptor	nr	8		
J651.2	Outer Diameter 250mm flanged adaptor	nr	5		
J651.3	Outer Diameter 200mm flanged adaptor	nr	15		
J651.4	Outer Diameter 110mm flanged adaptor	nr	20		
J651.5	Outer Diameter 90mm flanged adaptor	nr	6		
J651.6	Outer Diameter 80mm flanged adaptor (for Washout)	nr	57		
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	BILL No. 4 - MIHANG'O DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J651.7	Diameter 80mm flanged adaptor (for Air valve)	nr	113		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	315mm diameter Plain Ended Pipe piece (1.2m)	nr	6		
J682.2	-Ditto- but 250mm	nr	14		
J682.3	-Ditto- but 200mm	nr	4		
J682.4	-Ditto- but 110mm	nr	20		
J682.5	-Ditto- but 90mm	nr	6		
J681.6	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	57		
3001.0	oonini diameter plain chided steel, 2000nini long (101 Washout)	"	37		
J681.7	315mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	28		
J681.8	-Ditto- but DN250	nr	10		
J681.9	-Ditto- but DN200	nr	58		
J681.10	-Ditto- but DN110	nr	100		
J681.10	-Ditto- but DN90	nr	30		
J681.11	315mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	12		
J681.12	-Ditto- but DN250	nr	4		
J681.13	-Ditto- but DN200	nr	26		
J681.14	-Ditto- but DN110	nr	60		
J681.15	-Ditto- but DN90	nr	12		
	Flanged Spigot Pipes				
J682.1	315mm diameter flanged spigot pipe	nr	28		
J682.2	-Ditto- but DN250	nr	10		
J682.3	-Ditto- but DN200	nr	58		
J682.4	-Ditto- but DN110	nr	100		
J682.5	-Ditto- but DN90	nr	30		
J682.6	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	57		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	29		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	113		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	29		
J693.2	110mm diameter End Cap	nr	13		
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	BILL No. 4 - MIHANG'O DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J8	VALVES AND PENSTOCKS				
104					
J81	Gate Valves as specified Gate Valves for washout and line valves to be supplied complete				
	with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	57		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	57		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	113		
J811.4	Outer Diameter 315mm flanged sluice valve	nr	3		
J811.5	Outer Diameter 250mm flanged sluice valve	nr	7		
J811.6	Outer Diameter 200mm flanged sluice valve	nr	2		
J811.7	Outer Diameter 110mm flanged sluice valve	nr	10		
J811.8	Outer Diameter 90mm flanged sluice valve	nr	3		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	75		
J91	Flanged Water Meters				
		nr	1		
J911.1	OD 315	nr			
J911.2	OD 250	nr	1		
J911.3	OD 200	nr	1		
J911.4	OD 110	nr	1		
J911.5	OD 90	nr	1		
J93	Fire Hydrant				
J911.6	DN 80	nr	10		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	195		
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ITEM	BILL No. 4 - MIHANG'O DISTRIBUTION DESCRIPTION		QUANTITY	RATE	AMOUN
No.	BESSIAI FISH	UNIT	QOARTIT	(KSH)	(KSH)
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	5		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 90-315mm	nr	7		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	2200		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	850		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K 7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 90-315mm	m	450		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 90-315mm	m	650		
K8	Other Pipework Ancillaries				
K82	Marker Posts	n	75		
K821.1	Marker post for Air Valve inscribed 'AV'	nr	75		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	45		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	57		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K87	Washout Outfall structures				
(871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	57		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	8250		
L112	Excavation in Hard rock (Description as specified)	m ³	2750		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	<u>Surrounds</u>				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-315mm	m	18500		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-315mm	m	5500		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	1200		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m ²	650		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	253		
L74	Volume:- 0.5 - 1m ³				
	To pipes Outer Diameter 200 - 400mm		46		

Mihang'o Distribution 8 of 10

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 90-315mm. Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit	m	500		
	method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	75		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	in and the state of the state o				
	ii)				
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Mihang'o Distribution 9 of 10

	BILL No. 4 - MIHANG'O DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 4 Collection Sheet				
	Page No. 1 of 9				
	Page No. 2 of 9				
	Page No. 3 of 9				
	Page No. 4 of 9				
	Page No. 5 of 9				
	Page No. 6 of 9				
	Page No. 7 of 9				
	Page No. 8 of 9				
	Page No. 9 of 9				
BILL 4 TO	 DTAL CARRIED FORWARD TO SUMMARY SHEET				

Mihang'o Distribution 10 of 10

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
NO.	OLAGO A TEGTINO AND GETTINO OUT OF WORKS			(KSH)	(RSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and				
	sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	<u>OD400</u>	m	2450		
A260.2	OD315	m	450		
A260.3	OD250	m	3200		
A260.4	OD160	m	5300		
A260.4	OD110	m	5900		
A260.5	OD90	m	5450		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment. The Contractor's rates shall be deemed to include for any measures				
	necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
	ı		1		1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	22750		
	CLASS I - PIPEWORK - PIPES				
14	STEEL PIPES (External Epoxy Coated and Internal cement mortar lined) - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Include supply jointing material, bolts, nuts, gaskets etc as applicable.				
21441.1	Outer Diameter 400mm - not in trenches	m	2450		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
21442.1	Outer Diameter 400mm in trenches, depth not exceeding 1.5m	m	613		
21443.1	-Ditto- but depth 1.5m - 2.0m	m	858		
21444.1	-Ditto- but depth > 2.0m	m	980		
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
l441.2	Outer Diameter 315mm - not in trenches	m	450		
I431.1	Outer Diameter 250mm - not in trenches	m	3200		
I431.2	Outer Diameter 160mm - not in trenches	m	5300		
I431.2	Outer Diameter 110mm - not in trenches	m	5900		
I431.3	Outer Diameter 90mm - not in trenches	m	5450		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442.2	Outer Diameter 315mm in trenches, depth not exceeding 1.5m	m	113		
1443.2	-Ditto- but depth 1.5m - 2.0m	m	158		
1444.2	-Ditto- but depth > 2.0m	m	180		
I432.1	Outer Diameter 250mm in trenches, depth not exceeding 1.5m	m	800		
I433.1	-Ditto- but depth 1.5m - 2.0m	m	1120		
1404.4	-Ditto- but depth > 2.0m	m	1280		
I434.1					

ITEM No.	BILL No. 5 - UTAWALA DISTRIBUTION DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
140.				(IXOII)	(ROH)
I433.2	-Ditto- but depth 1.5m - 2.0m	m	1855		
1434.2	-Ditto- but depth > 2.0m	m	2120		
1432.2	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	1475		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	2065		
1434.2	-Ditto- but depth > 2.0m	m	2360		
I432.3	Outer Diameter 90mm in trenches, depth not exceeding 1.5m	m	1363		
I433.3	-Ditto- but depth 1.5m - 2.0m	m	1908		
I434.3	-Ditto- but depth > 2.0m	m	2180		
	For River aerial crossings - Supply Steel Pipe sections, Transport to site and store in secure place. Include supply of jointing material, bolts, nuts, gaskets etc as applicable for Steel sections and Install as per Drawing Detail AFE0006-C0-253 or as directed by the Resident Engineer.				
l421.1	Outer Diameter 315mm	m	30		
l421.2	Outer Diameter 250mm	m	30		
I421.3	Outer Diameter 110mm	m	100		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J3	STEEL FITTINGS (External Epoxy Coated and Internal cement mortar lined) - Pressure Rating of PN16 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J31	Bends				
	Plain Ended Bends				
2J334.1	Outer Diameter 400mm 90° bend	nr	1		
2J334.3	-Ditto- but 22.5° bend	nr	1		
J32	Junctions and Branches				
	All flanged Tee				
2J323.1	Outer Diameter 400mm x 400mm	nr	1		
	Flange Tee for Air Valve				
2,1323 11	Outer Diameter 400mm x 80mm	nr	6		
		- 111			
0.1000.45	All Flanged Inverted Tee for Washout)				
	Outer Diameter 400mm x 80mm	nr	2		
J33	<u>Tapers</u>				
	All Flanged Concentric Taper				
2J332.1	400 x 315mm	nr	1		
2J323.1	400mm x 110mm	nr	1		
					İ

	BILL No. 5 - UTAWALA DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J34	Double Collars				
	Stepped Couplings				
2J341.1	Outer Diameter 400mm flange steel/HDPE stepped coupling	nr	1		
	Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout)	nr	1		
	Couplings				
2J341.1	OD 400	nr	2		
J35	Adaptors				
	Flanged Adaptor				
2J351.1	Outer Diameter 400mm flanged adaptor	nr	5		
	Outer Diameter 80mm flanged adaptor (for Washout)		2		
		nr			
	Diameter 80mm flanged adaptor (for Air Valve)	nr	6		
J38	Straight Specials as specified				
	Plain Ended Pipes				
2J381.1	400mm diameter Plain Ended Pipe piece (1.2m)	nr	2		
2J381.4	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	4		
2J383.1	400mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	12		
2J383.6	400mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	4		
	Flanged Spigot Pipes				
2J383.9	400mm diameter flanged spigot pipe	nr	2		
	All Flanged Pipes				
2J383.16	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	6		
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J611.1	Outer Diameter 315mm 90° bend	nr	1		
J611.3	-Ditto- but 22.5° bend	nr	1		
J613.1	Outer Diameter 250mm 90° bend	nr	6		
J613.3	-Ditto- but 45° bend	nr	2		
J613.7	-Ditto- but 22.5° bend	nr	2		
PAGF TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J613.4	Outer Diameter 160mm 90° bend	nr	2		
J613.5	-Ditto- but 45° bend	nr	1		
J613.4	Outer Diameter 110mm 45° bend	nr	1		
J613.7	Outer Diameter 90mm 90° bend	nr	4		
J613.8	-Ditto- but 45° bend	nr	3		
J613.9	-Ditto- but 22.5° bend	nr	2		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 315mm x 250mm	nr	1		
J623.2	Outer Diameter 250mm x 250mm	nr	4		
J623.5	Outer Diameter 250mm x 90mm	nr	6		
J623.8	Outer Diameter 160mm x 160mm	nr	4		
J623.9	Outer Diameter 110mm x 110mm	nr	1		
J623.11	Outer Diameter 90mm x 90mm	nr	3		
	Tees for Air Valve				
J623.12	Outer Diameter 315mm x 80mm	nr	2		
J623.13	Outer Diameter 250mm x 80mm	nr	13		
J623.14	Outer Diameter 160mm x 80mm	nr	4		
J623.15	Outer Diameter 110mm x 80mm	nr	10		
J623.16	Outer Diameter 90mm x 80mm	nr	3		
	Inverted Tee for Washout)				
J623.17	Outer Diameter 315mm x 80mm	nr	1		
J623.18	Outer Diameter 250mm x 80mm	nr	5		
J623.19	Outer Diameter 160mm x 80mm	nr	2		
J623.20	Outer Diameter 110mm x 80mm	nr	6		
J623.21	Outer Diameter 90mm x 80mm	nr	2		

Jess Tapers	ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	J63	Tapers				
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J623.5 250mm x 110mm nr 1 J623.8 160mm x 110mm nr 2 J623.9 160mm x 90mm nr 2 J64 Double Collars	J623.1		nr	1		
J623.8 160mm x 110mm	J623.2	250mm x 160mm	nr	1		
160mm x 90mm 10	J623.5	250mm x 110mm	nr	1		
Stepped Couplings Stepped Couplings	J623.8	160mm x 110mm	nr	2		
	J623.9	160mm x 90mm	nr	2		
J641.1 Outer Diameter 315mm flange steel/HDPE stepped coupling nr 2 J641.2 Outer Diameter 250mm flange steel/HDPE stepped coupling nr 10 J641.3 Outer Diameter 160mm flange steel/HDPE stepped coupling nr 4 J641.4 Outer Diameter 110mm flange steel/HDPE stepped coupling nr 10 J641.5 Outer Diameter 90mm flange steel/HDPE stepped coupling nr 18 J641.5 Outer Diameter 80mm flange steel/HDPE stepped coupling (For washout) nr 32 J641.6 Outer Diameter 80mm flange steel/HDPE stepped coupling (For mr nr 32 J65.4 Adaptors nr 32 J65.5 Adaptors nr 2 J65.1.1 Outer Diameter 315mm flanged adaptor nr 6 J65.1.2 Outer Diameter 160mm flanged adaptor nr 6 J65.1.3 Outer Diameter 90mm flanged adaptor nr 16 J65.1.5 Outer Diameter 80mm flanged adaptor (for Washout) nr 16 J65.1.7 Diameter 80mm flanged adaptor (for Air valve) nr 32						
J641.2 Outer Diameter 250mm flange steel/HDPE stepped coupling nr 10		Stepped Couplings				
J641.3 Outer Diameter 160mm flange steel/HDPE stepped coupling nr 4 J641.4 Outer Diameter 110mm flange steel/HDPE stepped coupling nr 10 J641.5 Outer Diameter 90mm flange steel/HDPE stepped coupling nr 18 J641.6 Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout) Washout) Washout Wash	J641.1	Outer Diameter 315mm flange steel/HDPE stepped coupling	nr	2		
Jact	J641.2	Outer Diameter 250mm flange steel/HDPE stepped coupling	nr	10		
J641.5 Outer Diameter 90mm flange steel/HDPE stepped coupling nr 18 J641.6 Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout) Washout) J65	J641.3	Outer Diameter 160mm flange steel/HDPE stepped coupling	nr	4		
J641.6 Outer Diameter 80mm flange steel/HDPE stepped coupling (For washout)	J641.4	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	10		
Washout J65 Adaptors	J641.5	Outer Diameter 90mm flange steel/HDPE stepped coupling	nr	18		
Flanged Adaptor	J641.6		nr	32		
J651.1 Outer Diameter 315mm flanged adaptor nr 2	J65	Adaptors				
J651.2 Outer Diameter 250mm flanged adaptor nr 6 J651.3 Outer Diameter 160mm flanged adaptor nr 3 J651.4 Outer Diameter 110mm flanged adaptor nr 6 J651.5 Outer Diameter 90mm flanged adaptor nr 10 J651.6 Outer Diameter 80mm flanged adaptor (for Washout) nr 16 J651.7 Diameter 80mm flanged adaptor (for Air valve) nr 32 J68 Straight Specials as specified nr 32 J682.1 315mm diameter Plain Ended Pipe piece (1.2m) nr 2 J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 4		Flanged Adaptor				
J651.3 Outer Diameter 160mm flanged adaptor nr 3 J651.4 Outer Diameter 110mm flanged adaptor nr 6 J651.5 Outer Diameter 90mm flanged adaptor nr 10 J651.6 Outer Diameter 80mm flanged adaptor (for Washout) nr 16 J651.7 Diameter 80mm flanged adaptor (for Air valve) nr 32 J68 Straight Specials as specified nr 32 J682.1 315mm diameter Plain Ended Pipe piece (1.2m) nr 2 J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 4	J651.1	Outer Diameter 315mm flanged adaptor	nr	2		
J651.4 Outer Diameter 110mm flanged adaptor nr 6 J651.5 Outer Diameter 90mm flanged adaptor nr 10 J651.6 Outer Diameter 80mm flanged adaptor (for Washout) nr 16 J651.7 Diameter 80mm flanged adaptor (for Air valve) nr 32 J68 Straight Specials as specified Plain Ended Pipes J682.1 315mm diameter Plain Ended Pipe piece (1.2m) nr 2 J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J651.2	Outer Diameter 250mm flanged adaptor	nr	6		
J651.5 Outer Diameter 90mm flanged adaptor J651.6 Outer Diameter 80mm flanged adaptor (for Washout) J651.7 Diameter 80mm flanged adaptor (for Air valve) J68 Straight Specials as specified Plain Ended Pipes J682.1 315mm diameter Plain Ended Pipe piece (1.2m) J682.2 -Ditto- but 250mm nr J682.3 -Ditto- but 160mm nr J682.4 -Ditto- but 110mm nr J682.5 -Ditto- but 90mm J682.5 -Ditto- but 90mm J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J651.3	Outer Diameter 160mm flanged adaptor	nr	3		
J651.6 Outer Diameter 80mm flanged adaptor (for Washout) nr 16 J651.7 Diameter 80mm flanged adaptor (for Air valve) nr 32 J68 Straight Specials as specified Plain Ended Pipes J682.1 315mm diameter Plain Ended Pipe piece (1.2m) nr 2 J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J651.4	Outer Diameter 110mm flanged adaptor	nr	6		
J651.7 Diameter 80mm flanged adaptor (for Air valve) J68 Straight Specials as specified Plain Ended Pipes J682.1 315mm diameter Plain Ended Pipe piece (1.2m) nr 2 J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16	J651.5	Outer Diameter 90mm flanged adaptor	nr	10		
J682.1 315mm diameter Plain Ended Pipe piece (1.2m) nr 2 J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16	J651.6	Outer Diameter 80mm flanged adaptor (for Washout)	nr	16		
Plain Ended Pipes	J651.7	Diameter 80mm flanged adaptor (for Air valve)	nr	32		
J682.1 315mm diameter Plain Ended Pipe piece (1.2m) nr 2 J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J68	Straight Specials as specified				
J682.2 -Ditto- but 250mm nr 10 J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4		Plain Ended Pipes				
J682.3 -Ditto- but 160mm nr 4 J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J682.1	315mm diameter Plain Ended Pipe piece (1.2m)	nr	2		
J682.4 -Ditto- but 110mm nr 10 J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J682.2	-Ditto- but 250mm	nr	10		
J682.5 -Ditto- but 90mm nr 18 J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J682.3	-Ditto- but 160mm	nr	4		
J681.6 80mm diameter plain ended steel, 2000mm long (for Washout) nr 16 J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J682.4	-Ditto- but 110mm	nr	10		
J681.7 315mm diameter flanged spigot pipe with thrust flange (For Air nr 4	J682.5	-Ditto- but 90mm	nr	18		
	J681.6	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	16		
	J681.7	315mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	4		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J681.8	-Ditto- but DN250	nr	26		
		nr			
J681.9	-Ditto- but DN160	nr	8		
J681.10	-Ditto- but DN110	nr	20		
J681.10	-Ditto- but DN90	nr	6		
J681.11	315mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	2		
J681.12	-Ditto- but DN250	nr	10		
J681.13	-Ditto- but DN160	nr	4		
J681.14	-Ditto- but DN110	nr	12		
J681.15	-Ditto- but DN90	nr	4		
	Flanged Spigot Pipes				
J682.1	315mm diameter flanged spigot pipe	nr	4		
J682.2	-Ditto- but DN250	nr	26		
J682.3	-Ditto- but DN160	nr	8		
J682.4	-Ditto- but DN110	nr	20		
J682.5	-Ditto- but DN90	nr	6		
J682.6	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	16		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	8		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	32		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	8		
J693.2	110mm diameter End Cap	nr	3		
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	16		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	16		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	32		
J811.4	Outer Diameter 315mm flanged sluice valve	nr	1		
J811.5	Outer Diameter 250mm flanged sluice valve	nr	5		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
1011 6	Outer Diameter 460mm flanged aluing valve		2		
J811.6	Outer Diameter 160mm flanged sluice valve	nr	2		
J811.7	Outer Diameter 110mm flanged sluice valve	nr	5		
J811.8	Outer Diameter 90mm flanged sluice valve	nr	9		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	32		
J91	Flanged Water Meters				
J911.1	OD 315	nr	1		
J911.2	OD 250	nr	1		
J911.3	OD 160	nr	1		
J911.4	OD 110	nr	1		
J911.5	OD 90	nr	1		
J93	Fire Hydrant				
J911.6	DN 80	nr	6		
J911.0	DIN 60	nr	6		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	70		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	5		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 90-400mm	nr	4		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	455		
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(KSH)	(KSH)
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	2275		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 90-400mm	m	680		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 90-400mm	m	1250		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	32		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	20		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	16		
K87	Washout Outfall structures				
871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	16		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	8200		
L112	Excavation in Hard rock (Description as specified)	m ³	2730		
	Note: - Blasting is NOT permitted for all Items under L1				

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
L5	Surrounds				
1.52	Selected Executated Cronular Fill				
L52	Selected Excavated Granular Fill		40000		
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-400mm	m	18200		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-400mm	m	5460		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	1150		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m²	380		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	37		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes Outer Diameter 200 - 400mm	nr	60		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 90-400mm.	m	150		
	Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				

Utawala 10

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	23		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	ii)				

Utawala 11

BILL No. 5 - UTAWALA DISTRIBUTION						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)	
	Bill 5 Collection Sheet					
	Page No. 1 of 11					
	Page No. 2 of 11					
	Page No. 3 of 11					
	Page No. 4 of 11					
	Page No. 5 of 11					
	Page No. 6 of 11					
	Page No. 7 of 11					
	Page No. 8 of 11					
	Page No. 9 of 11					
	Page No. 10 of 11					
	Page No. 11 of 11					

Utawala 12

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	To the part of the Direction in the line of the Direction in the line of the l				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	<u>OD250</u>	m	5100		
A260.2	OD200	m	2300		
A260.3 A260.4	OD160 OD110	<u>m</u>	3000 22100		
A260.4	OD90		24000		
A200.5		m	24000		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
\35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
N35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	li)	Item	L.S		
	1				<u> </u>

Ruai 1 of 10

ITEM No.	BILL No. 6 - RUAI DISTRIBUTION DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
140.				(IXOII)	(ROH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	56500		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
1441.1	Outer Diameter 250mm - not in trenches	m	5100		
I441.2	Outer Diameter 200mm - not in trenches	m	2300		
I431.3	Outer Diameter 160mm - not in trenches	m	3000		
l431.4	Outer Diameter 110mm - not in trenches	m	22100		
l431.5	Outer Diameter 90mm - not in trenches	m	24000		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442.1	Outer Diameter 250mm in trenches, depth not exceeding 1.5m	m	1275		
I443.1	-Ditto- but depth 1.5m - 2.0m	m	1785		
1444.1	-Ditto- but depth > 2.0m	m	2040		
1442.2	Outer Diameter 200mm in trenches, depth not exceeding 1.5m	m	575		
1443.2	-Ditto- but depth 1.5m - 2.0m	m	805		
1444.2	-Ditto- but depth > 2.0m	m	920		
I432.1	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	750		
I433.1	-Ditto- but depth 1.5m - 2.0m	m	1050		
1434.1	-Ditto- but depth > 2.0m	m	1200		
1432.2	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	5525		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	7735		
1434.2	-Ditto- but depth > 2.0m	m	8840		
1432.3	Outer Diameter 90mm in trenches, depth not exceeding 1.5m		6000		
1432.3	-Ditto- but depth 1.5m - 2.0m	m	8400		
1433.3	-Ditto- but depth > 2.0m	m m	9600		
1404.0	-Ditto- but deptil > 2.011	111	9000		
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ITEM	BILL No. 6 - RUAI DISTRIBUTION DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.	DESCRIPTION	UNII	QUANTITY	(KSH)	(KSH)
	For River aerial crossings - Supply Steel Pipe sections, Transport				
	to site and store in secure place. Include supply of jointing material, bolts, nuts, gaskets etc as applicable for Steel sections and Install as per Drawing Detail AFE0006-C0-253 or as directed by the				
1404.4	Resident Engineer.				
I421.1	Outer Diameter 250mm	m	50		
l421.2	Outer Diameter 110mm	m	300		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J611.1	Outer Diameter 250mm 90° bend	nr	7		
J611.2	-Ditto- but 45° bend	nr	2		
J611.3	-Ditto- but 22.5° bend	nr	2		
J613.1	Outer Diameter 200mm 90° bend	nr	3		
J613.2	-Ditto- but 22.5° bend	nr	4		
J613.3	Outer Diameter 160mm 90° bend	nr	2		
J613.4	-Ditto- but 45° bend	nr	2		
J613.5	Outer Diameter 110mm 90° bend	nr	14		
J613.6	-Ditto- but 45° bend	nr	45		
J613.7	-Ditto- but 22.5° bend	nr	14		
J613.8	Outer Diameter 90mm 90° bend	nr	13		
J613.9	-Ditto- but 45° bend	nr	20		
J613.10	-Ditto- but 22.5° bend	nr	14		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 250mm x 200mm	nr	2		
J623.2	Outer Diameter 250mm x 110mm	nr	1		
J623.3	Outer Diameter 250mm x 90mm	nr	2		
J623.4	Outer Diameter 200mm x 200mm	nr	2		
J623.5	Outer Diameter 160mm x 160mm	nr	3		
J623.6	Outer Diameter 160mm x 110mm	nr	2		
J623.7	Outer Diameter 160mm x 90mm	nr	1		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J623.8	Outer Diameter 110mm x 110mm	nr	14		
J623.9	Outer Diameter 110mm x 90mm	nr	16		
	Tees for Air Valve				
J623.10	Outer Diameter 250mm x 80mm	nr	17		
J623.11	Outer Diameter 200mm x 80mm	nr	10		
J623.12	Outer Diameter 160mm x 80mm	nr	7		
J623.13	Outer Diameter 110mm x 80mm	nr	55		
J623.14	Outer Diameter 90mm x 80mm	nr	8		
	Inverted Tee for Washout)				
J623.15	Outer Diameter 250mm x 80mm	nr	10		
J623.16	Outer Diameter 200mm x 80mm	nr	5		
J623.17	Outer Diameter 160mm x 80mm	nr	4		
J623.18	Outer Diameter 110mm x 80mm	nr	44		
J623.19	Outer Diameter 90mm x 80mm	nr	8		
J63	Tapers				
	Concentric Taper				
J632.1	250 x 200mm	nr	1		
	200 x 160mm	nr	1		
	200 x 110mm	nr	1		
J632.4	160 x 110mm	nr	3		
J632.5	160 x 90mm	nr	1		
J632.6	110 x 90mm	nr	8		
J632.7	110 x 63mm	nr	1		
J64	Double Collars	- "	'		
J04	Stepped Couplings				
J641.1	Outer Diameter 250mm flange steel/HDPE stepped coupling	pr	6		
J641.2	Outer Diameter 200mm flange steel/HDPE stepped coupling	nr nr	8		
J641.3	Outer Diameter 160mm flange steel/HDPE stepped coupling		10		
		nr			
J641.4	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	62		
J641.5	Outer Diameter 90mm flange steel/HDPE stepped coupling	nr	4		
J641.6	Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout)	nr	142		
					

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J65	Adaptors -				
	Flanged Adaptor				
J651.1	Outer Diameter 250mm flanged adaptor	nr	4		
J651.2	Outer Diameter 200mm flanged adaptor	nr	5		
J651.3	Outer Diameter 160mm flanged adaptor	nr	6		
J651.4	Outer Diameter 110mm flanged adaptor	nr	40		
J651.5	Outer Diameter 90mm flanged adaptor	nr	3		
J651.6	Outer Diameter 80mm flanged adaptor (for Washout)	nr	61		
J651.7	Diameter 80mm flanged adaptor (for Air valve)	nr	97		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	250mm diameter Plain Ended Pipe piece (1.2m)	nr	6		
J682.2	-Ditto- but 200mm	nr	8		
J682.3	-Ditto- but 160mm	nr	10		
J682.4	-Ditto- but 110mm	nr	78		
J682.5	-Ditto- but 90mm	nr	4		
J681.6	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	61		
J681.7	250mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	34		
J681.8	-Ditto- but DN200	nr	20		
J681.9	-Ditto- but DN160	nr	14		
J681.10	-Ditto- but DN110	nr	110		
J681.11	-Ditto- but DN90	nr	16		
J681.12	250mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	20		
J681.13	-Ditto- but DN200	nr	10		
J681.14	-Ditto- but DN160	nr	8		
J681.15	-Ditto- but DN110	nr	88		
J681.16	-Ditto- but DN90	nr	16		
	Flanged Spigot Pipes				
J682.1	250mm diameter flanged spigot pipe	nr	34		
J682.2	-Ditto- but DN200	nr	20		
J682.3	-Ditto- but DN160	nr	14		
	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J682.4	-Ditto- but DN110	nr	110		
J682.5	-Ditto- but DN90	nr	16		
J682.6	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	61		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	31		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	97		
J693.1	End Cap 80mm diameter End Cap Washout Type 2	nr	31		
J693.2	110mm diameter End Cap	nr	2		
J693.3	90mm diameter End Cap	nr	1		
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	71		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	71		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	97		
J811.4	Outer Diameter 250mm flanged sluice valve	nr	3		
J811.5	Outer Diameter 200mm flanged sluice valve	nr	4		
J811.6	Outer Diameter 160mm flanged sluice valve	nr	5		
J811.7	Outer Diameter 110mm flanged sluice valve	nr	39		
J811.8	Outer Diameter 90mm flanged sluice valve	nr	2		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	77		
		- "	, ,		
J91	Flanged Water Meters				
J911.1	OD 250	nr	1		
J911.2	OD 200	nr	1		
J911.3	OD 160	nr	1		
J911.4	OD 110	nr	1		
J911.5	OD 90	nr	1		
0011.0					

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
				(11011)	(11011)
J93	Fire Hydrant				
J911.6	DN 80	nr	18		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	190		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	5		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 90-250mm	nr	3		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	2100		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	5000		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 90-250mm	m	2100		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 90-250mm	m	1500		

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	BILL No. 6 - RUAI DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K8	Other Pipework Ancillaries				
	Striot i ipowork zaromarios				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	77		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	28		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	71		
K87	Washout Outfall structures				
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	71		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
		2	0.1000		
L111	Excavation in soft rock (Description as specified)	m ³	21000		
L112	Excavation in Hard rock (Description as specified)	m ³	7000		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	<u>Surrounds</u>				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-250mm	m	46000		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-250mm	m	9000		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	3000		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m²	600		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	295		
L74	Volume:- 0.5 - 1m³				
L743	To pipes Outer Diameter 200 - 400mm	nr	74		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 90-250mm.	m	200		
	Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	30		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	lii)				
	;·/		<u> </u>		

Ruai 9 of 10

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 6 Collection Sheet				
	Page No. 1 of 9				
	Page No. 2 of 9				
	Page No. 3 of 9				
	Page No. 4 of 9				
	Page No. 5 of 9				
	Page No. 6 of 9				
	Page No. 7 of 9				
	Page No. 8 of 9				
	Page No. 9 of 9				

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ITEM	BILL No. 7 - KAMULU DISTRIBUTION DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.	DESCRIPTION		QOATTI	(KSH)	(KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and				
	sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	OD215	m	3400		
A260.1	OD315 OD250	m	1400		
A260.3	OD160	m m	3200		
A260.3	OD110	m	4100		
A260.4	<u>OD90</u>	m	2000		
A260.5	OD63	m	20700		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing				
	active services both on the surface (electricity, etc) and buried				
	(existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures				
	necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents,				
	payment of any required statutory charges, etc. The Contractor will				
	be required to submit Method Statement for execution of works				
	under these specific conditions for approval prior to execution of the works. These include but are not limited to the following:				
	i. No blasting will be permitted in these areas				
	ii. The Contactor to maintain uninterrupted continuity of water				
	supply in existing pipelines				
	iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times				
	iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be				
	maintained at all times.				
	v. Keeping trenches free of excessive groundwater, seepage or water from any source				
	vi. Trench collapse protection will be required for trenches				
	deeper than 1.5m that are not entirely of stable rock including;				
	shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to				
	prevent collapse, such as hydraulic shoring or slide-rail systems);				
	and sloping or benching trench walls away from the trench bottom				
	at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and	Item	L.S		
	payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.				
105.5					
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each				
	item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
			 		
			 		
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

Kamulu 1 of 10

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	34800		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
1441.1	Outer Diameter 315mm - not in trenches	m	3400		
1441.2	Outer Diameter 250mm - not in trenches	m	1400		
I431.1	Outer Diameter 160mm - not in trenches	m	3200		
I431.2	Outer Diameter 110mm - not in trenches	m	4100		
I431.3	Outer Diameter 90mm - not in trenches	m	2000		
I431.4	Outer Diameter 63mm - not in trenches	m	20700		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
I442.1	Outer Diameter 315mm in trenches, depth not exceeding 1.5m	m	850		
1443.1	-Ditto- but depth 1.5m - 2.0m	m	1190		
1444.1	-Ditto- but depth > 2.0m	m	1360		
1442.2	Outer Diameter 250mm in trenches, depth not exceeding 1.5m	m	350		
1443.2	-Ditto- but depth 1.5m - 2.0m	m	490		
1444.2	-Ditto- but depth > 2.0m	m	560		
I432.1	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	800		
I433.1	-Ditto- but depth 1.5m - 2.0m	m	1120		
I434.1	-Ditto- but depth > 2.0m	m	1280		
I432.2	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	1025		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	1435		
1434.2	-Ditto- but depth > 2.0m	m	1640		
1432.3	Outer Diameter 90mm in trenches, depth not exceeding 1.5m	m	500		
1433.3	-Ditto- but depth 1.5m - 2.0m	m	700		
1434.3	-Ditto- but depth > 2.0m	m	800		
1432.3	Outer Diameter 63mm in trenches, depth not exceeding 1.5m		5175		
1432.3	-Ditto- but depth 1.5m - 2.0m	m	7245		
1433.3	-Ditto- but depth 1.5m - 2.0m	m			
1404.0	-Ditto- but deptil > 2.0111	m	8280		
	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	For River aerial crossings - Supply Steel Pipe sections, Transport to site and store in secure place. Include supply of jointing material, bolts, nuts, gaskets etc as applicable for Steel sections and Install as per Drawing Detail AFE0006-C0-253 or as directed by the Resident Engineer.				
I421.1	Outer Diameter 315mm	m	700		
I421.2	Outer Diameter 250mm	m	100		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable. Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J613.1	Outer Diameter 250mm 22.5° bend	nr	4		
J613.2	Outer Diameter 160mm 22.5° bend	nr	3		
J613.3	Outer Diameter 110mm 90° bend	nr	3		
J613.4	-Ditto- but 45° bend	nr	4		
J613.5	-Ditto- but 22.5° bend	nr	4		
J613.6	Outer Diameter 90mm 90° bend	nr	2		
J613.7	-Ditto- but 45° bend	nr	3		
J613.8	-Ditto- but 22.5° bend	nr	2		
J613.9	Outer Diameter 63mm 90° bend	nr	12		
J613.10	-Ditto- but 45° bend	nr	8		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 315mm x 160mm	nr	1		
J623.2	Outer Diameter 250mm x 160mm	nr	1		
J623.3	Outer Diameter 250mm x 110mm	nr	2		
J623.4	Outer Diameter 160mm x 90mm	nr	1		
J623.5	Outer Diameter 160mm x 63mm	nr	16		
J623.6	Outer Diameter 110mm x 110mm	nr	2		
J623.7	Outer Diameter 110mm x 90mm	nr	2		
J623.8	Outer Diameter 110mm x 63mm	nr	2		
J623.9	Outer Diameter 90mm x 90mm	nr	3		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT
				, ,	
J623.10	Outer Diameter 63mm x 63mm	nr	37		
	Tees for Air Valve				
J623.11	Outer Diameter 315mm x 80mm	nr	1		
J623.12	Outer Diameter 250mm x 80mm	nr	3		
J623.13	Outer Diameter 160mm x 80mm	nr	12		
J623.14	Outer Diameter 110mm x 80mm	nr	14		
J623.15	Outer Diameter 90mm x 80mm	nr	6		
	Inverted Tee for Washout)				
J623.16	Outer Diameter 315mm x 80mm	nr	2		
J623.17	Outer Diameter 250mm x 80mm	nr	2		
J623.18	Outer Diameter 160mm x 80mm	nr	7		
J623.19	Outer Diameter 110mm x 80mm	nr	9		
J623.20	Outer Diameter 90mm x 80mm	nr	5		
J63	<u>Tapers</u>				
	Concentric Taper				
J632.1	315 x 250mm	nr	1		
J632.2	250 x 110mm	nr	1		
J632.3	160 x 110mm	nr	1		
J632.4	160 x 63mm	nr	1		
J632.5	110 x 90mm	nr	2		
J632.6	110 x 63mm	nr	4		
J632.7	90 x 63mm	nr	2		
J64	Double Collars				
	Stepped Couplings				
J641.1	Outer Diameter 315mm flange steel/HDPE stepped coupling	nr	2		
J641.2	Outer Diameter 250mm flange steel/HDPE stepped coupling	nr	4		
J641.3	Outer Diameter 160mm flange steel/HDPE stepped coupling	nr	12		
J641.4	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	16		
J641.5	Outer Diameter 90mm flange steel/HDPE stepped coupling	nr	16		
J641.6	Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout)	nr	50		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J65	<u>Adaptors</u>				
	Flanged Adaptor				
J651.1	Outer Diameter 315mm flanged adaptor	nr	2		
J651.2	Outer Diameter 250mm flanged adaptor	nr	3		
J651.3	Outer Diameter 160mm flanged adaptor	nr	7		
J651.4	Outer Diameter 110mm flanged adaptor	nr	9		
J651.5	Outer Diameter 90mm flanged adaptor	nr	9		
J651.6	Outer Diameter 80mm flanged adaptor (for Washout)	nr	23		
J651.7	Diameter 80mm flanged adaptor (for Air valve)	nr	36		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	315mm diameter Plain Ended Pipe piece (1.2m)	nr	2		
J682.2	-Ditto- but 250mm	nr	4		
J682.3	-Ditto- but 160mm	nr	12		
J682.4	-Ditto- but 110mm	nr	16		
J682.5	-Ditto- but 90mm	nr	16		
J681.6	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	23		
J681.7	250mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	2		
J681.8	-Ditto- but DN200	nr	6		
J681.9	-Ditto- but DN160	nr	24		
J681.10	-Ditto- but DN110	nr	28		
J681.10	-Ditto- but DN90	nr	12		
J681.11	250mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	4		
J681.12	-Ditto- but DN200	nr	4		
J681.13	-Ditto- but DN160	nr	14		
J681.14	-Ditto- but DN110	nr	18		
J681.15	-Ditto- but DN90	nr	10		
	Flanged Spigot Pipes				
J682.1	250mm diameter flanged spigot pipe	nr	2		
J682.2	-Ditto- but DN200	nr	6		
J682.3	-Ditto- but DN160	nr	24		
0002.0					

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BILL No. 7 - KAMULU DISTRIBUTION					
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J682.4	-Ditto- but DN110	nr	28		
J682.5	-Ditto- but DN90	nr	12		
J682.6	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	23		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	12		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	36		
J693.1	End Cap 80mm diameter End Cap Washout Type 2	nr	12		
J693.2	110mm diameter End Cap	nr	1		
J693.3	63mm diameter End Cap	nr	2		
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	25		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	25		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	36		
J811.4	Outer Diameter 315mm flanged sluice valve	nr	1		
J811.5	Outer Diameter 250mm flanged sluice valve	nr	2		
J811.6	Outer Diameter 160mm flanged sluice valve	nr	6		
J811.7	Outer Diameter 110mm flanged sluice valve	nr	8		
J811.8	Outer Diameter 90mm flanged sluice valve	nr	2		
J811.9	Outer Diameter 63mm flanged sluice valve	nr	8		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	36		
J91	Flanged Water Meters				
J911.1	OD 315	nr	1		
J911.2	OD 250	nr	1		
J911.3	OD 160	nr	1		
J911.4	OD 110	nr	1		
J911.5	OD 90	nr	1		
	OD 63	nr	3		
J911.6	05 03				

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	BILL No. 7 - KAMULU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J93	Fire Hydrant				
J911.7	DN 80	nr	12		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	113		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	8		
K6	<u>Crossings</u>				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 63-315mm	nr	3		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	1100		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	2000		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 63-315mm	m	1650		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 63-315mm	m	1000		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	36		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	25		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	25		
K87	Washout Outfall structures				
K 871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	25		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION.				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
	·				
L111	Excavation in soft rock (Description as specified)	m ³	12500		
L112	Excavation in Hard rock (Description as specified)	m ³	4200		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	Surrounds				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 63-315mm	m	28000		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 63-315mm	m	5200		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
1 = 4					
L54 L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	1700		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m²	1000		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	158		
L74	Volume:- 0.5 - 1m³				
L743	To pipes Outer Diameter 200 - 400mm	nr	27		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 63-315mm. Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit	m	100		
	method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	15		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	 i)				
	ii)				

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	BILL No. 7 - KAMULU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 7 Collection Sheet				
	Page No. 1 of 9				
	Page No. 2 of 9				
	Page No. 3 of 9				
	Page No. 4 of 9				
	Page No. 5 of 9				
	Page No. 6 of 9				
	Page No. 7 of 9				
	Page No. 8 of 9				
	Page No. 9 of 9				
	TAL CAPPIED FORWARD TO CUMMARY CULTET				
ILL 7 TO	OTAL CARRIED FORWARD TO SUMMARY SHEET				

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			QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	OD200	m	1600		
A260.2	<u>OD160</u>	m	1200		
A260.3	OD110	m	4150		
A260.4	<u>OD90</u>	m	6600		
A260.5	OD63	m	10000		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
	·				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	23550		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
1441.1	Outer Diameter 200mm - not in trenches	m	1600		
1441.2	Outer Diameter 160mm - not in trenches	m	1200		
1431.2	Outer Diameter 110mm - not in trenches	m	4150		
1431.3	Outer Diameter 90mm - not in trenches	m	6600		
I431.3	Outer Diameter 63mm - not in trenches	m	10000		
	pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442.1	Outer Diameter 200mm in trenches, depth not exceeding 1.5m	m	400		
l443.1	-Ditto- but depth 1.5m - 2.0m	m	560		
1444.1	-Ditto- but depth > 2.0m	m	640		
1442.2	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	300		
1443.2	-Ditto- but depth 1.5m - 2.0m	m	420		
1444.2	-Ditto- but depth > 2.0m	m	480		
1432.2	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	1038		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	1453		
1434.2	-Ditto- but depth > 2.0m	m	1660		
1432.3	Outer Diameter 90mm in trenches, depth not exceeding 1.5m	m	1650		
1433.3	-Ditto- but depth 1.5m - 2.0m	m	2310		
1434.3	-Ditto- but depth > 2.0m	m	2640		
1432.3	Outer Diameter 63mm in trenches, depth not exceeding 1.5m	m	2500		
1433.3	-Ditto- but depth 1.5m - 2.0m	m	3500		
1434.3	-Ditto- but depth > 2.0m	m	4000		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
				(11011)	(11011)
	For River aerial crossings - Supply Steel Pipe sections, Transport				
	to site and store in secure place. Include supply of jointing material,				
	bolts, nuts, gaskets etc as applicable for Steel sections and Install as per Drawing Detail AFE0006-C0-253 or as directed by the Resident				
	Engineer.				
I421.1	Outer Diameter 110mm	m	30		
I421.2	Outer Diameter 90mm	m	90		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of				
	Trench including Trench Bed preparation, Shoring of Trench walls,				
	Pipe Laying and Jointing, Backfilling, Final reinstatement and				
	Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J613.2	Outer Diameter 200mm 45° bend	nr	1		
J613.2	Outer Diameter 160mm 45° bend	nr	2		
J613.4	Outer Diameter 110mm 90° bend	nr	3		
J613.5	-Ditto- but 45° bend	nr	8		
J613.6	-Ditto- but 22.5° bend	nr	4		
J613.7	Outer Diameter 90mm 90° bend	nr	4		
J613.8	-Ditto- but 45° bend	nr	2		
J613.7	Outer Diameter 63mm 90° bend	nr	6		
J613.8	-Ditto- but 45° bend	nr	10		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 200mm x 200mm	nr	1		
J623.2	Outer Diameter 200mm x 90mm	nr	1		
J623.3	Outer Diameter 200mm x 63mm	nr	4		
J623.4	Outer Diameter 160mm x 63mm	nr	1		
J623.5	Outer Diameter 110mm x 110mm	nr	9		
J623.6	Outer Diameter 110mm x 63mm	nr	9		
J623.6	Outer Diameter 90mm x 63mm	nr	4		
J623.6	Outer Diameter 63mm x 63mm	nr	6		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Tees for Air Valve				
J623.12	Outer Diameter 200mm x 80mm	nr	6		
J623.13	Outer Diameter 160mm x 80mm	nr	5		
J623.14	Outer Diameter 110mm x 80mm	nr	15		
	Inverted Tee for Washout)				
J623.18	Outer Diameter 200mm x 80mm	nr	3		
J623.19	Outer Diameter 160mm x 80mm	nr	3		
J623.20	Outer Diameter 110mm x 80mm	nr	22		
J63	Tapers				
	Concentric Taper				
J632.1	200 x 160mm	nr	1		
J632.2	200 x 110mm	nr	1		
J632.3	160 x 110mm	nr	1		
J632.5	110 x 90mm	nr	3		
J632.3	110 x 63mm	nr	5		
J64	Double Collars				
	Stepped Couplings				
J641.2	Outer Diameter 200mm flange steel/HDPE stepped coupling	nr	6		
J641.3	Outer Diameter 160mm flange steel/HDPE stepped coupling	nr	2		
J641.4	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	20		
J641.5	Outer Diameter 90mm flange steel/HDPE stepped coupling	nr	8		
J641.6	Outer Diameter 80mm flange steel/HDPE stepped coupling (For Washout)	nr	56		
J65	Adaptors				
	Flanged Adaptor				
J651.2	Outer Diameter 200mm flanged adaptor	nr	4		
J651.3	Outer Diameter 160mm flanged adaptor	nr	2		
J651.4	Outer Diameter 110mm flanged adaptor	nr	11		
J651.5	Outer Diameter 90mm flanged adaptor	nr	5		
J651.6	Outer Diameter 80mm flanged adaptor (for Washout)	nr	28		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J651.7	Diameter 80mm flanged adaptor (for Air valve)	nr	26		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.2	200mm diameter Plain Ended Pipe piece (1.2m)	nr	6		
J682.3	-Ditto- but 160mm	nr	2		
J682.4	-Ditto- but 110mm	nr	20		
J682.5	-Ditto- but 90mm	nr	8		
J681.6	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	28		
J681.7	200mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	12		
J681.8	-Ditto- but DN160	nr	10		
J681.9	-Ditto- but DN110	nr	30		
J681.12	200mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	6		
J681.13	-Ditto- but DN160	nr	6		
J681.14	-Ditto- but DN110	nr	44		
	Flanged Spigot Pipes				
J682.1	200mm diameter flanged spigot pipe	nr	12		
J682.2	-Ditto- but DN160	nr	10		
J682.3	-Ditto- but DN110	nr	30		
J682.6	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	28		
0002.0	Double Flanged Pipes		20		
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	14		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	26		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	14		
J693.2	63mm diameter End Cap	nr	10		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	28		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	28		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	26		
J811.5	Outer Diameter 200mm flanged sluice valve	nr	3		
J811.6	Outer Diameter 160mm flanged sluice valve	nr	1		
J811.7	Outer Diameter 110mm flanged sluice valve	nr	10		
J811.8	Outer Diameter 90mm flanged sluice valve	nr	2		
J811.8	Outer Diameter 63mm flanged sluice valve	nr	4		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	26		
J91	Flanged Water Meters				
J911.2	OD 200	nr	1		
J911.3	OD 160	nr	1		
J911.4	OD 110	nr	1		
J911.5	OD 90	nr	1		
J911.5	OD 63	nr	1		
J93					
	Fire Hydrant				
J911.6	DN 80	nr	8		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	102		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	5		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 63-200mm	nr	4		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	850		
V674	Allow for grouping evicting drains and rejected those offer		1000		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	1000		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 63-200mm	m	1250		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 63-200mm	m	1000		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
<821.1	Marker post for Air Valve inscribed 'AV'	nr	26		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	32		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	28		
K87	Washout Outfall structures				
871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	28		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	8500		
L112	Excavation in Hard rock (Description as specified)	m ³	3000		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	Surrounds				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 63-200mm	m	19000		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 63-200mm	m	3600		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	1200		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m²	320		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	112		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes Outer Diameter 200 - 400mm	nr	28		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 63-200mm.	m	150		
	Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	23		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	117				

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TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUN (KSH)
	Bill 8 Collection Sheet				
	Page No. 1 of 9				
	Page No. 2 of 9				
	Page No. 3 of 9				
	Page No. 4 of 9				
	Page No. 5 of 9				
	Page No. 6 of 9				
	Page No. 7 of 9				
	Page No. 8 of 9				
	Page No. 9 of 9				

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	BILL No. 9 - NJIRU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	DN 250	m	500		
A260.2	DN 200	m	3180		
A260.3	DN 160	m	1000		
A260.4	DN110	m	4100		
A260.5	DN90	m	2463		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment. The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to				
	work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
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	BILL No. 9 - NJIRU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	11243		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
1441.1	Outer Diameter 250mm - not in trenches	m	500		
I441.2	Outer Diameter 200mm - not in trenches	m	3180		
I431.1	Outer Diameter 160mm - not in trenches	m	1000		
I431.2	Outer Diameter 110mm - not in trenches	m	4100		
I431.3	Outer Diameter 90mm - not in trenches	m	2463		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
I442.1	Outer Diameter 250mm in trenches, depth not exceeding 1.5m	m	125		
I443.1	-Ditto- but depth 1.5m - 2.0m	m	175		
1444.1	-Ditto- but depth > 2.0m	m	200		
1442.2	Outer Diameter 200mm in trenches, depth not exceeding 1.5m	m	795		
1443.2	-Ditto- but depth 1.5m - 2.0m	m	1113		
1444.2	-Ditto- but depth > 2.0m	m	1272		
I432.1	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	250		
I433.1	-Ditto- but depth 1.5m - 2.0m	m	350		
1434.1	-Ditto- but depth > 2.0m	m	400		
1432.2	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	1025		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	1435		
1434.2	-Ditto- but depth > 2.0m	m	1640		
1432.3	Outer Diameter 90mm in trenches, depth not exceeding 1.5m	m	616		
1433.3	-Ditto- but depth 1.5m - 2.0m	m	862		
1434.3	-Ditto- but depth > 2.0m	m	985		
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PAGE 10	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(KSH)	(KSH)
	For River aerial crossings - Supply Steel Pipe sections, Transport to site and store in secure place. Include supply of jointing material, bolts, nuts, gaskets etc as applicable for Steel sections and Install				
	as per Drawing Detail AFE0006-C0-253 or as directed by the Resident Engineer.				
I421.1	Outer Diameter 200mm	m	30		
I421.2	Outer Diameter 110mm	m	60		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J613.1	Outer Diameter 250mm 45° bend	nr	1		
J613.2	Outer Diameter 200mm 45° bend	nr	2		
J613.3	Outer Diameter 160mm 90° bend	nr	3		
J613.4	-Ditto- but 45° bend	nr	8		
J613.5	-Ditto- but 22.5° bend	nr	4		
J613.6	Outer Diameter 110mm 90° bend	nr	4		
J613.7	-Ditto- but 45° bend	nr	2		
J613.8	Outer Diameter 90mm 90° bend	nr	6		
J613.9	-Ditto- but 45° bend	nr	10		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 250mm x 250mm	nr	1		
J623.2	Outer Diameter 200mm x 110mm	nr	1		
J623.3	Outer Diameter 200mm x 90mm	nr	2		
J623.4	Outer Diameter 160mm x 110mm	nr	2		
J623.5	Outer Diameter 110mm x 110mm	nr	3		
J623.6	Outer Diameter 110mm x 90mm	nr	3		
J623.7	Outer Diameter 90mm x 90mm	nr	4		
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	BILL No. 9 - NJIRU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Tees for Air Valve				
J623.8	Outer Diameter 200mm x 80mm	nr	4		
J623.9	Outer Diameter 160mm x 80mm	nr	6		
J623.10	Outer Diameter 110mm x 80mm	nr	8		
	Inverted Tee for Washout)				
	•				
J623.11	Outer Diameter 200mm x 80mm	nr	3		
J623.12	Outer Diameter 160mm x 80mm	nr	5		
J623.13	Outer Diameter 110mm x 80mm	nr	4		
J63	<u>Tapers</u>				
	Concentric Taper				
J632.1	250 x 200mm	nr	1		
J632.2	160 x 110mm	nr	1		
J632.3	110 x 90mm	nr	1		
J64	Double Collars				
	Stepped Couplings				
J641.1	Outer Diameter 250mm flange steel/HDPE stepped coupling	nr	2		
J641.2	Outer Diameter 200mm flange steel/HDPE stepped coupling	nr	4		
J641.3	Outer Diameter 160mm flange steel/HDPE stepped coupling	nr	2		
J641.4	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	8		
J641.5	Outer Diameter 90mm flange steel/HDPE stepped coupling	nr	24		
J65	Adaptors				
	Flanged Adaptor				
J651.1	Outer Diameter 250mm flanged adaptor	nr	2		
J651.2	Outer Diameter 200mm flanged adaptor	nr	3		
J651.3	Outer Diameter 160mm flanged adaptor	nr	2		
J651.4	Outer Diameter 110mm flanged adaptor	nr	4		
	Outer Diameter 90mm flanged adaptor	nr	5		
J651.5	Outer Diameter 80mm flanged adaptor (for Washout)	nr	12		
J651.6	Diameter 80mm flanged adaptor (for Air valve)	nr	18		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	250mm diameter Plain Ended Pipe piece (1.2m)	nr	2		
J682.2	-Ditto- but 200mm	nr	4		
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	BILL No. 9 - NJIRU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J682.3	-Ditto- but 160mm	nr	2		, ,
J682.4	-Ditto- but 110mm	nr	6		
J682.5	-Ditto- but 90mm	nr	8		
J681.6	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	12		
J681.7	200mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	8		
J681.8	-Ditto- but DN160	nr	12		
J681.9	-Ditto- but DN110	nr	16		
J681.10	200mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	6		
J681.11	-Ditto- but DN160	nr	10		
J681.12	-Ditto- but DN110	nr	8		
	Flanged Spigot Pipes				
J682.1	200mm diameter flanged spigot pipe	nr	8		
J682.2	-Ditto- but DN160	nr	12		
J682.3	-Ditto- but DN110	nr	16		
J682.4	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	12		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	6		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	18		
1000.4	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	6		
J693.2	110mm diameter End Cap	nr	2		
J693.3	90mm diameter End Cap	nr	2		
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	12		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	12		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	18		
J811.4	Outer Diameter 250mm flanged sluice valve	nr	1		
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	BILL No. 9 - NJIRU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J811.5	Outer Diameter 200mm flanged sluice valve	nr	2	, ,	,
J811.6	Outer Diameter 160mm flanged sluice valve	nr	1		
J811.7	Outer Diameter 110mm flanged sluice valve	nr	3		
J811.8	Outer Diameter 90mm flanged sluice valve	nr	4		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	18		
J91	Flanged Water Meters				
J911.1	OD 250	nr	1		
J911.2	OD 200	nr	1		
J911.3	OD 160	nr	1		
		nr			
J911.4	OD 110	nr	1		
J911.5	OD 90	nr	1		
J93	Fire Hydrant				
J911.6	DN 80	nr	4		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK				
	ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services.				
	- Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	53		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	5		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 90-250mm	nr	2		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	300		
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	BILL No. 9 - NJIRU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	1300		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 90-250mm	m	400		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 90-250mm	m	800		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	18		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	13		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	12		
K86	Connection to Existing Network				
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer.	Item	L.S		
K87	Washout Outfall structures				
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	12		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	4600		
L112	Excavation in Hard rock (Description as specified)	m ³	1550		
	Note: - Blasting is NOT permitted for all Items under L1				
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.	BESSIAI TION		QOAN	(KSH)	(KSH)
L5	<u>Surrounds</u>				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-250mm	m	10200		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 90-250mm	m	2000		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	650		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m²	350		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	62		
L74	Volume:- 0.5 - 1m³				
L743	To pipes Outer Diameter 200 - 400mm	nr	27		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 90-250mm.	m	120		
	Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
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ITEM	BILL No. 9 - NJIRU DISTRIBUTION DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.			,	(KSH)	(KSH)
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	18		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	ii)				
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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	BILL No. 9 - NJIRU DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 9 Collection Sheet				
	Page No. 1 of 9				
	Page No. 2 of 9				
	Page No. 3 of 9				
	Page No. 4 of 9				
	Page No. 5 of 9				
	Page No. 6 of 9				
	Page No. 7 of 9				
	Page No. 8 of 9				
	Page No. 9 of 9				
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BILL 9 TO	TAL CARRIED FORWARD TO SUMMARY SHEET				

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IT	BILL No. 10 - SAIKA-MWENGENYE-OBAMA DISTRIBUTION		011421777	D	A.B. C
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
	Stormoning in associatios with the oppositionation statute of the Co.20				
A260.1	<u>DN 160</u>	m	1300		
A260.2	<u>DN110</u>	m	7450		
A260.3	<u>DN90</u>	m	1850		
A260.4	<u>DN63</u>	m	300		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
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ITEM	DECORPTION	LINIT	OLIANITITY	DATE	ARACHINT
No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	10900		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
1441.1					
1441.2	Outer Diameter 160mm - not in trenches	m	1300		
l431.3	Outer Diameter 110mm - not in trenches	m	7450		
I431.4	Outer Diameter 90mm - not in trenches	m	1850		
I431.5	Outer Diameter 63mm - not in trenches	m	300		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	325		
1443	-Ditto- but depth 1.5m - 2.0m	m	455		
1444	-Ditto- but depth > 2.0m	m	520		
I432.1	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	1863		
I433.1	-Ditto- but depth 1.5m - 2.0m	m	2608		
I434.1	-Ditto- but depth > 2.0m	m	2980		
1432.2	Outer Diameter 90mm in trenches, depth not exceeding 1.5m	m	463		
1433.2	-Ditto- but depth 1.5m - 2.0m	m	648		
1434.2	-Ditto- but depth > 2.0m	m	740		
1432.3	Outer Diameter 63mm in trenches, depth not exceeding 1.5m	m	0		
1433.3	-Ditto- but depth 1.5m - 2.0m	m	0		
1434.3	-Ditto- but depth > 2.0m	m	0		

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I	BILL No. 10 - SAIKA-MWENGENYE-OBAMA DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	For River aerial crossings - Supply Steel Pipe sections, Transport to site and store in secure place. Include supply of jointing material, bolts, nuts, gaskets etc as applicable for Steel sections and Install as per Drawing Detail AFE0006-C0-253 or as directed by the Resident Engineer.				
I421.1	Outer Diameter 110mm	m	30		
I421.2	Outer Diameter 90mm	m	30		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J613.1	Outer Diameter 160mm 90° bend	nr	5		
J613.2	-Ditto- but 45° bend	nr	6		
J613.3	-Ditto- but 22.5° bend	nr	5		
J613.4	Outer Diameter 110mm 90° bend	nr	8		
J613.5	-Ditto- but 45° bend	nr	10		
J613.6	Outer Diameter 90mm 45° bend	nr	4		
J613.7	-Ditto- but 22.5° bend	nr	2		
	Junctions and Branches Tees				
J623.1	Outer Diameter 200mm x 90mm	nr	2		
J623.2	Outer Diameter 160mm x 110mm	nr	3		
J623.3	Outer Diameter 160mm x 90mm	nr	2		
J623.4	Outer Diameter 160mm x 63mm	nr	1		
J623.5	Outer Diameter 110mm x 110mm	nr	9		
J623.6	Outer Diameter 110mm x 90mm	nr	3		
J623.7	Outer Diameter 90mm x 90mm	nr	1		
	Tees for Air Valve				
J623.8					
J623.9	Outer Diameter 160mm x 80mm	nr	6		
J623.10	Outer Diameter 110mm x 80mm	nr	10		
	Inverted Tee for Washout)				
J623.11					
J623.12	Outer Diameter 160mm x 80mm	nr	2		
.1623 13	Outer Diameter 110mm x 80mm	nr	2		
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	BILL No. 10 - SAIKA-MWENGENYE-OBAMA DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J63	Tapers				
	Concentric Taper				
J632.1	200 x 110mm	nr	1		
J632.2	160 x 110mm	nr	1		
J632.3	110 x 63mm	nr	1		
J64	Double Collars				
	Stepped Couplings				
J641.1	Outer Diameter 160mm flange steel/HDPE stepped coupling	nr	4		
J641.2	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	18		
J641.3	Outer Diameter 90mm flange steel/HDPE stepped coupling	nr	6		
J65	Adaptors Flanged Adaptor				
J651.1	Outer Diameter 200mm flanged adaptor	nr	1		
J651.2	Outer Diameter 160mm flanged adaptor	nr	3		
J651.3	Outer Diameter 110mm flanged adaptor	nr	10		
J651.4	Outer Diameter 90mm flanged adaptor	nr	4		
J651.5	Outer Diameter 80mm flanged adaptor (for Washout)	nr	4		
J651.6	Diameter 80mm flanged adaptor (for Air valve)	nr	16		
J68	Straight Specials as specified Plain Ended Pipes				
J682.2	-Ditto- but 160mm	nr	4		
J682.3	-Ditto- but 110mm	nr	18		
J682.3	-Ditto- but 90mm	nr	6		
J682.4	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	4		
J681.5	-Ditto- but DN160	nr	12		
J681.6	-Ditto- but DN110	nr	20		
J681.9	-Ditto- but DN160	nr	4		
J681.10	-Ditto- but DN110	nr	4		
	Flanged Spigot Pipes				
J682.2	-Ditto- but DN160	nr	12		
J682.3	-Ditto- but DN110	nr	20		
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	BILL No. 10 - SAIKA-MWENGENYE-OBAMA DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J682.4	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	4		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	2		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	16		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	2		
J693.2	110mm diameter End Cap	nr	1		
J693.2	90mm diameter End Cap	nr	1		
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	4		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	4		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	16		
J811.5					
J811.6	Outer Diameter 160mm flanged sluice valve	nr	2		
J811.7	Outer Diameter 110mm flanged sluice valve	nr	9		
J811.8	Outer Diameter 90mm flanged sluice valve	nr	3		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	16		
J91	Flanged Water Meters				
J911.1	OD 160	nr	1		
J911.2	OD 110	nr	1		
J911.3	OD 90	nr	1		
J93	Fire Hydrant				
J911.4	DN 80	nr	6		
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			+ +		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	38		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	3		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 63-200mm	nr	3		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	300		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	1500		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	<u>Reinstatement</u>				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 63-200mm	m	450		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 63-200mm	m	900		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K8	Other Pipework Ancillaries				
K82	Marker Posts				
Noz					
K821.1	Marker post for Air Valve inscribed 'AV'	nr	16		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	14		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	4		
K86	Connection to Existing Network				
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer.	Item	L.S		
K87	Washout Outfall structures				
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	4		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	4000		
L112	Excavation in Hard rock (Description as specified)	m ³	1350		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	<u>Surrounds</u>				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 63-200mm	m	9000		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 63-200mm	m	1700		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	600		

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	BILL No. 10 - SAIKA-MWENGENYE-OBAMA DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m ²	300		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	66		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes Outer Diameter 200 - 400mm	nr	18		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 63-200mm.	m	100		
	Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	15		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	lii)				
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TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUN (KSH)
	Bill 10 Collection Sheet				
	Page No. 1 of 8				
	Page No. 2 of 8				
	Page No. 3 of 8				
	Page No. 4 of 8				
	Page No. 5 of 8				
	Page No. 6 of 8				
	Page No. 7 of 8				
	Page No. 8 of 8				
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	DN 250	m	1725		
A260.2	DN 200	m	3188		
A260.3	DN110	m	1200		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
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	BILL No. 11 - DONHOLM DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	6113		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
I441.1	Outer Diameter 250mm - not in trenches	m	1725		
I441.2	Outer Diameter 200mm - not in trenches	m	3188		
I431.3	Outer Diameter 110mm - not in trenches	m	1200		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
I442.1	Outer Diameter 250mm in trenches, depth not exceeding 1.5m	m	431		
I443.1	-Ditto- but depth 1.5m - 2.0m	m	604		
1444.1	-Ditto- but depth > 2.0m	m	690		
1442.2	Outer Diameter 200mm in trenches, depth not exceeding 1.5m	m	797		
1443.2	-Ditto- but depth 1.5m - 2.0m	m	1116		
1444.2	-Ditto- but depth > 2.0m	m	1275		
I432	Outer Diameter 110mm in trenches, depth not exceeding 1.5m	m	300		
I433	-Ditto- but depth 1.5m - 2.0m	m	420		
1434	-Ditto- but depth > 2.0m	m	480		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
10	'				
J6	HDPE FITTINGS - Pressure Rating of PN16 Supply, Transport to site and store in secure place. Include supply				
	of jointing materials, bolts, nuts, gaskets etc as Applicable.				
	Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J613.1	Outer Diameter 250mm 90° bend	nr	2		
PAGE TO	 TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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	BILL No. 11 - DONHOLM DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J613.2	-Ditto- but 45° bend	nr	2		
J613.3	-Ditto- but 22.5° bend	nr	4		
J613.4	Outer Diameter 200mm 90° bend	nr	3		
J613.5	-Ditto- but 45° bend	nr	14		
J613.6	Outer Diameter 110mm 90° bend	nr	2		
J613.7	-Ditto- but 45° bend	nr	6		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 250mm x 250mm	nr	1		
J623.2	Outer Diameter 250mm x 200mm	nr	2		
J623.3	Outer Diameter 250mm x 110mm	nr	1		
J623.4	Outer Diameter 200mm x 200mm	nr	4		
J623.5	Outer Diameter 200mm x 110mm	nr	2		
J623.6	Outer Diameter 110mm x 110mm	nr	2		
	Tees for Air Valve				
J623.7	Outer Diameter 250mm x 80mm	nr	3		
J623.8	Outer Diameter 200mm x 80mm	nr	4		
J623.9	Outer Diameter 110mm x 80mm	nr	4		
	Inverted Tee for Washout)				
J623.10	Outer Diameter 250mm x 80mm	nr	2		
J623.11	Outer Diameter 200mm x 80mm	nr	3		
J623.12	Outer Diameter 110mm x 80mm	nr	2		
J63	<u>Tapers</u>				
	Concentric Taper				
J632	250 x 200mm	nr	2		
J64	Double Collars				
	Stepped Couplings				
J641.1	Outer Diameter 250mm flange steel/HDPE stepped coupling	nr	4		
J641.2	Outer Diameter 200mm flange steel/HDPE stepped coupling	nr	4		
J641.3	Outer Diameter 110mm flange steel/HDPE stepped coupling	nr	4		
D467 = -					
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

	BILL No. 11 - DONHOLM DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J65	Adaptors				
	Flanged Adaptor				
J651.1	Outer Diameter 250mm flanged adaptor	nr	3		
J651.2	Outer Diameter 200mm flanged adaptor	nr	3		
J651.3	Outer Diameter 110mm flanged adaptor	nr	3		
J651.4	Outer Diameter 80mm flanged adaptor (for Washout)	nr	7		
J651.5	Diameter 80mm flanged adaptor (for Air valve)	nr	11		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	250mm diameter Plain Ended Pipe piece (1.2m)	nr	4		
J682.2	-Ditto- but 200mm	nr	4		
J682.3	-Ditto- but 110mm	nr	4		
J681.4	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	7		
J681.5	250mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	6		
J681.6	-Ditto- but DN200	nr	8		
J681.7	-Ditto- but DN110	nr	8		
J681.8	250mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	4		
J681.9	-Ditto- but DN200	nr	6		
J681.10	-Ditto- but DN110	nr	4		
	Flanged Spigot Pipes				
J682.1	250mm diameter flanged spigot pipe	nr	6		
J682.2	-Ditto- but DN200	nr	8		
J682.3	-Ditto- but DN110	nr	8		
J682.4	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout		7		
J002.4		nr	1		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	4		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	11		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	4		
J693.2	200mm diameter End Cap	nr	3		
J693.3	110mm diameter End Cap	nr	2		
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J8	VALVES AND PENSTOCKS			(ItOII)	(11011)
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	7		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	7		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	11		
J811.4	Outer Diameter 250mm flanged sluice valve	nr	2		
J811.5	Outer Diameter 200mm flanged sluice valve	nr	2		
J811.6	Outer Diameter 110mm flanged sluice valve	nr	2		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	11		
J91	Flanged Water Meters				
J911.1	OD 250	nr	1		
J911.2	OD 200	nr	1		
J911.3	OD 110	nr	1		
		- '''	'		
J93	Fire Hydrant				
J911.4	DN 80	nr	5		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork, joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	31		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	3		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 110-250mm	nr	2		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	180		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	800		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 110-250mm	m	200		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 110-250mm	m	400		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	11		
		- '''	''		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	8		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	7		
K86	Connection to Existing Network				
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer.	Item	L.S		
K87	Washout Outfall structures				
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	7		

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(KSH)	(KSH)
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extracts execution and healtfilling of nine translage for year				
LI	Extras to excavation and backfilling of pipe trenches for rock excavation				
	Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	2500		
L112	Excavation in Hard rock (Description as specified)	m ³	800		
		111	000		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	Surrounds				
L52	Selected Excavated Granular Fill				
	Gelecieu Excavateu Gidifuldi Fili				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 110-250mm	m	5000		
L53	Imported Selected Fill				
Ləə					
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 110-250mm	m	1250		
L54	Mass Concrete Surround				
L542			450		
L342	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	430		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	43		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes Outer Diameter 200 - 400mm	nr	22		
	- 5 p.p. 5 Gates Diameter 200 Housing	- 111			

	BILL No. 11 - DONHOLM DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 110-250mm. Note:- All works to be executed in liason with relevant road	m	80		
	authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	12		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	ii)				
	ii) 				
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

	BILL No. 11 - DONHOLM DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 11 Collection Sheet				
	Page No. 1 of 8				
	Page No. 2 of 8				
	Page No. 3 of 8				
	Page No. 4 of 8				
	Page No. 5 of 8				
	Page No. 6 of 8				
	Page No. 7 of 8				
	Page No. 8 of 8				
BILL 11 T	OTAL CARRIED FORWARD TO SUMMARY SHEET				
	The state of the s				<u> </u>

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(KSH)	(KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260	DN 160	m	1600		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc.) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii.Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
\35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
		<u></u>			
			1		1

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DESCRIPTION	T .			
DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
tting Out and As Built Drawings				
tting out entire pipeline route, taking and recording invert levels on excavation and preparation of As Built Drawings to be omitted for approval to the Resident Engineer.	m	1600		
ASS I - PIPEWORK - PIPES				
PE PIPES - PN16				
pply, Transport to site and store in secure place, protected from ect sunlight and physical damage. Rate to include Welding chines for Jointing HDPE pipes.				
ter Diameter 160mm - not in trenches	m	1600		
eline covering the full width of easement including grubbing out shrubs etc and removal of all trees, Excavation of Trench luding Trench Bed preparation, Shoring of Trench walls, Pipe ving and Jointing, Backfilling, Final reinstatement and Disposal of ease Excavated material all as per the specifications				
ter Diameter 160mm in trenches, depth not exceeding 1.5m	m	400		
tto- but depth 1.5m - 2.0m	m	560		
tto- but depth > 2.0m	m	640		
ASS J - PIPEWORK - FITTINGS AND VALVES				
PE FITTINGS - Pressure Rating of PN16				
pply, Transport to site and store in secure place. Include supply ointing materials, bolts, nuts, gaskets etc as Applicable. te - Rate to include Transport from site store, Excavation of ench including Trench Bed preparation, Shoring of Trench walls, be Laying and Jointing, Backfilling, Final reinstatement and eposal of excess Excavated material all as per the specifications				
nds_				
in Ended Bends				
ter Diameter 160mm 90° bend	nr	2		
tto- but 45° bend	nr	4		
tto- but 22.5° bend	nr	3		
es for Air Valve				
ter Diameter 160mm x 80mm	nr	2		
rerted Tee for Washout)				
ter Diameter 160mm x 80mm	nr	2		
uble Collars				
epped Couplings				
ter Diameter 160mm flange steel/HDPE stepped coupling	nr	6		
- 11 1 2				
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J65	Adaptors				
	Flanged Adaptor				
J651.1	Outer Diameter 160mm flanged adaptor	nr	4		
J651.2	Outer Diameter 80mm flanged adaptor (for Washout)	nr	2		
J651.3	Diameter 80mm flanged adaptor (for Air valve)	nr	2		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	160mm diameter Plain Ended Pipe piece (1.2m)	nr	6		
J681.2	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	2		
J681.3	160mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	4		
J681.4	160mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	4		
	Flanged Spigot Pipes				
J682.1	160mm diameter flanged spigot pipe	nr	4		
J682.2	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	2		
	Double Flanged Pipes				
1000.4	200 marting the death of a marting and 4 On Long for West and				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	1		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	2		
J693.1	End Cap 80mm diameter End Cap Washout Type 2	nr	1		
.1693.2	160mm diameter End Cap	nr	4		
J8	VALVES AND PENSTOCKS	- "			
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	2		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	2		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	2		
J811.4	Outer Diameter 160mm flanged sluice valve	nr	3		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	2		
J91	Flanged Water Meters				
J911.1	OD 160	nr	1		
		+			

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	BILL No. 12 - MWIKI ROAD DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J93	Fire Hydrant				
J911.2	DN 80	nr	2		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	9		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	1		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 160mm	nr	2		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	80		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	350		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		

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ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(KSH)	(KSH)
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 160mm	m	120		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 160mm	m	150		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	2		
N02 1. I	maino postiui Aii vaive ilisulueu Av	nr			
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	2		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	2		
V00	Connection to Eviating Naturals				
K86	Connection to Existing Network				
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer.	Item	L.S		
K87	Washout Outfall structures				
1/071	Dravida all materials and senetrust Massamus utfall structures an		2		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	2		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock				
	excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	600		
	Executation in soft rook (Description as specifical)	m	000		
L112	Excavation in Hard rock (Description as specified)	m ³	200		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	Surrounds				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 160mm	m	1500		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 160mm	m	300		
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	BILL No. 12 - MWIKI ROAD DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	100		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	9		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes Outer Diameter 200 - 400mm	nr	4		
L170		111	7		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 160mm. Note:- All works to be executed in liason with relevant road authorities and rates to include facilitation. The bidder to submit	m 	60		
	method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	9		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	li)				
	11)				
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ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUN1
No.				(KSH)	(KSH)
	Bill 12 Collection Sheet				
	Page No. 1 of 8				
	Page No. 2 of 8				
	Page No. 3 of 8				
	Page No. 4 of 8				
	Page No. 5 of 8				
	Page No. 6 of 8				
	Page No. 7 of 8				
	Page No. 8 of 8				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				, ,
	Testing and Commissioning of the Pipeline including flushing and				
	sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260	DN 160	m	700		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
			+ +		

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	BILL No. 13 - LUCKY SUMMER DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	700		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
I441	Outer Diameter 160mm - not in trenches	m	700		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	175		
1443	-Ditto- but depth 1.5m - 2.0m	m	245		
1444	-Ditto- but depth > 2.0m	m	280		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	of jointing materials, bolts, nuts, gaskets etc as Applicable. Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends_				
	Plain Ended Bends				
J613.1	Outer Diameter 160mm 90° bend	nr	2		
J613.2	-Ditto- but 45° bend	nr	8		
J613.3	-Ditto- but 22.5° bend	nr	3		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 160mm x 160mm	nr	2		
	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Tees for Air Valve				
J623.2	Outer Diameter 160mm x 80mm	nr	1		
	Inverted Tee for Washout)				
J623.3	Outer Diameter 160mm x 80mm	nr	1		
		- "	'		
J64	Double Collars Stepped Couplings				
10.44			1		
J641	Outer Diameter 160mm flange steel/HDPE stepped coupling	nr	4		
J65	Adaptors				
	Flanged Adaptor				
J651.1	Outer Diameter 160mm flanged adaptor	nr	3		
J651.2	Outer Diameter 80mm flanged adaptor (for Washout)	nr	1		
J651.3	Diameter 80mm flanged adaptor (for Air valve)	nr	1		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	160mm diameter Plain Ended Pipe piece (1.2m)	nr	4		
J681.2	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	1		
J681.3	160mm diameter flanged spigot pipe with thrust flange (For Air Valve)	nr	2		
J681.4	160mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	2		
	Flanged Spigot Pipes				
J682.1	160mm diameter flanged spigot pipe	nr	2		
J682.2	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	1		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout	nr	1		
	Type 2				
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	1		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	1		
J693.2	160mm diameter End Cap	nr	4		
			+ -		

Lucky Summer 3 of 8

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	1		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	1		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	1		
J811.4	Outer Diameter 160mm flanged sluice valve	nr	2		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	1		
J91	Flanged Water Meters				
J911.1	OD 160	nr	1		
J93	Fire Hydrant				
J911.2	DN 80	nr	1		
0311.2		111	'		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				+
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	5		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	1		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 160mm	nr	2		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	100		
					

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	BILL No. 13 - LUCKY SUMMER DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	150		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K 7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 160mm	m	60		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 160mm	m	120		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	1		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	2		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	1		
K86	Connection to Existing Network				
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer.	Item	L.S		
K87	Washout Outfall structures				
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	1		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock				
L11	In Pipe Trenches and Chambers				-
L111	Excavation in soft rock (Description as specified)	m ³	300		
L112	Excavation in Hard rock (Description as specified)	m ³	150		
	Note: - Blasting is NOT permitted for all Items under L1				
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET	•			

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
L5	<u>Surrounds</u>				
LJ	Surrounus				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 160mm	m	1100		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 160mm	m	250		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	80		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m²	200		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	13		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes Outer Diameter 200 - 400mm	nr	4		
			1 1		
			+ +		
			+		
			+ +		

Lucky Summer 6 of 8

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUN [*]
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 160mm. Note:- All works to be executed in liason with relevant road	m	60		
	authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	9		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
	i)				
	ii)				
			+		
		-	+ -		
			+		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 13 Collection Sheet				
	Page No. 1 of 7				
	Page No. 2 of 7				
	Page No. 3 of 7				
	Page No. 4 of 7				
	Page No. 5 of 7				
	Page No. 6 of 7				
	Page No. 7 of 7				

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	BILL No. 14 - UMOJA III DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	DN 110	m	4000		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
		<u> </u>			
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET				

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUN1
A36	Setting Out and As Built Drawings			,	
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	4000		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16 Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
l441	Outer Diameter 160mm - not in trenches	m	4000		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
1442	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	1000		
I443	-Ditto- but depth 1.5m - 2.0m	m	1400		
1444	-Ditto- but depth > 2.0m	m	1600		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable. Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
	Plain Ended Bends				
J613.1	Outer Diameter 110mm 90° bend	nr	3		
J613.2	-Ditto- but 45° bend	nr	9		
J613.3	-Ditto- but 22.5° bend	nr	2		
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 110mm x 110mm	nr	9		

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Duter Diameter 110mm x 80mm Double Collars Stepped Couplings Duter Diameter 110mm flange steel/HDPE stepped coupling Adaptors Flanged Adaptor Duter Diameter 110mm flanged adaptor Duter Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr nr nr	2 20 11		
Duter Diameter 110mm x 80mm Double Collars Stepped Couplings Duter Diameter 110mm flange steel/HDPE stepped coupling Adaptors Flanged Adaptor Duter Diameter 110mm flanged adaptor Duter Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr	20		
Outer Diameter 110mm x 80mm Oouble Collars Stepped Couplings Outer Diameter 110mm flange steel/HDPE stepped coupling Adaptors Flanged Adaptor Outer Diameter 110mm flanged adaptor Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr	20		
Oouble Collars Stepped Couplings Outer Diameter 110mm flange steel/HDPE stepped coupling Adaptors Flanged Adaptor Outer Diameter 110mm flanged adaptor Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr	20		
Oouble Collars Stepped Couplings Outer Diameter 110mm flange steel/HDPE stepped coupling Adaptors Flanged Adaptor Outer Diameter 110mm flanged adaptor Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr	20		
Outer Diameter 110mm flange steel/HDPE stepped coupling Adaptors Flanged Adaptor Outer Diameter 110mm flanged adaptor Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr			
Outer Diameter 110mm flange steel/HDPE stepped coupling Adaptors Flanged Adaptor Outer Diameter 110mm flanged adaptor Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr			
Adaptors Flanged Adaptor Outer Diameter 110mm flanged adaptor Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)	nr			
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Outer Diameter 110mm flanged adaptor Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)		11		+
Outer Diameter 80mm flanged adaptor (for Washout) Diameter 80mm flanged adaptor (for Air valve)		11		<u> </u>
Diameter 80mm flanged adaptor (for Air valve)	nr			
		2		
Straight Specials as specified	nr	3		
Plain Ended Pipes				
10mm diameter Plain Ended Pipe piece (1.2m)	nr	20		
30mm diameter plain ended steel, 2000mm long (for Washout)	nr	2		
10mm diameter flanged spigot pipe with thrust flange (For Air /alve)	nr	6		
10mm diameter flanged spigot pipe with thrust flange (For Vashout)	nr	4		
Flanged Spigot Pipes				
10mm diameter flanged spigot pipe	nr	6		
	nr	2		
	- "			
Double Flanged Pipes				
30mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	1		
30mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	3		
End Can				
30mm diameter End Cap Washout Type 2	nr	1		
10mm diameter End Cap	nr	18		
		+ +		
		+ -		1
N	Asshout) In anged Spigot Pipes If Omm diameter flanged spigot pipe Omm diameter flanged Spigot pipe, n.e 1.2m long for Washout Ouble Flanged Pipes Omm diameter double flanged pipe, n.e 1.2m long for Washout Appe 2 Omm diameter double flanged riser pipe, n.e 200mm long for Air Alve Omm diameter End Cap Washout Type 2	Ashout) In anged Spigot Pipes If Omm diameter flanged spigot pipe In ouble Flanged Pipes In ouble	Ashout) Idanged Spigot Pipes Idomm diameter flanged spigot pipe Inr 6 Idomm diameter flanged Spigot pipe, n.e 1.2m long for Washout Inr 2 Idomm diameter double flanged pipe, n.e 1.2m long for Washout Inr 1 Idomm diameter double flanged riser pipe, n.e 200mm long for Air Idomm diameter End Cap Washout Type 2 Idomm diameter End Cap Idomm diam	Ashout) Idanged Spigot Pipes If Omm diameter flanged spigot pipe In fine for Mashout In fine flanged Spigot pipe, n.e 1.2m long for Washout In fine flanged Pipes In fine flanged

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	BILL No. 14 - UMOJA III DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	2		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	2		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	3		
J811.4	Outer Diameter 110mm flanged sluice valve	nr	10		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	3		
J91	Flanged Water Meters				
J911.1	OD 110	nr	4		
J93	Fire Hydrant				
J911.2	DN 80	nr	6		
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services Concrete, Reinforcement, Formwork, joints and Finishes Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	17		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	4		
PAGE TO	TAL CARRIED FORWARD TO SECTION COLLECTION SHEET	l			-

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K6	<u>Crossings</u>				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 160mm	nr	2		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	80		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	400		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 160mm	m	150		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 160mm	m	300		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	3		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	4		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	2		
K86	Connection to Existing Network				
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer.	Item	L.S		
K87	Washout Outfall structures				
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	2		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	1500		
L112	Excavation in Hard rock (Description as specified)	m ³	500		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	Surrounds				
LJ	Surrounus				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 160mm	m	3200		
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 160mm	m	600		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	200		
L6	Pipe Wrapping				
L602	Supply 'Denso Tape' Wrapping or approved equivalent for steel pipe joints and exposed steel sections. Bidder to include wrapping and jointing onto pipe in two layers as directed by the Engineer on site.	m²	200		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	14		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes Outer Diameter 200 - 400mm	nr	14		
_					T

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ITEN.	BILL No. 14 - UMOJA III DISTRIBUTION	11507	OHABITITY	DATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 160mm. Note:- All works to be executed in liason with relevant road	m	60		
	authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	9		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 14 Collection Sheet				
	Page No. 1 of 7				
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	Page No. 4 of 7				
	Page No. 5 of 7				
	Page No. 6 of 7				
	Page No. 7 of 7				

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	BILL No. 15 - KAMITI DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS A - TESTING AND SETTING OUT OF WORKS				
	Testing and Commissioning of the Pipeline including flushing and sterlising in accordance with the Specification Clause 5.19 & 5.20				
A260.1	DN 160	m	1900		
	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, tapes etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source vi. Trench collapse protection will be required for trenches deeper than 1.5m that are not entirely of stable rock including; shielding (devices designed to protect workers in the event of a collapse, such as trench boxes); shoring (bracing designed to prevent collapse, such as hydraulic shoring or slide-rail systems); and sloping or benching trench walls away from the trench bottom at a safe angle.				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		
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ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(KSH)	(KSH)
A36	Setting Out and As Built Drawings				
	Setting out entire pipeline route, taking and recording invert levels upon excavation and preparation of As Built Drawings to be submitted for approval to the Resident Engineer.	m	1900		
	CLASS I - PIPEWORK - PIPES				
17	HDPE PIPES - PN16				
	Supply, Transport to site and store in secure place, protected from direct sunlight and physical damage. Rate to include Welding machines for Jointing HDPE pipes.				
1441	Outer Diameter 160mm - not in trenches	m	1900		
	Transport from site store, Demolition and General clearance for pipeline covering the full width of easement including grubbing out all shrubs etc and removal of all trees, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe				
	Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
I442	Outer Diameter 160mm in trenches, depth not exceeding 1.5m	m	475		
I443	-Ditto- but depth 1.5m - 2.0m	m	665		
1444	-Ditto- but depth > 2.0m	m	760		
	CLASS J - PIPEWORK - FITTINGS AND VALVES				
J6	HDPE FITTINGS - Pressure Rating of PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable. Note - Rate to include Transport from site store, Excavation of Trench including Trench Bed preparation, Shoring of Trench walls, Pipe Laying and Jointing, Backfilling, Final reinstatement and Disposal of excess Excavated material all as per the specifications				
J61	Bends				
501	Plain Ended Bends				
J613.1		nr	2		
J613.2	Outer Diameter 160mm 90° bend -Ditto- but 45° bend	nr	7		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
J62	Junctions and Branches				
	Tees				
J623.1	Outer Diameter 160mm x 110mm	nr	1		
	Tees for Air Valve				
J623.3	Outer Diameter 160mm x 80mm	nr	1		
	Inverted Tee for Washout)				
J623.5	Outer Diameter 160mm x 80mm	nr	1		
J64	Double Collars				
	Stepped Couplings				
J641.1	Outer Diameter 160mm flange steel/HDPE stepped coupling	nr	6		
J65	Adaptors				
	Flanged Adaptor				
J651.1	Outer Diameter 160mm flanged adaptor	nr	4		
J651.2	Outer Diameter 80mm flanged adaptor (for Washout)	nr	1		
J651.3	Diameter 80mm flanged adaptor (for Air valve)	nr	1		
J68	Straight Specials as specified				
	Plain Ended Pipes				
J682.1	160mm diameter Plain Ended Pipe piece (1.2m)	nr	6		
J681.3	80mm diameter plain ended steel, 2000mm long (for Washout)	nr	1		
J681.4	160mm diameter flanged spigot pipe with thrust flange (For Air	nr	2		
	Valve)				
J681.6	160mm diameter flanged spigot pipe with thrust flange (For Washout)	nr	2		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
NO.	Flanged Spigot Pipes			(KOII)	(KSH)
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J682.1	160mm diameter flanged spigot pipe	nr	2		
J682.2	80mm diameter flanged Spigot pipe, n.e 1.2m long for Washout	nr	1		
	Double Flanged Pipes				
J683.1	80mm diameter double flanged pipe, n.e 1.2m long for Washout Type 2	nr	1		
J683.2	80mm diameter double flanged riser pipe, n.e 200mm long for Air valve	nr	1		
	End Cap				
J693.1	80mm diameter End Cap Washout Type 2	nr	1		
J693.2	160mm diameter End Cap	nr	1		
J8	VALVES AND PENSTOCKS				
J81	Gate Valves as specified				
	Gate Valves for washout and line valves to be supplied complete with extension spindle n.e 2m and Tee-key. Air Valve isolating valves to be supplied with wheel only. All rates to be inclunsive of these add-ons.				
J811.1	Nominal Diameter 80mm flanged sluice valve for Washout	nr	1		
J811.2	Nominal Diameter 80mm flap valve for Washout	nr	1		
J811.3	Nominal Diameter 80mm flanged sluice valve for Air Valve	nr	1		
J811.4	Outer Diameter 160mm flanged sluice valve	nr	3		
J86	Air Valves as specified				
J861	Nominal Diameter 80mm Combination air valve	nr	1		
J91	Flanged Water Meters				
J911.1	OD 160	nr	1		
J93	Fire Hydrant				
J911.3	DN 80	nr	4		
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	BILL No. 15 - KAMITI DISTRIBUTION				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	CLASS K - PIPEWORK - MANHOLES AND PIPEWORK ANCILLARIES				
	Construction of chambers, chamber ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork, joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K23	In Situ Concrete Chambers				
	Valve Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	3		
	Meter Chambers				
K133	In situ concrete chamber, internal size 1200mm x 1200mm, depth not exceeding 2.0m	nr	1		
K6	Crossings				
K611	Construct reinforced concrete river/ drain pipe crossing, all in accordance with details shown on drawings. Include for provision and fixing of clips, heavy duty steel pipe clamps and heavy duty triangular mild steel frame as detailed. Outer Diameter 110-160mm	nr	1		
K641	Allow for crossing existing hedges, wall and fences (chain link, barbed wire etc.) including reinstatement to original state.	m	65		
K671	Allow for crossing existing drains and reinstate these after construction has been completed	m	300		
K681	Allow for crossing existing underground services (water, sewers, telephone, electric cables etc.), including reinstatement to original state and in liason with the relevant body for inspection and approval during execution of works. Pilot excavation to be done to establish the location of any buried services prior to actual excavation. Rate to include pilot excavation, repairs and reinstatement of any damages to existing buried services as a result of execution of works.	Item	L.S		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
K7	Reinstatement				
K711	Breaking up, temporary and permanent reinstatement of murram road compacted to the satisfaction of the Engineer. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in their rates, Outer Diameter 110-160mm	m	90		
K741	Breaking up, temporary and permanent reinstatement of CONCRETE BLOCK PAVED roads/footpaths including subbase, base and sand bed layers, raised kerbs and flush kerbs to the satisfaction of the Engineer, Outer Diameter 110-160mm	m	180		
K8	Other Pipework Ancillaries				
K82	Marker Posts				
K821.1	Marker post for Air Valve inscribed 'AV'	nr	1		
K821.2	-Ditto- but Water Main inscribed 'WM'	nr	3		
K821.3	-Ditto- but Washout inscribed 'WO'	nr	1		
K86	Connection to Existing Network				
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer.	Item	L.S		
K87	Washout Outfall structures				
(871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	nr	1		
	CLASS L - PIPEWORK SUPPORTS AND PROTECTION,				
L1	Extras to excavation and backfilling of pipe trenches for rock excavation Rate to include carting away and disposal.				
L11	In Pipe Trenches and Chambers				
L111	Excavation in soft rock (Description as specified)	m ³	800		
L112	Excavation in Hard rock (Description as specified)	m ³	350		
	Note: - Blasting is NOT permitted for all Items under L1				
L5	<u>Surrounds</u>				
L52	Selected Excavated Granular Fill				
L522	Provide, place and compact with excavated selected granular material for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 110-160mm	m	2250		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
L53	Imported Selected Fill				
L532	Provide, transport to site, place and compact with imported selected fill (granular material) for bed and surround to pipes not less than 150mm thick or as specified and as directed by the Engineer, pipe bore 110-160mm	m	400		
L54	Mass Concrete Surround				
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete bed and surround to HDPE pipe under trafficked areas with cover below 1.2m, and untrafficked areas of cover below 1m.	m	150		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rate to include; excavation, formwork, reinforcement, provision and placing of concrete, curing and backfilling.				
	Class 25 Concrete				
	Note; The rate should include pipe and fitting fixing				
L71	Volume n.e 0.5m³				
L711	To pipes Outer Diameter n.e 200mm	nr	10		
L74	Volume:- 0.5 - 1m³				
L743	To pipes Outer Diameter 200 - 400mm	nr	3		
	CLASS X - MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment, excavate below road surface in common materials (soil/murram) using trenchless technique (e.g pipe jacking, horizontal drilling etc). The rate to include all preparatory works, any requisite shoring, strutting, installation of pipe casing and necessary grouting and reinstatement. Pipe Outer Diameter 110-160mm. Note:- All works to be executed in liason with relevant road	m	60		
	authorities and rates to include facilitation. The bidder to submit method statement with Bid execution of these works.				
X62	Extra over road crossing item X61 above for excavation/drilling in rock	m ³	9		
X63	Allow for any method related charges the bidder feels may be required in carrying out works for trechless pipe crosssing under roads for items X61 & X62 above. These must be indicated below and pricing of each item provided (Separate additional sheet may be attached if necessary)	Item			
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	Bill 15 Collection Sheet				
	Page No. 1 of 7				
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Bill No. 16: Consumer	Connections - No. 1,903
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
1	PIPEWORK - PIPES				
1.1	Supply and installl 32 mm HDPE pipes. Rate to include excavation and backfilling. Depth n.e. 1000 mm Length to be determined on site.	m	20,000		
1.2	Supplys and installI 15 mm HDPE pipes. Rate to include excavation and backfilling. Depth n.e. 1000 mm Length to be determined on site.	m	45,000		
<u>2</u>	PIPEWORK - FITTINGS AND VALVES				
	The rate quoted is for supply and installiation of fittings and valves to the pipe network.				
2.1	HDPE Saddle Clamps				
	·				
2.1.1	DN110 x DN32	nr	381		
2.1.2	DN75 x DN32	nr	381		
2.1.3	DN63 x DN32	nr	381		
2.1.4	DN50 x DN32	nr	761		
2.1.5	DN110 x DN15	nr	381		
2.1.6	DN75 x DN15	nr	381		
2.1.7	DN63 x DN15	nr	381		
2.1.8	DN50 x DN15	nr	761		
2.2	90 ⁰ HDPE Elbows				
	JO TIDE LINOWS				
2.2.1	DN15	nr	5,708		
2.3	HDPE Adaptor				
	Flange Adaptor complete with metal back up ring				
2.3.1	DN15	nr	3,805		
2.4	End Cap				
2.4.1	DN15	nr	1,903		
2.5	Brass Ferrule				
2.5.1	DN32	nr	476		
2.5.2	DN15	nr	1,427		
2.6	HDPE Equal Tee		,		
2.6.1	DN32 x DN 32	nr	1,903		
		- '''	1,500		
2.7	HDPE Reducing Coupler				
2.7.1	DN32 x DN15	nr	1,903		

2.8	Crossings				
2.8.1	Breaking up, temporary and permanent reinstatement of 100mm thick concrete paved road to the satisfaction of the Engineer.	nr	10		
2.8.2	Breaking up, temporary and permanent reinstatement of murram road to the satisfaction of the Engineer.	m	100		
2.9	Customer Meter Connections				
	Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent.				
2.9.1	15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non-Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "NCWSC" or as directed by the Engineer	nr	1,903		
2.10	Stop Cocks				
			4.000		
2.10.1	15mm dia Stop Cock, make Pegler or approved equivalent	nr	1,903		
2.11	Meter Boxes				
2.11.1	Standard plastic meter boxes with cover and opening key, minimum dimensions; length - 265mm, width-150mm & height-180mm	nr	1,903		
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Bill No. 1	7: Dayworks Schedule				
ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	TOTAL (Kshs.)
	Note: This Bill is Provisional			,,	,
	The rates entered in the following schedule shall be used in assesing the				
	cost of any extra work ordered by the Engineer for execution on a				
	Dayworks basis. The rates indicated are to be net in relation to the				
	provision of labour, materials or plant indicated. Market rates shall be				
	used if any rate is found to be grossly inconsistent with the market rate.				
1	Labour				
1.1	Unskilled labourer	h	500		
1.2	Foreman	h	250		
1.3	Assistant foreman	h	250		
1.4	Plant operator	h	100		
1.5	Certified Blaster	h	50		
1.6	Mason	h	250		
1.7	Concretor	h	100		
1.8	Carpenter	h	50		
1.9	Plumber	h	50		
1.10	Pipelayer	h	150		
1.11	Electrician	h	250		
1.12	Surveyor	h	100		
1.13	Painter	h	50		
1.14	Technician	h	250		
1.15	Watchman	h	500		
2	Materials All materials as per specifications. The rate to include for delivery to site, storage and handling.				
2.1	Coarse aggregates for concrete	m^3	100		
2.2	Fine aggregates (sand) for concrete	m^3	100		
2.3	Ordinary portland cement	t	5		
2.4	Building stone/concrete blocks	m	60		
2.5	Hardcore	m^3	100		
2.6	Murram	m^3	25		
2.7	Spigot and socket GRP pipes 450mm dia.	m	20		
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ITEM	7: Dayworks Schedule DESCRIPTION	UNIT	QTY	RATE	TOTAL
		O	—	(Kshs.)	(Kshs.)
2.8	DN375 PCC rigid jointed pipe	m	150		
2.9	DN450 PCC rigid jointed pipe	m	150		
2.10	Concrete Grade 15/20	m^3	25		
2.11	Concrete Grade 25/20	m ³	25		
2.12	BRC mesh A142	m ²	25		
2.13	High yield twisted steel bars	t	1		
2.13	Shuttering timber class F1 finish	m ²	25		
2.15 2.16	Diesel Paint-Asorted		500 100		
2.10	Concrete Class 15/20	m ³	100		
2.18	Concrete Class 20/20		10		
		m ³			
2.19	Concrete Class 25/20	m ³	10		
3	Plant Rate to include for all operation and maintenance costs, fuel, oil, grease, operators etc.				
3.1	1 tonne pickup	h	200		
3.2	7 tonne lorry (tipper)	h	100		
3.3	15 tonne lorry (tipper)	h	100		
3.4	20 tonne lorry (tipper)	h	100		
3.5	D7 bulldozer	h	50		
3.6	Hydraulic excavator/shovel (1.0m ³)	h	50		
3.7	Backhoe tractor (1.0m ³)	h	50		
3.8	Wheel loader	h	50		
3.9	Mobile crane (5tonne)	h	50		
3.10	Concrete mixer 1.0m3	h	50		
3.11	Dumper, 0.76m ³	h	50		
3.12	Dumper, 2.0m ³	h	50		
3.13	Concrete vibrator (petrol or diesel) with drive, flex and 40mm poker	h	50		
3.14	Water bowser (5,000 I)	h	50		
3.15	Portable dewatering pump	h	50		

Bill No. 1	7: Dayworks Schedule				
ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	TOTAL (Kshs.)
				(1/21121)	(1/3115.)
3.16	Air compressor machine (5000 l/min)	h	100		
3.17	Jack hammer (25kg)	h	200		
3.18	Generator	h	100		
3.19	Electric welding set including electrodes	h	50		
3.20	Cutting and welding set including oxygen and acytylene	h	50		
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Bill No. 1	7: Dayworks Schedule				
ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)	TOTAL (Kshs.)
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	Bill 17 Collection Sheet				
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	Page No. 2 of 3				
	Page No. 3 of 3				
BII I 17	OTAL CARRIED FORWARD TO SUMMARY SHEET				