

C2.2: BILL OF QUANTITIES

The Bill of Quantities follows and comprises of **22** pages.

BILL OF QUANTITIES

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
1			PRELIMINARY AND GENERAL				
	AA		PRELIMINARIES				
			GENERAL CONDITIONS OF CONTRACT (GCC 2015) READ IN CONJUNCTION WITH THE CONTRACT DATA				
	1	GCC 2015	Fixed Charge obligations	sum	1		
	2	GCC 2015	Time Related obligations	sum	24		
			SANS 1921-1 : GENERAL ENGINEERING AND CONSTRUCTION WORKS READ IN CONJUNCTION WITH THE ASSOCIATED SPECIFICATION DATA IN THE SCOPE OF WORKS				
	3	SANS 1921-1	Fixed Charge Items	sum	1		
	4	SANS 1921-1	Time Related Items	sum	1		
	5	PS.12.1	COMMUNITY LIAISON OFFICER Allow for a CLO to be appointed.	PC Sum	1	R3,000,000.00	R3,000,000.00
	6	PS.12.1	EO to Item 5, Handling fee by main contractor.	%	R3,000,000.00		
	AB		GENERAL SPECIFICATIONS				
			FIXED CHARGES				
	1	AB.2 PS.AB.1, PS.15	Offices for Engineer and Staff on site	sum	1		
		AB.2. PS.AB.2, PS.AB.1.4, PS.15, PS.14.3	Services Connection Fee (electrical / water / telephone) (Provisional)	sum	1		
	3	AB.3	Installation of Telephone / Internet	sum	1		
		AB.4 PS.AB.1.2, PS.AB.14	Contractor's Camp Site / Store Yard	sum	1		

	ItemNo	Clause	Description	Unit	Estimated Qty	Rate	Amount
	5	AB.5, PS.14, PS.AB.4	Notice Board/s	no.	2		
	6	AB.7 PS.2, PS.AB.3, PS.1.2(f)	Road Deviations, (excluding layerworks)	sum	1		
	7	AB.7, PS.TA.4 PS.AB.3	Supply and erect Temporary road sign boards, area not exceeding 2m2.	no.	50		
	8	AB.7, PS.AB.13	Initial supply of all barricades and delineators	sum	1		
AB			GENERAL SPECIFICATIONS				
	9	AB.7, PS.AB.13	Extra over for supply of delineators damaged during construction	PR Sum	1	R50,000.00	R50,000.00
	10	PS.AB.11	Temporary barriers for accommodation of traffic, concrete New Jersey type. Contractors own source.	m	150		
	11	PS.AB.9, PS.DA.20	Survey coordination of existing valves, manholes, catchpits, and cable duct markers	sum	1		
			Allow for the following Additional Items which the tenderer requires to be priced separately :-				
	12		a)	sum	1		
	13		b)	sum	1		
	14		c)	sum	1		
	15	AB.2, PS.15, PS.AB.1.1	Attendance on and Maintenance of Offices for Engineer and Staff	sum	1		
	16	AB.3, PS.AB.1.4, PS.AB.2	Rental of Telephone / Fax for Engineer's Office Including Payment of Telephone / Service Accounts (Provisional)	sum	1		
	18	AB.7, PS.AB.13, PS.TA.7	Maintenance of all signs, barricades and delineators	sum	1		
	21	PS.AB.9	Survey for, and Preparation of, 'As-Built' Drawings	sum	1		

	ItemNo	Clause	Description	Unit	Estimated Qty	Rate	Amount
			Allow the following additional items which the tenderer required to be priced separately :-				
	22		a)	sum	1		
	23		b)	sum	1		
	24		c)	sum	1		
	25	PS.AB.12	Allowance for additional survey required by the Engineer	PC Sum	1	R 300,000.00	R 300,000.00
	26		Extra Over to Item 25, Handling fee by main Contractor	%	R 300,000.00		
	29	PS.AB.19	Allowance for geotechnical investigations and testings.	PC Sum	1	R 500,000.00	R 500,000.00
	30		Extra Over to Item 29, Handling fee by main Contractor	%	R 500,000.00		
	31	GCC 10.5, PS.AB.15	Adhoc - Adjudicator - Employers Contribution.	PC Sum	1	R 350,000.00	R 350,000.00
	32		Extra Over to Item 31, Handling fee by main Contractor	%	R 350,000.00		
	33	PS.13, PS.2.1.7, PS.1.2	Allowance for interactions, sharing information and working with other contractors in the area.	PC Sum	1	R 250,000.00	R 250,000.00
	34	PS.16	Community and public relations	PC Sum	1	R 300,000.00	R 300,000.00
	35		Extra Over to Item 34, Handling fee by main Contractor	%	R 300,000.00		
	36	AB.2 PS.AB.1, PS.15	Lease for Engineer and Staff offices	PR Sum	1	R 1,200,000.00	R 1,200,000.00
	37		Extra Over to Item 36, Handling fee by main contractor	%	R 1,200,000.00		
			CIDB B.U.I.L.D assessment fee	PC Sum	R 1.00	R 2,000,000	
			EMPOWERMENT Fixed cost for compliance with the requirements of subcontracting	PC Sum	1	R 1,200,000.00	R 1,200,000.00

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
	39	PS.AB.16	Time related cost for compliance with the requirements of Empowerment	PC Sum	1	R1,500,000.00	R1,500,000.00
	40		Skills development target, 1.5% of Contract value	PC Sum	1	R3,500,000.00	R3,500,000.00
	41	PS.AB.17	Employment of Mentor(s) to train and guide the Sub-contractors	PC Sum	1	R3,000,000.00	R3,000,000.00
	42		Extra Over to Item 41, Handling fee by main contractor.	%	R3,000,000.00		
	43		Corporate Social Investment (CSI) target, 0.25% of the Contract value	sum	1		
	44		Community Participation (a) Cost of community participation and PLC support	PR Sum	1	R200,000.00	R200,000.00
	45		Handling Costs and profit in respect of item 44 above	%	R200,000.00		
	46		Social Economic Development (SED) (a) Handling costs with respect to the contribution paid by the contractor towards the SED fund.	sum	1		
			LABORATORY Laboratory Accommodation :-				
	47	PS.AB.7	a) Laboratories (interior floor space only)	m2	120		
	48	PS.AB.7	b) Open concrete working floors, 150 mm thick	m2	80		
	49	PS.AB.7	c) Roofs over open concrete working floors	m2	80		
	50	PS.AB.7	d) Ablution units	m2	30		
	51	PS.AB.7	e) Stores	m2	30		
			Laboratory furniture :- Items measured by number				
	52	PS.AB.7	a) Chairs	no.	4		
	53	PS.AB.7	b) High chairs for laboratory	no.	8		

	ItemNo	Clause	Description	Unit	Estimated Qty	Rate	Amount
	54	PS.AB.7	c) Desks, complete with drawers and locks	no.	2		
	55	PS.AB.7	d) Drawing tables	no.	1		
			Laboratory fittings Installations and equipment :- Items measured by number				
	56	PS.AB.7	a) 220/250 volt power points	no.	10		
	57	PS.AB.7	b) 400/231 volt 3-phase power points	no.	1		
	58	PS.AB.7	c) Double 80 watt fluorescent light fittings complete with ballast and tubes	no.	6		
	59	PS.AB.7	d) Hand wash basins complete with taps and drains	no.	4		
	60	PS.AB.7	e) Laboratory basins complete with swan neck taps and drains	no.	6		
	61	PS.AB.7	f) Extractor fans installed complete with own power connection	no.	2		
	62	PS.AB.7	g) Fire extinguishers, 9,0 kg,all purpose dry powder type, complete, mounted on wall with brackets	no.	4		
	63	PS.AB.7	h) Air conditioning units with 2,2 Kw minimum output, mounted and with own power connection	no.	1		
	64	PS.AB.7	i) General-purpose steel cupboards with shelves	no.	2		
	65	PS.AB.7	j) Steel filing cabinets with drawers	no.	2		
	66	PS.AB.7	k) Refrigerators (200 litre capacity)	no.	1		
	67	PS.AB.7	l) Bookcases	no.	2		
	68	PS.AB.7	m) Plan filing system	no.	1		
	69	PS.AB.7	n) Floodlights complete with poles and 500 Watt minimum globes	no.	2		
			Laboratory fittings Installations and equipment :- Items measured by area				
	70	PS.AB.7	a) Shelving as specified, complete with brackets	m2	10		
	71	PS.AB.7	b) Work-benches complete with concrete slab top, minimum thickness 75mm	m2	35		

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
	72	PS.AB.7	c) Work benches complete with wooden top, minimum thickness 25mm	m2	8		
	73	PS.AB.7	d) Constant temperature baths and/or plastered brick	m2	4		
	74	PS.AB.7	e) Foundations for laboratory equipment	m2	5		
	75	PS.AB.7	f) Venetian blinds	m2	12		
	76	PS.AB.7	g) Notice boards as specified	m2	60		
			Laboratory fittings Installations and equipment :- Items measured by Prime Cost				
	77	PS.AB.7	a) The provision of 400/231 volt 3-phase electrical power installations, including all wiring, switchboards, mains connections, etc.	PC Sum	1	R100,000.00	R100,000.00
	78		Extra Over to Item 77, Handling fee by main contractor	%	R100,000.00		
	79	PS.AB.7	Provision of laboratory equipment, personnel, testing and related costs to cover the Employer's contribution towards the on-site laboratory	PC Sum	1	R3,000,000.00	R3,000,000.00
	80		Extra Over to Item 80, Handling fee by main contractor	%	R3,000,000.000		
	81	PS.AB.7	Computers, printers and software	PC Sum	1	R300,000.00	R300,000.00
	82		Extra Over to Item 82, Handling fee by main contractor	%	R300,000.00		
			ADDITIONAL SECURITY				
	86	PS.18, PS.AB.8	Provision of security on site to guard against any disruption of the works throughout the duration of the contract	sum	1		
			ADDITIONAL TESTING				
	87	B81.02	Other special tests requested by the engineer (a) Additional durability tests requested by the engineer (i) tests for water absorptivity	PR Sum	1	R50,000.00	R50,000.00

		ItemNo	Clause	Description	Unit	Estimated Qty	Rate	Amount
		88	B81.02	Other special tests requested by the engineer (a) Additional durability tests requested by the engineer (ii) tests for oxygen permeability	PR Sum	1	R50,000.00	R50,000.00
		89	B81.02	Other special tests requested by the engineer (a) Additional durability tests requested by the engineer (iii) tests for chloride conductivity	PR Sum	1	R50,000.00	R50,000.00
		90	DA.3, DB.3, PS.AB.14	Seismic velocity testing of materials for classification as directed by Engineer.	no.	30		
	AH			OCCUPATIONAL HEALTH and SAFETY				
		1	AH.14.1, PS.11	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
		2	AH.14.2, PS.11	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	sum	1		
		3	AH.14.3, PS.11	Submission of the Health and Safety File	sum	1		
2				SITE CLEARANCE				
	B			SITE CLEARANCE				
		1	B.8.2	General clearance and grubbing in road reserve	m2	170000		
		2	B.8.4	Removal and grubbing of large trees and tree stumps (a) Girth up to and including 1m	no.	30		
		3	B.8.4	Removal and grubbing of large trees and tree stumps (a) Girth exceeding 1m up to and including 2m	no	30		
		4	B.8.4	Removal and grubbing of large trees and tree stumps (b) Girth exceeding 2m up to and including 3m	no	30		

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
	5	B.8.4	Removal and grubbing of large trees and tree stumps c)Girth exceeding 3m up to and including 4m	no	30		
	6	B.8.15	Removal of asphalt sidewalks/medians to tip	m3	300		
	7	B.8.16	Removal of kerb and channel/fillet to tip	m3	650		
	8	B.8.19, PS.B.10	Removal of disused pipes, 0 - 300 mm diameter and spoil at tip. Rate to include all haulage	m	300		
	9	B.8.19, PS.B.10	Removal of disused pipes, 300 - 500 mm diameter and spoil at tip. Rate to include all haulage	m	300		
	10	B.8.19, PS.B.10	Removal of disused pipes, 500 - 800 mm diameter and spoil at tip. Rate to include all haulage	m	200		
	11	B.8.20, PS.B.4	Seal ends of pipes with grade 15/26 concrete	m3	50		
	12	B.8.22	Transport re-usable material to Municipal depot	t * km	1000		
	13	B.8.21	Backfilling with suitable material from site	m3	500		
	14	B.8.14, PS.B.2, PS.DA.16, PS.DA.17	Removal of roadways to an approved tip site. Rate to include all haulage and royalties within a 25km radius.	m3	2000		
3	BULK EARTHWORKS						
	DA		EARTHWORKS : BULK				
	1	DA.8.2, PS.DA.3, PS.DB.2	Excavate topsoil and stockpile	m3	10000		
	2	DA.8.2, PS.DA.3, PS.DB.2	Excavate topsoil and spoil, Rate to include haulage and royalties within a radius of 2km.	m3	40000		
	3	DA.8.3, PS.DA.4, PS.DB.2	Excavate soft material to spoil, Rate to include haulage and royalties within a radius of 2km.	m3	40000		
	4	DA.8.3, PS.DA.4, PS.DB.2	Excavate spoil material to tip in the median areas.Rate to include haulage and royalties within a radius of 2km.	m3	40000		

		ItemNo	Clause	Description	Unit	Estimated Qty	Rate	Amount
		5	DA.8.3, PS.DA.5, PS.DB.2	Excavate unsuitable material below formation to spoil. Rate to haulage and royalties within a radius of 2km.	m3	7000		
		6	DA.8.2, PS.DA.4, PS.DA.12, PS.DB.2	Excavate soft material to stockpile for blending	m3	20000		
		7	DA.8.3, PS.DA.4, PS.DB.2	Excavate soft material and place directly into fill within a radius of 2km of the site.	m3	400000		
		8	DA.8.4, PS.DA.6	Import suitable fill material (G7 or better) for blending from contractor's off-site source inclusive of haulage and royalties.	m3	15000		
		9	DA.8.4, PS.DA.6	Import suitable fill material (G9) from contractor's off-site source inclusive of haulage and royalties.	m3	50000		
		10	DA.8.3	Extra over item 3,4,5,6,7 for excavation in intermediate material.	m3	225000		
		11	DA.8.3	Extra over item 3,4,5,6,7 for excavation in hard material	m3	225000		
		12	PS.DA.6.2	Extra over item 8 and 13 for blending of material	m3	40000		
		13	DA.8.7, PS.DA.12	Stockpile handling of material to fill	m3	20000		
		14	DA.8.5, PS.DA.7	Compact spoil material in median area to 90% Mod. A.A.S.H.T.O.	m3	70000		
		15	DA.8.5, PS.DA.7	Compact fill material from site to 93% Mod. A.A.S.H.T.O.	m3	30000		
		16	DA.8.5, PS.DA.7	Compact fill material from site to 95% Mod. A.A.S.H.T.O.	m3	50000		
		17	DA.8.5, PS.DA.7	Compact of blended material (item 8 and 13) to 95% Mod. A.A.S.H.T.O.	m3	40000		
		18	DA.8.5, PS.DA.7	Compact imported G9 material to 95% Mod. A.A.S.H.T.O.	m3	200000		
		19	DA.8.6	Trimming of embankments	m2	75000		

		Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
		21	PS.DA.15	Supply and Install Kaytech Tensar Triax TX160 or similar approved for subgrade improvements.(Provisional)	m2	10000		
		22	PS.DA.15	Supply and install Kaytech Rockgrid PC100 (100kN/m3) or similar approved for base improvements. (Provisional)	m2	5000		
		23	PS.DA.15	Supply and place Kaytech grade A2 geofabric, or similar approved material.(Provisional)	m2	3000		
		24	PS.DA.15	Supply and place Kaytech grade A5 geofabric, or similar approved material.(Provisional)	m2	23500		
		25	DA.8.10	OVERHAUL Overhaul (Provisional)	m3km	150000		
		26	DA.8.8	Construct rock toe filter using dump rock. Rate to include for the supply, processing and placement of the material inclusive of haulage and royalties	m3	3500		
		27	PS.DA.15	Supply and place Kaytech Grade A5 geofabric or similar approved material to rocktoe	m2	5500		
	EL			DUMPROCK SUBGRADE IMPROVEMENT				
		1	EL.8, PS.EL.1, PS.EL.2	Dumprock subgrade improvement, 600 mm thick.	m3	2000		
		2	EL.8, PS.DA.18, PS.EL.2	Import and choke suitable material (G5 or better) into Dumprock.	t	800		
		3	EL.8, PS.EL.1, PS.EL.3	Dumprock Trial Layer	m3	100		
4				ROAD WORKS				
	DA			EARTHWORKS : BULK				
		1	DA.8.9, PS.DA.8	LAYERWORKS Formation	m3	60000		
		2	DA.8.4, PS.DA.6	Import suitable fill material (G6) from contractor's off-site source inclusive of haulage and royalties for road layerworks.	m3	2000		

		Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
		3	DA.8.5, PS.DA.7	Compact G6 material from site to 98% Mod. A.A.S.H.T.O.	m3	9000		
		4	DA.8.4, PS.DA.6	Import suitable fill material (G7) from contractor's off-site source inclusive of haulage and royalties for road layerworks.	m3	20000		
		5	DA.8.5, PS.DA.7	Compact imported G7 material to 97% Mod. A.A.S.H.T.O.	m3	30000		
		6	DA.8.5, PS.DA.7	Rip and re-compact insitu (G9) material from site to 95% Mod. A.A.S.H.T.O.	m3	8400		
		7	DA.8.4, PS.DA.6	Import suitable fill material (G9) from contractor's off-site source inclusive of haulage and royalties for road layerworks.	m3	15000		
		8	DA.8.5, PS.DA.7	Compact imported G9 material to 95% Mod. A.A.S.H.T.O.	m3	20000		
	DB			EARTHWORKS FOR PIPE TRENCHES				
		1	DB.8.5, PS.DB.2	Excavate and backfill in all material for 375 mm diameter pipe where depth is :- Over 0,0 m and not exceeding 1,5 m	m	1250		
		2	DB.8.5, PS.DB.2	Excavate and backfill in all material for 375 mm diameter pipe where depth is :- Over 1,5 m and not exceeding 2,0 m	m	650		
		3	DB.8.5, PS.DB.2	Excavate and backfill in all material for 375 mm diameter pipe where depth is :- Over 2,0 m and not exceeding 2,5 m	m	50		
		4	DB.8.5, PS.DB.2	Excavate and backfill in all material for 375 mm diameter pipe where depth is :- Over 2,5 m and not exceeding 3,0 m	m	50		
		5	DB.8.5, PS.DB.2	Excavate and backfill in all material for 450 mm diameter pipe where depth is :- Over 1,5 m and not exceeding 2,0 m	m	250		
		6	DB.8.5, PS.DB.2	Excavate and backfill in all material for 450 mm diameter pipe where depth is :- Over 2,0 m and not exceeding 2,5 m	m	50		

		Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
		8	DB.8.5, PS.DB.2	Excavate and backfill in all material for 450 mm diameter pipe where depth is :- Over 3,0 m and not exceeding 3,5 m	m	50		
		9	DB.8.5, PS.DB.2	Excavate and backfill in all material for 600 mm diameter pipe where depth is :- Over 1,5 m and not exceeding 2,0 m	m	200		
		10	DB.8.5, PS.DB.2	Excavate and backfill in all material for 600 mm diameter pipe where depth is :- Over 2,0 m and not exceeding 2,5 m	m	200		
		12	DB.8.5, PS.DB.2	Excavate and backfill in all material for 600 mm diameter pipe where depth is :- Over 3,5 m and not exceeding 4,0 m	m	80		
		13	DB.8.5, PS.DB.2	Excavate and backfill in all material for 600 mm diameter pipe where depth is :- Over 4,0 m and not exceeding 4,5 m	m	80		
		14	DB.8.5, PS.DB.2	Excavate and backfill in all material for 750 mm diameter pipe where depth is :- Over 2,5 m and not exceeding 3,0 m	m	200		
		15	DB.8.5, PS.DB.2	Excavate and backfill in all material for 750 mm diameter pipe where depth is :- Over 3,0 m and not exceeding 3,5 m	m	230		
		16	DB.8.5, PS.DB.2	Excavate and backfill in all material for 900 mm diameter pipe where depth is :- Over 2,5 m and not exceeding 3,0 m	m	250		
		17	DB.8.5, PS.DB.2	Excavate and backfill in all material for 1200 mm diameter pipe where depth is :- Over 3,5 m and not exceeding 4,0 m	m	80		
		18	DB.8.5, PS.DB.2	Excavate and backfill in all material for 1200 mm diameter pipe where depth is :- Over 4,0 m and not exceeding 4,5 m	m	70		
		19	DB.8.10	Placing and compacting of Class B bedding for 375 mm diameter pipe	m	1000		

		Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
		21	DB.8.10	Placing and compacting of Class C bedding for 450 mm dia. Pipe	m	400		
		22	DB.8.10	Placing and compacting of Class C bedding for 600 mm diameter pipe	m	700		
		23	DB.8.10	Placing and compacting of Class C bedding for 750 mm diameter pipe	m	430		
		24	DB.8.10	Placing and compacting of Class C bedding for 900 mm diameter pipe	m	250		
		26	DB.8.3, DB.8.3.3	Extra over item 1 to 18 for excavation in Intermediate material	m3	150		
		27	DB.8.3, DB.8.3.3	Extra over item 1 to 18 for excavation in hard material	m3	200		
		28	DB.8.3, DB.8.3.3	Extra over item 1 to 18 for excavation in rock	m3	200		
		29	DB.8.15	Disposal of unsuitable or surplus material from trench excavation to an approved tip site. Rate to include for haulage and royalties within a 25km radius.	m3	150		
		30	DB.8.13	Provision of clean coarse sand for backfill of pipe bedding from commercial or off-site source.	m3	150		
		31	DB.8.13	Provision of selected granular backfill material from commercial or off-site source.	m3	200		
		32	DB.8.9	Provision of 19 mm stone material from commercial or off-site source	m3	200		
		33	DB.8.19, PS.DB.2	Prove existing services by hand excavation (provisional), where depth is: -- Over 0,0 m and not exceeding 1,5 m	m3	200		
		34	DB.8.19, PS.DB.2	Prove existing services by hand excavation (provisional), where depth is: -- Over 1,5 m and not exceeding 2,0 m	m3	200		
		35	DB.8.5, PS.DB.2	Excavate and backfill in all material for open drains.	m3	450		
	PG			NON PRESSURE PIPELINES and PC CULVERTS				
		1	PG.8.2	375 mm diameter concrete Class 100D	m	2000		
		2	PG.8.2	450 mm diameter concrete Class 100D	m	350		

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
	4	PG.8.2	750 mm diameter concrete Class 100D	m	430		
	5	PG.8.2	900 mm diameter concrete Class 100D	m	250		
	6	PG.8.2	1200 mm diameter concrete Class 100D	m	150		
	7	PG.8.13	Grade 20/26 concrete protection to pipes	m3	25		
		PG.8.12, PS.PG.2, PS.PG.4	110 mm diameter perforated sub-soil pipes	m	1550		
	9	PS.PG.5.1, PS.PG.5.2	Subsoil termination stub at manholes	no.	40		
	10	DB.8.13, PS.PG.4, PS.PG.6	Provision of 19 mm stone chippings for subsoil drain from commercial or off-site source	m3	250		
	11		Import and compact clean coarse sand, free draining, from contractor's off-site source inclusive of haulage and royalties	m3	200		
	12	PS.PG.7	No fines concrete plug wrapped in geofabric for subsoils terminating at manholes.	no.	40		
	13		MANHOLES and APPURTENANT DRAINAGE WORKS				
PH	1	PH.8.3, PS.PH.1	Standard inlet type S1. Depth :- Over 0,0 m and not exceeding 1,5 m	no.	12		
	2	PH.8.3, PS.PH.1	Standard inlet type S2. Depth :- Over 0,0 m and not exceeding 1,5 m	no.	111		
	3	PH.8.3, PS.PH.1	Standard inlet type S2. Depth :- Over 2,0 m and not exceeding 2,5 m	no.	39		
	4	PH.8.3, PS.PH.1	Standard inlet type S2. Depth :- Over 2,5 m and not exceeding 3,0 m	no.	37		
	5	PH.8.2, PS.PH.1	Manhole type B with inlet type cover S2. Depth :- Over 3,0 m and not exceeding 3,5 m	no.	29		
	6	PH.8.2, PS.PH.1	Manhole type B with inlet type cover S2. Depth :- Over 3,5 m and not exceeding 4,0 m	no.	11		
	7	PH.8.2, PS.PH.1	Manhole type B with inlet type cover S2. Depth :- Over 4,0 m and not exceeding 4,5 m	no.	10		
	8	PH.8.3, PS.PH.1	Standard inlet type D3. Depth :- Over 1,5 m and not exceeding 2,0 m	no.	1		

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
	9	PH.8.3, PS.PH.1	Standard inlet type D3. Depth :- Over 2,0 m and not exceeding 2,5 m	no.	3		
	10	PS.PH.4	Construct standard, Type A outlet headwall (pipe dia 375mm) as per drawing no. [38576]	no.	1		
	12	PS.PH.4	Construct standard, Type A outlet headwall (pipe dia 1200mm) as per drawing no. [38576]	no.	1		
	13	F.8.5, PS.F.11	Shaping of V-drain around Inlets with grade 25/26 concrete.	m3	20		
	14	F.8.5	Construct concrete to v-drains, including formation, backfill and compaction, grade 25/26 concrete reinforcement and shuttering	m	1160		
6	PROTECTION WORKS						
F			PROTECTION WORKS				
	8		Erosion protection	PC Sum	1	R250,000.00	R250,000.00
	9		EO to Item above, Handling fee by main contractor	%	R250,000.00		
			Gabions				
			.02 Gabion boxes of PVC-coated galvanized wire:				
	10		.01 80 mm x 80 mm mesh, 2.7 mm dia wire, 1m x 1m x 2 m boxes	m3	100		
	11		.02 80 mm x 80 mm mesh, 2.7 mm dia wire, 1m x 1m x 3 m boxes	m3	75		
			.04 Gabion mattresses of PVC-coated galvanized wire, up to 0,3 m deep:				
	12		.01 60mm x 60mm mesh, 2.2 mm dia wire, 1m x 2 m x 0.3m mattress	m3	30		
	13		.02 60mm x 60mm mesh, 2.2 mm dia wire, 6m x 2 m x 0.3m mattress	m3	100		

	ItemNo	Clause	Description	Unit	Estimated Qty	Rate	Amount
			Geotextile				
	14		.01 Bidim A2 or approved equivalent	m2	300		
	15		.02 Bidim A5 or approved equivalent	m2	100		
			Pitching				
			.01 Plain pitching				
	16		.02 Medium pitching	m2	350		
	17		.03 Heavy pitching	m2	50		
	18		.04 Extra heavy pitching	m2	50		
			.02 Grouted pitching				
	19		.02 Medium pitching	m2	200		
	20		.03 Heavy pitching	m2	25		
	21		.04 Extra heavy pitching	m2	20		
	S		REINSTATEMENT				
	1	S.8.1	Reinstatement of ground surface	m2	300		
	2	S.8.2	Temporary access road 50mm - Asphalt Private Plant. Refer to Drawing for proposal. Contractor to allow for opening in the kerb and channel which shall be constructed by the contractor at a later stage.	m2	420		
7	SERVICES						
	DA		EARTHWORKS : BULK				
	1	DB.8.5, PS.DB.2, PS.DB.5	Excavate in all material for services to be laid by others where depth is:- Over 0,0 m and not exceeding 1,5 m	m3	400		
	2	DB.8.5, PS.DB.2	Excavate in all material for ducts where depth is:- Over 0,0 m and not exceeding 1,5 m	m3	8450		
	3	PS.DB.8, PS.DB.9	Backfill and compact trenches excavated by others	m3	100		

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
	4	PS.DB.8	Backfill and compact material from site to 95% Mod. A.A.S.H.T.O.	m3	5000		
	5	PS.DB.8	Backfill and compact trenches with material from contractor's own source to 95% Mod. A.A.S.H.T.O.	m3	3450		
DB			EARTHWORKS FOR PIPE TRENCHES				
			IRRIGATION DUCTS				
	1		Excavate in all materials for trenches (max depth 2,0 m), backfill, compact and dispose of surplus material	m3	3900		
			Extra over item 4.3.1 above for:				
	2		.01 Intermediate excavation	m3	780		
	3		.02 Hard rock excavation	m3	780		
			.03 Hand excavation where ordered by the Engineer				
	4		.01 Soft material	m3	260		
	5		.02 Intermediate material	m3	260		
	6		.03 Hard material	m3	260		
	7		.04 Backfill stabilized with 5% cement where ordered by the Engineer	m3	250		
	8		.05 Concrete backfill where directed by the Engineer	m3	300		
			Excavation ancillaries:				
			.01 Make up deficiency in backfill material:				
	10		.01 From other necessary excavations on Site	m3	500		
	11		.03 By importation from commercial or off-site sources selected by the Contractor	m3	500		
	12		.03 Compaction in road crossings	m3	145		
PE			PRESSURE PIPELINES : STEEL				
PG			NON PRESSURE PIPELINES and PC CULVERTS				
			CABLE DUCTS				
	1	PG.8.11	110 mm diameter U.P.V.C. cable ducts	m	40800		
	2	PG.8.11	160 mm diameter U.P.V.C. cable ducts	m	45800		

	ItemNo	Clause	Description	Unit	Estimated Qty	Rate	Amount
	4	PG.8.11	Dedicated Transport Service Line - 7 tube mini duct	m	6360		
	5	PG.8.11	Dedicated Transport Service Line - 110mm dia UPVC cable ducts	m	6400		
	6	F.8.7, PS.PG.10	230 mm brickwork to cable duct headwalls	m2	200		
	7	PS.PG.12	Cable duct manholes	no.	280		
	8	PG.8.11	Cable duct markers	no.	790		
9	DAYWORKS						
AB			GENERAL SPECIFICATIONS				
			Refer to COLTO Section B1800: Dayworks				
	1	B18.01	Personnel (a) Unskilled labour (per hour)	hr	800		
	2	B18.01	Personnel (b) Semi-skilled labour (per hour)	hr	400		
	3	B18.01	Personnel (c) Skilled labour (per hour)	hr	200		
	4	B18.01	Personnel (d) Ganger (per hour)	hr	200		
	5	B18.01	Personnel (e) Flagmen (per hour)	hr	200		
	6	B18.02	Equipment c) Vibrating plate compactor (per hour)	hr	40		
	7	B18.02	Equipment d) Tracked Dozer, 200kW power (per hour)	hr	40		
	9	B18.02	Equipment f) Front End Loader min power 90kW (per hour)	hr	80		
	10	B18.02	Equipment g) Tractor/Loader/Backhoe (per hour)	hr	80		
	11	B18.02	Equipment h) Tippers (5m3) (per hour)	hr	40		
	12	B18.02	Equipment i) Tippers (10m3) (per hour)	hr	40		

	Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
	15	B18.02	Equipment m) Pneumatic tyred roller, 9-12t (per hour)	hr	40		
	17	B18.02	Equipment o) Hand propelled vibratory roller (per hour)	hr	40		
	18	B18.02, PS.DA.19	Equipment p) Dozer with skilled operator (per day)	day	40		R0.00
	19	B18.02	Equipment q) Water Tanker (per hour)	hr	40		
	20	B18.03	Materials (a) Procurement of materials (Provisional)	PR Sum	1	R1,000,000.00	R1,000,000.00
	21	B18.03	Materials (b) Contractors handling costs, profit and all other charges in respect of sub item B18.03(a)	%	R1,000,000.00		
	22	B18.04	Transport (a) LDV (per km)	km	500		
	23	B18.04	Transport (b) Flatbed truck (incl crane) (per km)	km	250		
10	FOUL WATER SEWERS						
	DB		EARTHWORKS FOR PIPE TRENCHES				
			Excavate in all materials for trenches, backfill, compact and dispose of surplus material				
	1		.01 375mm dia. Pipes for depths: .01 Up to 1,5 m	m	200		
	2		asph	m	300		
	3		.03 Over 2,0 m up to 2,5 m	m	200		

		Item No	Clause	Description	Unit	Estimated Qty	Rate	Amount
				SEWER DUCTS Supply, lay, joint and bed on class B bedding and prove pipeline:				
		1		.01 Concrete spigot and socket pipe as sewer sleeve: 375 mm dia spigot and socket class 100D	m	700		

SUMMARY OF BILL OF QUANTITIES

Section

1 PRELIMINARY AND GENERAL

- AA PRELIMINARIES
- AB GENERAL SPECIFICATIONS
- AH OCCUPATIONAL HEALTH and SAFETY

R
R
R

R

2 SITE CLEARANCE

- B SITE CLEARANCE

R

R

3 BULK EARTHWORKS

- DA EARTHWORKS : BULK
- EL DUMPROCK SUBGRADE IMPROVEMENT

R
R

R

4 ROAD WORKS

- DA EARTHWORKS : BULK
- EC CEMENT TREATED GRADED CRUSHED STONE
- ED ROAD ASPHALT
- EF KERBS AND HAUNCHES
- EG SIDEWALKS, FOOTPATHS and MEDIAN AREAS
- EH STEEL GUARDRAILS & CONC. MEDIAN BARRIERS
- TA ROAD SIGNS
- TB ROAD MARKINGS

R
R
R
R
R
R
R
R

R

5 DRAINAGE

- DB EARTHWORKS FOR PIPE TRENCHES
- PG NON PRESSURE PIPELINES and PC CULVERTS
- PH MANHOLES and APPURTENANT DRAINAGE WORKS

R
R
R

R

6 PROTECTION WORKS

F PROTECTION WORKS

S REINSTATEMENT

7 SERVICES

DA EARTHWORKS : BULK

DB EARTHWORKS FOR PIPE TRENCHES

PE PRESSURE PIPELINES : STEEL

PG NON PRESSURE PIPELINES and PC CULVERTS

8 STATIONS

L STRUCTURAL WORK

9 DAYWORKS

AB GENERAL SPECIFICATIONS

10 FOUL WATER SEWERS

DB EARTHWORKS FOR PIPE TRENCHES

PG NON PRESSURE PIPELINES and PC CULVERTS

Section

SUB TOTAL

Minimum Contract Skills Development Goal (CSDG) sum = CE (0.25%) x

Subtotal of the tender amount

ADD VAT (15%) - (only if a registered VAT Vendor)

TOTAL CARRIED TO FORM OF TENDER

R _____

R _____

R _____

R _____

R _____

R

R

R

R

R

R

R

R

R

R

R _____

R _____

R _____

R _____