



NKANGALA DISTRICT MUNICIPALITY



PROJECT NO: 185568

EMALAHLENI BULK INFRASTRUCTURE CONDITION ASSESSMENT WORK PACKAGE 1

BILL OF QUANTITIES

C2.2 BILL OF QUANTITIES

Tenderer

Witness 1

Witness 2

Employer

Witness 1

Witness 2



BILL OF QUANTITIES

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		SECTION A:				
		PRELIMINARY AND GENERAL				
1.1	8,3	FIXED-CHARGED ITEMS				
1.1.1	8.3.1	Contractual Requirements	Sum	1		
1.1.2	8.3.2	Establish Facilities on the site	Sum	1		
1.1.2.1	8.3.2.1	Facilities for Engineer				
		(a) Nameboards	No	2		
		(b) Compliance with the OHS specifications	Sum	1		
1.1.2.2	8.3.2.2	Facilities for Contractor				
		(a) Offices and Storage sheds	Sum	1		
		(b) Workshops	Sum	1		
		(c) Laboratories	Sum	1		
		(d) Living accommodation	Sum	1		
		(e) Ablution and latrine facilities	Sum	1		
		(f) Tools and equipment	Sum	1		
		(g) Water supplies, electrical power, communication facilities	Sum	1		
		(h) Dealing with water	Sum	1		
		(i) Access	Sum	1		
		(j) Plant	Sum	1		
		TOTAL CARRIED FORWARD				

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Item No	Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
1.1.3	8.3.3	Other fixed-charge obligations (Specify)	Sum	1		
1.1.4	8.3.4	Removal of site establishment on completion of works	Sum	1		
1.1.5	SD 26	Health and Safety Plan: submit for approval	Sum	1		
1.2	8.4	TIME-RELATED ITEMS				
1.2.1	8.4.1	Contractual requirements	Sum	1		
1.2.2	8.4.2	Operate and maintenance of facilities on site				
1.2.2.1	8.4.2.1	Facilities for Engineer for duration of Contract				
		(a) Nameboards	Sum	2		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
		(h) Dealing with water	Sum	1		
		(i) Access	Sum	1		
		(j) Plant	Sum	1		
1.2.3	8.4.5	Other time-related obligations (Specify)	Sum	1		
1.2.4	8.4.3	Supervision	Sum	1		
1.2.5	8.4.4	Company and head office overhead costs	Sum	1		
1.2.6	PS 25	Adherence to Health and Safety Plan	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY THE ENGINEER (only payable on discretion of the engineer)				

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1.3.1	PSA 4.6	a) Additional tests required by the Engineer	Prov Sum	1	450 000,00	450 000,00
		b) Overheads and charges for item 1.3.1 a) above	%	450 000,00		
1.3.2		a) Community Liasson Officer	Prov Sum	1	180 000,00	180 000,00
		b) Overheads and charges for item 1.3.2 a) above	%	180 000,00		
1.3.3		a) Allow for Airtime to the Engineers site Personnel for the duration of the Contract	Prov Sum	1	48 000,00	48 000,00
		b) Overheads and charges for item 1.3.3 a) above	%	48 000,00		
1.3.4		a) Allow for the provision of the Engineer's Transport for the duration of the Contract	Prov. Sum	1	360 000,00	360 000,00
		b) Overheads and charges for item 1.3.4 a) above	%	360 000,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
1.3.5		a) Allow for the provision of the Engineer's Accommodation for the duration of the Contract	Prov. Sum	1	240 000,00	240 000,00
		b) Overheads and charges for item 1.3.5 a) above	%	240 000,00		
1.3.6		Additional Survey and Benchmarks	Prov Sum	1	120 000,00	120 000,00
		b) Overheads and charges for item 1.3.6 a) above	%	120 000,00		
1.3.7		Provision of Accredited Training				
1.3.7.1		(a) Generic skills	Prov. sum	1	R 100 000.00	R 150 000.00
		(b) Entrepreneurial skills	Prov. sum	1	R 100 000.00	R 100 000.00
		(c) Engineering skills	Prov. sum	1	R 100 000.00	R 100 000.00
1.3.7.2		Handling costs and profit in respect of sub-item 1.3.7.1 (a), (b), (c) above	%	R 300 000.00		



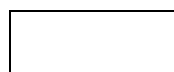
Tenderer



Witness 1



Witness 2



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Witness 1



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1.3.8		Remuneration of a trainee student x 2	Prov. sum	1	R240 000.00	R240 000.00
1.3.8.1		Handling costs and profit in respect of sub-item 1.3.8 above	%	R240 000.00		
1.4	SPEC OHS	HEALTH AND SAFETY				
1.4.1		Health and Safety Plan - Submit for Approval	Sum	1		
1.4.1.1		Personal Protective Equipment				
		a) Reflective bibs	No	300		
		b) Protective Footwear	No	60		
		c) Work Suits	No	120		
		d) Gumboots	No	60		
		e) Hard hats	No	200		
		f) Dust Masks	No	250		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
		g) Gloves	No	200		
		h) Overalls	No	50		
		j) Safety Glasses	No	200		
1.4.1.2		Health and Safety Training as Required	Sum	1		
1.4.1.3		Allowance for the Contractor's time related obligations with respect to adherence of the OHS Act and Construction Regulations	month	12		
1.4.1.4		Costs of medical certificates (initial and exit examinations)	No	160		
1.5		Environmental Monitoring	Sum	1		
1.5.1		Noise Monitoring				

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		(i) Establishment of noise zones	No.	1		
		(ii) Audiograms	No.	1		
1.5.2		Payment for Health and Safety representatives at meetings	month	12		
1.5.3		Provision of First Aid boxes	Sum	1		
1.5.4		Transportation of Workers	Sum	1		
1.5.5		Submission of the Health and Safety File	Sum	1		
		TOTAL CARRIED FORWARD TO SUMMARY				

Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		SECTION 2.1: CIVIL WORKS				
		INLET AND DOSING FACILITY				
		Replacement of the 2 Raw inlet pipelines 600 and 900mm Diameter which are leaking				
2.1.1		SITE CLEARANCE:				
2.1.1.1		Clear and grub 6m wide strip	m	100		
2.1.1.2		Removing surfacing in the parking area for the installation of the new 2 raw water pipelines	m ²	800		
2.1.2		EARTHWORKS (PIPE TRENCHES):				
		Excavation				
		(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material:				

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		(i) Trenches of width exceeding 1500mm up to 3000mm to accommodate pipes up to 900mm diameter				
2.1.2.1		Depth up to 1,0m	m	0		
2.1.2.2		Depth exceeding 1,0m up to 1,5m	m	10		
2.1.2.3		Depth exceeding 1,5m up to 2,0m	m	100		
2.1.2.4		(2) Hard rock excavation	m ³	3		
2.1.2.5		(c) Excavate and dispose of unsuitable material from trench bottom (provisional)	m ³	3		
		Excavation ancillaries:				
		Make up deficiency in backfill material (provisional)				
2.1.2.5		(a) From other necessary excavations on site	m ³	3		
2.1.2.5		(c) By importation from commercial or off-site sources selected by the Contractor	m ³	5		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.1.2.5		Additional compaction in road reserves to 93% of modified AASHTO max density	m ³	200		
		Existing services that Intersect / Adjoin a Trench.				
2.1.2.5		a) Services that intersect a trench	No	3		
2.1.2.5		b) Services that adjoin a trench	No	2		
		Finishings				
		Reinstate road surfaces and paving complete with all courses				
2.1.2.5		(a) Gravel on shoulders	m ²	200		
2.1.2.5		(c) Asphalt of minimum thickness 30mm	m ²	240		

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		BEDDING (PIPES) as specified in SABS 1200 LB and in the project specification				
		From commercial sources (provisional)				
		a) Selected granular material				
2.1.2.5		Bedding cradle (150mm below pipe)	m ³	45		
2.1.2.5		Selected fill blanket (300mm above crown)	m ³	360		
2.1.2.5		c) Stone bedding				
2.1.2.5		13mm concrete stone to SABS 1083	m ³	36		
2.1.3		MEDIUM PRESSURE PIPES				
		as specified in SABS 1200 L and in the project specification				
		Supply, lay, joint, bed and test pipes (complete with all couplings and fittings):				
2.1.2.5		(a) GRP pipes in bedding and joints				
		Existing services that Intersect / Adjoin a Trench.				
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.1.2.5		i) 600mm diameter	m	110		
2.1.2.5		ii) 900mm diameter	m	110		
2.1.2.5		600mm diameter special connections for dosing	No	3		
2.1.2.5		900mm diameter special connections for dosing	No	3		
		Valve Chambers:				
		(a) For traffic areas:				
2.1.2.5		Valve chambers to details shown on drawing	No	1,00		
		WTW -SEDIMENTATION TANKS				
2.2.1		Desludging the Clarifiers including carting the sludge to the lagoons	Sum	1		

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2.2.2		Repair of the damaged concrete by the new sedimentation walkway. Cost to include breaking of concrete and all repair work by using cement grout	Sum	1		
2.2.15		Waterproof all Clarifiers including the Candice system ensuring that there are no leaks	m ²	620		
		WTW -CANDICE SYSTEM				
2.3.5		Waterproof all Clarifiers including the Candice system ensuring that there are no leaks	Sum	1		
		CHLORINATION BUILDING				
2.4.1		Repair of all windowpanes	No	5		
		Painting				
2.4.2		Interior walls 3 coats of approved PVA	m ²	120,00		
2.4.3		Interior walls - primer and 2 coats of an approved eggshell enamel	m ²	120,00		
2.4.4		Ceilings with 3 Coats approved PVA	m ²	240,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.4.5		Ceilings - primer and 2 coats of an approved eggshell enamel	m ²	160,00		
2.4.6		Internal Doors - primer and 2 coats of an approved eggshell enamel	m ²	14,00		
2.4.7		Installation of a stainless-steel caged ladder	Sum	1		
2.4.8		Installation of a new Gantry	Sum	1		
2.4.9		Modification of the existing Chlorination room as per the drawing to make it easier for operation	Sum	1		
2.4.10		Provision of storage facilities for chlorine bottles as per the drawing	Sum	1		
2.4.12		Supply of a stainless-steel caged ladder 5m long	Sum	1		
2.4.13		Replace existing Gantry which is corroding with a similar sized gantry with corrosion protection	Sum	1		

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		STORMWATER DRAINAGE				
		EARTHWORKS (pipe trenches)				
		Excavate in all materials for trenches, backfill, compact and dispose of surplus material for:				
2.3.1.1		Stormwater pipe culvert	m ³	300		
2.3.1.2		Extra over item 2.3.1.1 for excavation in hard rock	m ³	3		
		Excavate unsuitable material from trench bottom if ordered	m ³	3		
		BEDDING				
		Provision of bedding from trench excavation				
		Without the need for screening:				
2.3.2.1		a) Selected granular material	m ³	50		
2.3.2.2		b) Selected fill material (blanket)				
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
		CONCRETE PIPE CULVERTS				
		Supply, handle, lay, bed, joint, precast concrete Class 75 D with ogee joints of the following nominal diameter:				
2.3.3.1		450 n.b	m	210		
		Supply and construct stormwater culvert headwall complete for the following nominal diameters:				
2.3.3.2		a) 450mm n.b	No	1		
		EROSION PROTECTIONS				
		Excavations for gabion mattresses to net outline of structure				
		GABIONS				
2.3.4.1		Surface preparation	m ²	10		

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2.3.4.2		Supply and install gabions including rock filling. The gabion cages are to be galvanized	m ³	15		
2.3.4.3		Supply and install geotextile for the gabion box	m ²	8		
2.3.4.4		Construct 1,5m x 1.5m x 4m deep concrete Sump complete including excavation, slope protection, dealing with water, formwork, Waterproof concrete, rebar etc for emergency purposes	Sum	1		
		ADMINISTRATION BUILDING				
2.5.1		Roof Repairs to the existing Administration Building complete including installing a new ceiling	Sum	1		
		Painting				
2.5.2		Interior walls 3 coats of approved PVA	m ²	400		
2.5.2.1		Interior walls - primer and 2 coats of an approved eggshell enamel	m ²	400		
2.5.2.2		Ceilings with 3 Coats approved PVA	m ²	170		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.5.2.3		Ceilings - primer and 2 coats of an approved eggshell enamel	m ²	170		
2.5.2.4		Internal Doors - primer and 2 coats of an approved eggshell enamel	m ²	12		
2.5.2.5		Skirting - primer and 2 coats of an approved eggshell enamel or Varnish	m ²	20		
2.5.2.6		Alterations inside the Administration Building	Sum	1		
		MECHANICAL WORKSHOPS BUILDING				
2.6.1		Repair of all windowpanes	No	8		
		Painting				
2.6.2.1		Interior walls 3 coats of approved PVA	m ²	350		

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2.6.2.2		Interior walls - primer and 2 coats of an approved eggshell enamel	m ²	350		
2.6.2.3		Ceilings with 3 Coats approved PVA	m ²	210		
2.6.2.4		Ceilings - primer and 2 coats of an approved eggshell enamel	m ²	140		
2.6.2.5		Internal Doors - primer and 2 coats of an approved eggshell enamel	m ²	16		
2.6.2.6		Skirting - primer and 2 coats of an approved eggshell enamel or Varnish	m ²	25		
		GUARDHOUSES				
2.8.1.	SABS 1200D	Bulk Excavation				
2.81.1	8.3.2	a) Excavate in all materials and use for embankment or backfill or designated stockpile or dispose on-site. Including Compaction in layers	m ³	50		
2.81.2		b) Extra over for Item H.1.1				
2.81.2.1		i) Intermediate excavation	m ³	2		
2.81.2.2		ii) Hard Rock	m ³	20		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.81.2.3		iii) Boulder Class A	m ³	4		
2.81.2.4		iv) Boulder Class B	m ³	4		
2.82	8.3.3	Restricted Excavation				
2.82.1.		a) Excavate for restricted foundations footings, Pipe and cable trenches in all materials and use for backfill or stockpile or dispose on-site	m ³	10,00		
2.82.2.		b) Extra over for item J2.1				
2.82.2.1		i) Intermediate excavation	m ³	1,00		
2.82.2.2		ii) Hard Rock	m ³	1,00		
2.82.2.3		iii) Boulder Class A	m ³	1,00		

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2.82.2.4		iv) Boulder Class B	m ³	1,00		
2.83	8.3.4	Importing Materials				
2.83.1		a) Extra over for importation of materials from commercial sources G6	m ³	20,00		
2.84	8.3.5	Extra Excavation				
2.84.1		Extra excavation in all materials to provide working space around structures	m ²	40,00		
2.85	8.3.9	Extra over for backfill or fill material against or under structures or forming Terrace				
2.85.1	PSD8.3.9a	Backfill or Fill form Stockpile	m ³	200,00		
2.85.2	PSD8.3.9b	Backfill or Fill form commercial sources (G6 material) where ordered by the Engineer.	m ³	-		
2.86		Topsoiling and Grassing				
2.86.1	8.3.10	Obtain topsoil from stockpile, transport, and place, to terraces, embankments and where ordered to levels indicated on drawings	m ²	200,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.87	SANS 1200 G	Prescribed mix concrete: Grade 15/19				
2.87.1	8.4.2	75mm thick Blinding to:				
	PSG 5.5.1.6					
2.87.1.1		Foundation	m ²	2,00		
2.87.2	8.4.2	Benching and Screed (to dimensions shown on drawing) to :				
2.87.3	PSG	Strength concrete: Grade 20/19				
	5.5.1.6					
2.87.3.1		Non-water retaining structural elements:				
2.87.3.1.1		Floors to building and apron slab	m ³	4,00		
2.87.4	PSG	Strength concrete: Grade 25/19				
	5.5.1.7					
2.87.4.1		Non-water retaining structural elements:				

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2.87.4.1.1		Minor structures including building foundations and structural reinforced concrete elements	m ³	10,00		
2.88	1200 G 8.3	Reinforcement				
2.88.1	8.3.1	Mild Steel Bars up to and including 12mm	t	0,50		
2.88.2	8.3.1	High tensile steel bars up to and including 30mm Dia:	t	0,50		
2.88.3	8.3.2	High tensile welded mesh				
2.88.3.1		Mesh Ref 395	m ²	60,00		
2.810.3	8.4.4(b)	Power float finish to :				
2.810.3.1		Floors and other special areas	m ²	100,00		
2.810	8,50	Construction / Expansion joints as shown on the drawings including sealants, water stop, formwork and joint filler				
2.810.1		Joint Type 1 - Building Floor joints	m	20,00		
TOTAL CARRIED FORWARD						
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.810.2		Joint Type 2 - Building wall joints	m	20,00		
2.8.11		Brickwork				
2.811.1		Internal and External Brick work				
2.811.1.1		Brick walls up to 275 mm thick in FBSE brick internally	m ²	150,00		
2.811.1.2		External and approved face brick (FBX)	m ²	150,00		
2.8.11.2		Plastered surface to internal brick walls	m ²	120,00		
2.8.11.3		Internal and external plastered reveals to windows	m	60,00		
2.8.11.4		External plastered reveals	m	60,00		
2.8.11.5		10mm FC sheet, 100mm wide to form interior window cills	m	30,00		

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2.8.12		Windows and doors				
2.8.12.1		Aluminium windows, complete supply and install with internal handle mechanism and opening and closing arms as per schedule. Includes glazing				
2.8.12.1.1		a) Type W01	No	8,00		
2.8.12.1.2.		b) Type W02	No	2,00		
2.8.12.1.3		c) Type W03	No	2,00		
2.8.12.1.4		d) Type W04	No	2,00		
2.8.12.1.5		E.O items S12.1.1 to S12.1.4 for obscured glazing	m ²	0,60		
		Supply of burglar Proofing as per the schedule				
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.8.12.1.1		a) Type W01	No	8,00		
2.8.12.1.2.		b) Type W02	No	2,00		
2.8.12.1.3		c) Type W03	No	2,00		
2.8.12.1.4		d) Type W04	No	2,00		
2.8.12.1.6		E.O items S12.1.1 to S12.1.5 for installation of burglar proofing to windows	m2	70,00		
2.8.13		Doors - Supply and Installed Complete all-inclusive as per schedule. Includes all Ironmongery				
2.8.13.1		a) Type D01	No	2,00		
2.8.13.3		B) Type D01	No	2,00		
2.8.14		Painting				

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2.8.14.1		Interior walls 3 coats of approved PVA	m ²	200,00		
2.8.14.2		Interior walls - primer and 2 coats of an approved eggshell enamel	m ²	200,00		
2.814.4		Ceilings with 3 Coats approved PVA	m ²	150,00		
2.814.5		Ceilings - primer and 2 coats of an approved eggshell enamel	m ²	150,00		
2.814.6		Internal Doors - primer and 2 coats of an approved eggshell enamel	m ²	12,00		
2.814.7		Skirting - primer and 2 coats of an approved eggshell enamel or Varnish	m ²	20,00		
2.8.15		Flooring				
2.8.15.1		Floor tiles as specified - PVC (Marely type or similar approved)	m ²	60,00		
2.8.15.2		Grano finish to floors	m ²	60,00		
TOTAL CARRIED FORWARD						
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.8.16		Miscellaneous				
2.8.16.1		250-micron DPC to underside of floor slabs, etc	m ²	60,00		
2.8.16.2		250-micron DPC to walls	m	60,00		
2.816.3		100 x 38 SAP Wall plate. Fully Supplied and installed. All timber treated	m	60,00		
2.816.3		152 x 50 SAP Beam. Fully Supplied and installed. All timber treated	m	32,00		
2.816.4		Finishes				
2.816.4.1		Ceilings - Supply and install Nutec type or similar approved ceiling boards. Includes all fixings	m ²	60,00		
2.816.4.2		Cornice to ceiling - Supply and install Nutec type Cornice to ceiling and wall Complete. Includes all fixings	m	150,00		

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2.816.4.3		E.O for Item J20.4.1 for the Supply and Install of 38x38mm treated SAP branderling complete.	m	300,00		
2.816.4.4		Supply and install standard meranti skirting Complete. Includes all fixings.	m	150,00		
2.816.4.5		Wall tiles. Fully installed (white)	m ²	50,00		
2.8.17		Roofing, guttering and Waterproofing				
2.8.17.1		Design, Supply and Install Trusses of treated timber to Guard house complete (designs to the approval of the Engineer)	Sum	2,00		
2.8.17.3		Supply and Install Klip lock 700 Roof sheeting to Guard House building as shown. Installation Complete	m ²	32,00		
2.817.5		Supply and install 150mm OG profile pre-painted seamless aluminium gutter including fittings	m	32,00		
2.817.5.1.1		Supply and install 100mm x 75mm pre-painted aluminium downpipe including fittings	m	32,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.817.5.3		E.O for gutter shoes at discharge	No	6,00		
2.817.4		" Supply and install on compacted sand bedding Precast concrete stormwater channels of following sizes including grouting of joints				
"						
2.817.5		Waterproofing as specified	m ²	60,00		
2.818		Plumbing				
2.818.1		Supply and install Ceramic ablution. Complete with cold water fittings. Includes all fixings for full installation.	No	2,00		
2.818.2		Supply and install Ceramic hand wash basin. Complete with cold water fittings.	No	2,00		
2.818.3		Provide sum for cold water connection form external water supply to each new urinal, and shower required. Includes all pipes, fittings, bends and chasing and making good to all cold-water connections.	Sum	2,00		

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2.8.819		Guardhouse Electricals	Sum	1		
2.8.820		Water and Sewer Connections	Sum	1		
		TOTAL SECTION 2.1				
		SECTION 2.2: MECHANICAL WORKS				
		INLET DOSING FACILITY				
		Lime Feeders				
2.2.1		Refurbishment of lime feeders including servicing the feeders	No	4		
2.2.2		Supply and installation of Lime dust hoods	No	4		
		Lifting Equipment				
2.2.3		Supply scissor lift trolleys and tables for the lifting of 50kg lime bags at the lime storage bay	No	2		
2.2.4		Supply and deliver 1,5Ton Forklift for the Lime storage room	No	1		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
		Rectagrids				
2.2.5		Removal and disposal of rectagrids that have rusted including removal of the supports that are corroded	m ²	2050		
2.2.6		Supply and Installation of GRP "Rectagrid" (Green colour) open grid or similar banded on all sides as shown on drawings. Final sizes to be confirmed on site	m ²	2050		
		Provision of OHS Equipment for the dosing building				
2.2.7		Dusk masks	No	500		
2.2.8		Respirators	No	5		
2.2.9		Supply, deliver and install at site 304 stainless steel Emergency Shower at the Lime dosing Facility	No	1		
		Supply, delivery at site with necessary packing, receiving, unloading, insurance, shifting, storing, installation, testing and commissioning of PN-16 rating, double				

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		flange manually operated Gate Valve without bypass arrangement conforming to SANS 665 standards, spindle, caps including all taxes transportation etc. complete & lowering, laying and jointing in position following C.I. D/F Gate valves including cost of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete.				
2.2.10		600mm Diameter	No	1		
2.2.11		900mm Diameter	No	1		
2.2.12		Supply and deliver a Ride on lawn mower for the grass cutting	No	1		
		WTW -SEDIMENTATION TANKS				
2.2.13		Removal of all the existing wheels from the Clarifier bridges	Sum	8		
2.2.14		Supply and Installation of new wheels complete with nuts, bolts, including greasing	No	8		
2.2.15		Inspection of clarifier bridges	No	8		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.2.16		Installation of the rubbering system of the Scrappers	No	8		
2.2.17		Refurbishment of all gearboxes for the Clarifier valves	No	8		
2.2.18		Removal and storage of the existing dislodge valves	No	8		
		Supply of de-sludge valves 300mm diameter	No	8		
2.2.19		Removal and storage of the existing isolation valves	No	8		
2.2.20		Supply of isolation valves 600mm diameter	No	8		
2.2.21		Installation of the de-sludge Valves	No	8		
2.2.22		Removal of the existing mixers	No	8		
2.2.23		Supply and Installation of the new mixers	No	8		
		WTW -CANDICE SYSTEM				

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2.2.24		Removal of the overflow weir supports	Sum	1		
2.2.25		Replacement of overflow weir supports	Sum	1		
2.2.26		Installation of the overflow weirs	No	6		
2.2.27		Supply of de-sludge valves 300mm diameter	No	6		
2.2.28		Removal and storage of the existing disludge valves	No	6		
2.2.29		Installation of desludge valves	No	6		
		CHLORINATION BUILDING				
2.2.30		Ambient chlorine leak detector complete with audible alarm and flashing light	Sum	1		
2.2.31		Installation of a stainless-steel caged ladder	Sum	1		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
2.2.32		Replace existing Gantry which is corroding with a similar sized gantry with corrosion protection	Sum	1		
		TOTAL SECTION 2.2				
		SECTION 2.3: ELECTRICAL WORKS				
		WTW -SEDIMENTATION TANKS				
2.3.1		Refurbishment of the existing electrical motors	No	8		
2.3.2		Supply and installation of VSDs	No	8		
		WTW -CANDICE SYSTEM				
2.3.3		Refurbishment of the Candice electrical Panels	No	6		
		BACKUP GENERATORS				
2.3.4		Purchase new generator to ensure the optimal function of the WTW plant	Sum	1		

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3.4.1.4		iv) Boulder Class B	m ³	1,00		
	8.3.3	Restricted Excavation				
3.4.2		a) Excavate for restricted foundations footings, Pipe and cable trenches in all materials and use for backfill or stockpile or dispose on-site	m ³	5,00		
		b) Extra over for item 3.4.2				
3.4.2.1		i) Intermediate excavation	m ³	0,50		
3.4.2.2		ii) Hard Rock	m ³	0,50		
3.4.2.3		iii) Boulder Class A	m ³	1,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
3.4.2.4		iv) Boulder Class B	m ³	1,00		
	8.3.4	Importing Materials				
3.4.3		a) Extra over for importation of materials from commercial sources G6	m ³	10,00		
	8.3.5	Extra Excavation				
3.4.4		Extra excavation in all materials to provide working space around structures	m ²	20,00		
	8.3.9	Extra over for backfill or fill material against or under structures or forming Terrace				
3.4.5	PSD8.3.9a	Backfill or Fill form Stockpile	m ³	100,00		
3.35.2	PSD8.3.9b	Backfill or Fill form commercial sources (G6 material) where ordered by the Engineer.	m ³	80,00		
3.36		Topsoiling and Grassing				
3.36.1	8.3.10	Obtain topsoil from stockpile, transport, and place, to terraces, embankments	m ²	100,00		

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		and where ordered to levels indicated on drawings				
3.37	SANS 1200 G	Prescribed mix concrete: Grade 15/19				
3.37.1	8.4.2	75mm thick Blinding to:				
	PSG 5.5.1.6					
3.37.1.1		Foundation	m ²	1,00		
3.37.2	8.4.2	Benching and Screed (to dimensions shown on drawing) to:				
3.37.3	PSG	Strength concrete: Grade 20/19				
	5.5.1.6					
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
3.37.3.1		Non-water retaining structural elements:				
3.37.3.1.1		Floors to building and apron slab	m ³	2,00		
3.37.4	PSG	Strength concrete: Grade 25/19				
	5.5.1.7					
3.37.4.1		Non-water retaining structural elements:				
3.37.4.1.1		Minor structures including building foundations and structural re-inforced concrete elements	m ³	5,00		
3.38	1200 G 8.3	Reinforcement				
3.38.1	8.3.1	Mild Steel Bars up to and including 12mm	t	0,25		
3.38.2	8.3.1	High tensile steel bars up to and including 30mm dia:	t	0,25		
3.38.3	8.3.2	High tensile welded mesh				
3.38.3.1		Mesh Ref 395	m ²	30,00		

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3.310.3	8.4.4(b)	Powerfloat float finish to:				
3.310.3.1		Floors and other special areas	m ²	50,00		
3.310	8,50	Construction / Expansion joints as shown on the drawings including sealants, waterstop, formwork and joint filler				
3.310.1		Joint Type 1 - Building Floor joints	m	10,00		
3.310.2		Joint Type 2 - Building wall joints	m	10,00		
3.3.11		Brickwork				
3.311.1		Internal and External Brick work				
3.311.1.1		Brick walls up to 275 mm thick in FBSE brick internally	m ²	75,00		
3.311.1.2		External and approved face brick (FBX)	m ²	75,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
3.3.11.2		Plastered surface to internal brick walls	m ²	60,00		
3.3.11.3		Internal and external plastered reveals to windows	m	30,00		
3.3.11.4		External plastered reveals	m	15,00		
3.3.11.5		10mm FC sheet, 100mm wide to form interior window cills	m	15,00		
3.3.12		Windows and doors				
3.312.1		Aluminium windows, complete supply and install with internal handle mechanism and opening and closing arms as per schedule. Includes glazing				
3.3.12.1.1		a) Type W01	No	4,00		
3.3.12.1.2.		b) Type W02	No	1,00		
3.3.12.1.3		c) Type W03	No	1,00		
3.3.12.1.4		d) Type W04	No	1,00		

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3.3.12.1.5		E.O items 3.3.12.1.1 to 3.3.12.1.4 for obscured glazing	m ²	0,36		
		Supply of burglar Proofing as per the schedule				
3.3.12.1.1		a) Type W01	No	4,00		
3.3.12.1.2.		b) Type W02	No	1,00		
3.3.12.1.3		c) Type W03	No	1,00		
3.3.12.1.4		d) Type W04	No	1,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
3.3.12.1.6		E.O items 3.3.12.1.1 to 3.3.12.1.4 for installation of burglar proofing to windows	m ²	35,00		
3.3.13		Doors - Supply and Installed Complete all-inclusive as per schedule. Includes all Ironmongery				
3.3.13.1		a) Type D01	No	1,00		
3.3.13.3		B) Type D01	No	1,00		
3.3.14		Painting				
3.3.14.1		Interior walls 3 coats of approved PVA	m ²	100,00		
3.3.14.2		Interior walls - primer and 2 coats of an approved eggshell enamel	m ²	100,00		
3.3.14.4		Ceilings with 3 Coats approved PVA	m ²	75,00		
3.3.14.5		Ceilings - primer and 2 coats of an approved eggshell enamel	m ²	75,00		
3.3.14.6		Internal Doors - primer and 2 coats of an approved eggshell enamel	m ²	6,00		

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3.314.7		Skirting - primer and 2 coats of an approved eggshell enamel or Varnish	m ²	10,00		
3.3.15		Flooring				
3.3.15.1		Floor tiles as specified - PVC (marely type or similar approved)	m ²	30,00		
3.3.15.2		Grano finish to floors	m ²	30,00		
3.3.16		Miscellaneous				
3.3.16.1		250-micron DPC to underside of floor slabs, etc	m ²	30,00		
3.3.16.2		250-micron DPC to walls	m	30,00		
3.316.3		100 x 38 SAP Wall plate. Fully Supplied and installed. All timber treated	m	30,00		
3.316.3		152 x 50 SAP Beam. Fully Supplied and installed. All timber treated	m	16,00		
3.316.4		Finishes				
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
3.316.4.1		Ceilings - Supply and install Nutec type or similar approved ceiling boards. Includes all fixings	m ²	30,00		
3.316.4.2		Cornice to ceiling - Supply and install Nutec type Cornice to ceiling and wall Complete. Includes all fixings	m	75,00		
3.316.4.3		E.O for Item J20.4.1 for the Supply and Install of 38x38mm treated SAP brandering complete.	m	150,00		
3.316.4.4		Supply and install standard meranti skirting Complete. Includes all fixings.	m	75,00		
3.316.4.5		Wall tiles. Fully installed (white)	m ²	25,00		
3.3.17		Roofing, guttering, and Waterproofing				
3.3.17.1		Design, Supply and Install Trusses of treated timber to Guard house complete (designs to the approval of the Engineer)	Sum	1,00		
3.3.17.3		Supply and Install Klip lock 700 Roof sheeting to Guard House building as shown. Installation Complete	m ²	16,00		

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3.317.5		Supply and install 150mm OG profile pre-painted seamless aluminium gutter including fittings	m	16,00		
3.317.5.1.1		Supply and install 100mm x 75mm pre-painted aluminium downpipe including fittings	m	16,00		
3.317.5.3		E.O for gutter shoes at discharge	No	3,00		
3.317.4		" Supply and install on compacted sand bedding Precast concrete stormwater channels of following sizes including grouting of joints				
"						
3.317.5		Waterproofing as specified	m ²	30,00		
3.318		Plumbing				
3.318.1		Supply and install Ceramic ablution. Complete with cold water fittings. Includes all fixings for full installation.	No	1,00		
		TOTAL CARRIED FORWARD				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		BROUGHT FORWARD				
3.318.2		Supply and install Ceramic hand wash basin. Complete with cold water fittings.	No	1,00		
3.318.3		Provide sum for cold water connection form external water supply to each new urinal, and shower required. Includes all pipes, fittings, bends and chasing and making good to all cold water connections.	Sum	1,00		
		Water and Sewer Connections	Sum	1		
		PIPEWORK & VALVES & CHAMBERS				
3.319		Abstraction point Witbank Dam - Replacement of internal pipework and valves in dam wall. As well as valves and pipes on delivery and suction side where applicable. Abstraction point in dam wall not accessible				
3.319.1		Design and Hazop Study	Sum	1		
3.319.2		Installation preparations including access and scaffolding	Sum	1		
3.319.3		Replacement of 48" butterfly valve c/w bypass	No	4		

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3.319.4		Replacement of 48'pipework downstream of line stop	Sum	1		
		Corrosion Protection				
3.319.5		900mm diameter Pipe	m	60		
3.319.6		1500mm diameter pipe	m	180		
3.319.7		Valves 1500mm diameter	No	2		
		TOTAL SECTION 3.1				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		SECTION 3.2: MECHANICAL WORKS				
		PUMPS				
3.2.1		Refurbishment of the existing KSB WKLn 350/2 pumps	No	4		
		SECTION 3.3: ELECTRICAL WORKS				
		MOTORS				
3.3.1		Supply deliver and install electric motors 1045 kW GEC motors rated at 1489 rpm.	No	4		
		ELECTRICAL PANELS				
3.3.2		Refurbishment and rewiring of main Electrical panels for PS (1045kW)	No	4		
		GUARDHOUSE				
3.3.3		Small Power and Lighting	Sum	1		
		TOTAL SECTION 3.3				
Item No	Payment Refers	Description	Unit	Qty	Rate	Amount
		SECTION 4: QUARRY DAM AND PUMPSTATION				

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		SECTION 4.1: CIVIL WORKS				
		WATER PROOFING DAM WALLS				
4.1.1		Removal of old sealing	Sum	1		
4.1.2		Quarry dam wall sealing and Waterproofing with a flexible and adhesive geomembrane that can accommodate movement	m ²	3100		
		TOTAL SECTION 4.1				
		SECTION 4.2: MECHANICAL WORKS				
		QUARRY DAM PUMPSETS				
4.2.1		Supply and Installation of the following pumpsets with the following flow characteristics 700 l/s and 30m Head	No	3		
		PUMPSTATION				
4.2.2		Supply and Installation of the following pumps KSB 250/33, SA 13101 D-PED • KSB X-STREAM 250/32 • KSB ETA 250-33	No	3		
4.2.3		Replacement of the pumps at water tower- KSB 250/40 type pumps 900m ³ /h,30m Head	No	2		
		GANTRY AND LIFTING MECHANISM				
4.2.4		Supply and Installation of a steel structure to function as a platform for the submersible pumps and also for operation and Maintenance.	Sum	1		
4.2.5		Supply and Installation of a and crawl beam to operate the pumping system safely and effectively.	Sum	1		
		TOTAL SECTION 4.2				
		SECTION 4.3: ELECTRICAL WORKS				
		ELECTRICAL PANELS				
4.3.1		Replacement of motors at water tower pumpstation (160kW)	No	2		
4.3.2		Refurbishment of all Electrical Panels	Sum	1,00		
4.3.3		Upgrading of Panels housing to effectively manage and support	Sum	1,00		
		TOTAL SECTION 4.3				

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SUMMARY BOQ		
ITEM NO	DESCRIPTION	AMOUNT (RANDS)
SECTION 1	PRELIMINARY AND GENERAL	
TOTAL SECTION 1		
SECTION 2	REFURBISHMENT OF COMPONENTS OF THE WATER TREATMENT WORKS	
2.1	CIVIL WORKS	
2.2	MECHANICAL WORKS	
2.3	ELECTRICAL WORKS	
TOTAL SECTION 2		
SECTION 3	RAW WATER ABSTRACTION AND PUMPSTATION	
3.1	CIVIL WORKS	
3.2	MECHANICAL WORKS	
3.3	ELECTRICAL WORKS	
TOTAL SECTION 3		
SECTION 4	WITBANK QUARRY DAM AND PUMPSTATION	
4.1	CIVIL WORKS	
4.2	MECHANICAL WORKS	
4.3	ELECTRICAL WORKS	
TOTAL SECTION 4		
SUB TOTAL (1)		
ADD 10% CONTINGENCIES		
SUB TOTAL (2)		
ADD 10% CPA		
SUB TOTAL (3)		
ADD 15% VAT		
TOTAL VALUE OF TENDER		

Note: Total Value of the Tender to be carried to the form of offer

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