

**REHABILITATION OF PHUMELELA IRRIGATION PROJECT**

<b>SUMMARY BILL OF QUANTITIES</b>		
<b>Bill No</b>	<b>Description</b>	<b>AMOUNT</b>
A	Preliminary and General	
B	Dayworks	
C	Irrigation System(Supply,Deliver and Install)	
D	Pumpstation (Eletrical works and Building civil works) - supply, deliver and install	
	Sub-total 1	
	Add 10% of above Sub-total 1 for Ancillary works	
	Sub-total 2 (excl Vat)	
	15% VAT on the above Sub-total 2	
	Total Tender Sum	

**PHUMELELA IRRIGATION PROJECT REHABILITATION**

Item No	Ref	Description	Unit	Quantity	Rate	Amount
	SABS 1200AA	<b>SECTION 1: PRELIMINARY &amp; GENERAL</b>				
<b>1.1</b>	<b>8.3</b>	<b>Fixed-Charge Items</b>				
1.1.1	8.3.1	Contractual Requirements	Sum	1		
1.1.2		All survey and site control requirements, including setting out and establishing supplementary benchmarks	Sum	1		
<b>1.2</b>		<b>Establish facilities on site for Contractor</b>				
1.2.1		Storage shed	Sum	1		
1.2.2		Furnished 40m <sup>2</sup> site office	Sum	1		
1.2.3		Living accommodation	Sum	1		
1.2.4		Ablution and latrine facilities	Sum	1		
1.2.5		Tools and equipment	Sum	1		
1.2.6		Water supply, electric power and communications	Sum	1		
1.2.7		Occupational Health & Safety, including preparation and implementation of a Health & Safety Plan, staff training in OHS and provision of safety gear, etc.	Sum	1		
1.2.8		Environmental Management Plan : Adhering to the requirements as set in section	Sum	1		
1.2.9		Name board as per PS 6.4	No.	1		
<b>1.3</b>	<b>8.4</b>	<b>Time-Related Items</b>				
1.3.1	8.4.1	Contractual Requirements	Sum	1		
		<u>Operate &amp; maintain facilities on site for Contractor</u>				
1.3.2		Storage shed	Sum	1		
1.3.3		Furnished 20m <sup>2</sup> site office	Sum	1		
1.3.4		Living accommodation	Sum	1		
1.3.5		Ablution and latrine facilities	Sum	1		
1.3.6		Tools and equipment	Sum	1		
1.3.7		Water supply, electric power and communications	Sum	1		
1.3.8		Supervision for duration of contract	Sum	1		
1.3.9		Other time related obligations	Sum	1		
1.3.10		Dealing with water, irrespective of the source	Sum	1		
1.3.11		Compensation to CLO appointed from local community	Prov sum	1	R 40,000.00	R 40,000.00
1.3.12		Reimbursement of 6 PCS members to attend the meetings	Prov sum	1	R 12,000.00	R 12,000.00
<b>TOTAL: SECTION 1 CARRIED TO SUMMARY</b>						

Item No	Ref.	Description	Unit	Quantity	Rate	Amount
	SABS 1200AA	<b>SECTION 2: DAYWORKS</b>				
<b>2.1</b>		<b>General (Small Works)</b>				
2.1.1		<u>Labour</u>				
2.1.1.1		Skilled	Day	1		Rate only
2.1.1.2		Semi-skilled	Day	1		Rate only
2.1.1.3		Unskilled	Day	1		Rate only
2.1.2		<u>Plant</u>				
2.1.2.1		4 x 4 TLB or Similar:	hour	1		Rate only
		Type:				
		kW:				
		(to be filled out by Tenderer)				
2.1.2.2		Excavator	hour	1		Rate only
		Type:				
		kW:				
		(to be filled by Tenderer)				
2.1.2.3		Tipper truck 6m <sup>3</sup>	hour	1		Rate only
		Type:				
		kW:				
		(to be filled by Tenderer)				
2.1.2.4		12 ton Roller	hour	1		Rate only
		Type:				

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<b>Item No</b>	<b>Ref</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
		(to be filled by Tenderer)				
		<b>TOTAL: SECTION 2</b>				

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Item No	Ref	Description	Unit	Quantity	Rate	Amount
<b>Item No.</b>	<b>Ref.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
		<b>SECTION 3: IRRIGATION SYSTEM( SUPPLY, DELIVER AND INSTALL)</b>				
		<b>Carry out the following operation as applicable: Manufacture, supply, deliver, install, commission, test and attend to defects the following items: (See Drawings Attached )</b>				
<b>3.1</b>	SABS 1200C	<b>Site Clearance</b>				
3.1.1	8.2.1	Clear and grub area designated by the Engineer	ha	1		
<b>3.2</b>	SABS 1200 DB	<b>Earthworks (Pipe Trenches)</b>				
<b>3.2.1</b>		<b>Excavation</b>				
3.2.1.1	8.3.2	Excavate in all materials from 0m to 1.3m deep and 0.5m wide, for pipe trenches (including trench widening), foundations, meter and valve chambers including stockpile for backfilling or dispose of surplus / unsuitable material within 0.5km free haul distance.	m	500		
3.2.1.2	8.3.2	Extra over 3.2.1.1 for excavation in hard rock material breakable by hand tools (Provisional)	m <sup>3</sup>	2		Rate Only
3.2.1.3	8.3.2	Extra over 3.2.1.1 for intermediate excavation (Provisional)	m <sup>3</sup>	2		Rate Only
3.2.1.4	8.3.2	Backfilling and compaction to trenches by hand or machine above bedding selected fill blanket to 90% MOD AASHTO density with material available from trench or borrow area within 0.5km free haul distance.	m <sup>3</sup>	10		
<b>3.3</b>	SABS 1200 L	<b>Sub-mainlines and Laterals (Medium Pressure Pipelines)</b>				
<b>3.4</b>		<b>Reducing Tee</b>				
3.4.1		Reducing tee 350mm x 110mm	No.	1		
3.4.2		Reducing tee 350mm x 90mm	No.	2		
3.4.3		Reducing tee 200mm x 90mm	No.	1		
3.4.4		Reducing tee 160mm x 90mm	No.	9		
<b>3.5</b>		<b>Reducers</b>				
3.5.1		Reducer 110mm x 90mm	No.	1		
3.5.2		Reducer 200mm x 160mm	No.	1		
<b>3.6</b>		<b>Reducing Cross</b>				
3.6.1		Reducing Cross 400mm x 90mm	No.	1		
3.6.2		Reducing Cross 350mm x 110mm	No.	2		
3.6.3		Reducing Cross 350mm x 90mm	No.	1		
3.6.4		Reducing Cross 300mm x 90mm	No.	1		
<b>3.7</b>		<b>Air valves</b>				
	PPS3	Supply & install complete double purpose air valve similar or equal to Vent - O - Mat Series RBX to the following diameter and pressure				
3.7.1		50mm dia Class 10 Threaded double purpose air valve	No.	33		
3.7.2		80mm x 50mm reducing socket	No.	23		
3.7.3		100mm x 50mm reducing socket	No.	10		
3.7.4		80mm equal tee	No.	23		
3.7.5		100mm equal tee	No.	10		
3.7.6		80mm x 300mm stand pipe	No.	23		
3.7.7		100mm x 300mm stand pipe	No.	10		
<b>3.8</b>		<b>Saddles</b>				
		<u>Supply &amp; install the following diameter saddles.</u>				
3.8.1		Reinforced clamp saddle 400mm x 100mm	No.	2		
3.8.2		Reinforced clamp saddle 400mm x 80mm	No.	3		
3.8.3		Reinforced clamp saddle 350mm x 100mm	No.	1		
3.8.4		Reinforced clamp saddle 350mm x 80mm	No.	4		
3.8.5		Reinforced clamp saddle 300mm x 100mm	No.	1		
3.8.6		Reinforced clamp saddle 300mm x 80mm	No.	1		
3.8.7		Reinforced clamp saddle 200mm x 80mm	No.	4		
3.8.8		Reinforced clamp saddle 160mm x 80mm	No.	8		
3.8.9		Reinforced clamp saddle 110mm x 80mm	No.	1		
<b>3.9</b>		<b>Supply and install pressure gauges &amp; check points on 50mm galvanised stand pipes</b>				
3.9.1		Pressure gauges	No	2		
3.9.2		Pressure check point	No	2		

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Item No	Ref	Description	Unit	Quantity	Rate	Amount
<b>3.10</b>		<b>Thrust blocks</b>				
3.10.1	8.2.11	Thrust blocks at locations specified by the engineer (15MPa / 19mm Concrete)	m <sup>3</sup>	5		
3.10.2	8.2.11	Supply and install wooden form work	m <sup>2</sup>	30		
<b>TOTAL: SECTION 3 CARRIED TO SUMMARY</b>						

Item No	Ref	Description	Unit	Quantity	Rate	Amount
<b>4</b>		<b>SECTION 4: PUMP STATIONS</b>				
4.1	PPS1	<b>Pump Station Civils</b>				
4.1.1		Design and construct a suitable pump station structure complete with blockwork wall, reinforced concrete roof slab (75mm) , Steel door, burglary gate and ventilation in accordance with the NHBC regulations. Rate to include all necessary earthworks, concrete, building and civil works. Structure to be a maximum 3.3m x 3m (10m <sup>2</sup> ). Refer to specification for full details.				
		<b>Pump station cost breakdown</b>				
4.1.1.1		Earthworks	No.	4		
4.1.1.2		Foundation concrete and floor slab	No.	4		
4.1.1.3		Brick work	No.	4		
4.1.1.4		Reinforced concrete roof slab	No.	4		
4.1.1.5		Steel burglary guard and transformer type steel door as per the drawings	No.	33		



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Item No	Ref	Description	Unit	Quantity	Rate	Amount
4.2.3		<b>Suction side</b>				
4.2.3.1		110mm x 100mm uPVC to steel adaptor	No.	23		
4.2.3.2		125mm x 125mm uPVC to steel adaptor	No.	10		
4.2.3.3		110mm x 100mm B.S.P male adaptor	No.	4		
4.2.3.4		110mm x 80mm B.S.P male adaptor	No.	4		
4.2.3.5		100mm x 90° galvanized elbow	No.	43		
4.2.3.6		125mm x 90° galvanized elbow	No.	20		
4.2.3.7		100mm x 1200mm standpipe	No.	23		
4.2.3.8		125mm x 1200mm standpipe	No.	10		
4.2.3.9		100mm x 500mm standpipe	No.	23		
4.2.3.10		125mm x 500mm standpipe	No.	10		
4.2.3.11		100mm x 50mm eccentric reducer	No.	5		
4.2.3.12		100mm x 65mm eccentric reducer	No.	18		
4.2.3.13		125mm x 65mm eccentric reducer	No.	10		
				<b>Carried Forward</b>		

Item No	Ref	Description		Brought Forward		
4.2.4		<b>Delivery side</b>				
4.2.4.1		80mm x 32mm concentric reducer	No.	5		
4.2.4.2		80mm x 40mm concentric reducer	No.	18		
4.2.4.3		100mm x 40mm concentric reducer	No.	9		
4.2.4.4		100mm x 50mm concentric reducer	No.	1		
4.2.4.5		80mm x 90° galvanized elbow	No.	15		
4.2.4.6		100mm x 90° galvanized elbow	No.	30		
4.2.4.7		80mm butterfly valve	No.	23		
4.2.4.8		100mm butterfly valve	No.	10		
4.2.4.9		80mm non-return valves	No.	23		
4.2.4.10		100mm non-return valves	No.	10		
4.2.4.11		80mm x 750mm galvanized stand pipe with pressure gauge point	No.	23		
4.2.4.12		100mm x 750mm galvanized stand pipe with pressure gauge point	No.	10		
4.2.4.13		80mm x 500mm galvanized stand pipe	No.	46		
4.2.4.14		100mm x 500mm galvanized stand pipe	No.	12		
4.2.4.15		80mm x 1000mm galvanized stand pipe	No.	46		
4.2.4.16		100mm x 1000mm galvanized stand pipe	No.	12		
4.2.4.17		80mm Y-strainer	No.	23		
4.2.4.18		100mm Y-strainer	No.	10		
4.2.4.19		80mm inline water meter	No.	23		
4.2.4.20		100mm inline water meter	No.	10		
4.2.4.21		90mm x 80mm uPVC to steel adaptor	No.	23		
4.2.4.22		110mm x 100mm uPVC to steel adaptor	No.	10		
<b>4.4</b>		<b>Eskom</b>				
<b>4.4.1</b>		Supply delivery by road and install the following Eskom transformers				
4.4.1.1		100 kVa transformer	No.	1		
4.4.1.2		50 kVa transformer	No.	1		
4.4.1.3		25 kVa transformer	No.	1		
4.4.1.4		Eskom connection fees	Prov Sum	1	R 500,000.00	R 500,000.00
4.4.1.5		Mark-up on item 4.4.1.4	%			
<b>4.5</b>						
<b>4.5.1</b>		<b>Supply and deliver</b>				
4.5.1.1		600 mm flanged adaptor	No.	4		
4.5.1.2		400 mm flanged adaptor	No.	4		
4.5.1.3		60mm butterfly valve	No.	2		
4.5.1.4		400mm butterfly valve	No.	2		
4.5.1.5		315mm flanged adaptor	No.	2		
4.5.1.6		300T1600/3 flange	No.	4		
4.5.1.7		300mm butterfly valve	No.	1		
4.5.1.8		300mm steel pipe	No.	1		
4.5.1.9		600mm steel pipe	No.	1		
4.5.1.10		400mm steel pipe	No.	1		
4.5.1.11		250mm flanged adaptor	No.	2		
4.5.1.12		250 T1600/3 flange	No.	4		
4.5.1.13		250mm steel pipe	No.	1		

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<b>Item No</b>	<b>Ref</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
4.5.1.14		250mm butterfly valve	No.	1		
4.5.1.15		200mm flanged adaptor	No.	2		
4.5.1.16		200 T1600/3 flange	No.	4		
4.5.1.17		200mm steel pipe	No.	1		
4.5.1.18		200mm butterfly valve	No.	1		
4.5.1.19		Set bolts, nuts and gaskets	No.	1		
4.5.1.20		150mm airvalve	No.	7		
<b>TOTAL: SECTION 4 CARRIED TO SUMMARY</b>						