

CSIR WATER NETWORK UPGRADE

BILL OF QUANTITIES		
SUMMARY OF SECTIONS		
	DESCRIPTION	AMOUNT R
	SCHEDULE A: PRELIMINARY AND GENERAL	
	SCHEDULE B: SITE PREPARATION & EARTHWORKS	
	SCHEDULE C: PIPEWORK	
	SCHEDULE D: REINSTATEMENT OF PAVING & MAKING GOOD	
	PROVISIONAL SUM: DIRECTIONAL DRILLING FOR ROAWAY CROSSINGS	<i>R65 000,00</i>
	Sub Total (ex VAT)	
	10% Contingency	
	Total (ex VAT)	
	15% VAT	
	TOTAL CARRIED TO TENDER FORM	

BILL OF QUANTITIES

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
A	<p>PRELIMINARY AND GENERAL</p> <p>Allow for Preliminary and General including all health and safety requirements as per Occupational Health and Safety Act 85 of 1993</p>				
A1	<p>FIXED-CHARGE AND VALUE- RELATED ITEMS</p>				
A1.1	<p>Establish facilities for the contractor on Site:</p>				
A1.2	<p>a) Offices and storage sheds</p>	Sum	1		
A1.3	<p>b) Ablution and latrine facilities</p>	Sum	1		
A1.4	<p>c) Tools and equipment</p>	Sum	1		
A1.5	<p>d) Water supplies, electric power and communications.</p>	Sum	1		
A1.6	<p>e) Supervision and company overhead costs for duration of contract</p>	Sum	1		
A1.7	<p>PLANT</p> <p>Supply plant, including operator, fuel and other costs.</p>	Sum	1		
A1.8	<p>TESTING</p> <p>Water pressure testing and submission of test schedules</p>	Sum	1		
A1.9	<p>Other fixed charged obligations (Specify)</p>	Sum			
<p>Total Carried Forward to summary:</p>					

CSIR WATER NETWORK UPGRADE**BILL OF QUANTITIES****SCHEDULE B: SITE PREPARATION & EARTHWORKS**

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B1	SITE PREPARATION & EARTHWORKS				
	The Contractor is required to take all necessary precautions, watering where appropriate, to prevent dust blowing from construction material and spoil heaps and/or ground stripped of vegetation cover, the cost of which must be included in the tendered rates.				
	The Project manager and Contractor are to agree upon a stockpile site for any topsoil that is to be removed and stockpiled. The costs for transporting, preparing the stockpile site and stockpiling shall be deemed to be included in the rates.				
	The Contractor shall be responsible for all lateral support and the safe-guarding of all excavations, and all costs involved with the proper safeguarding of the excavations shall be included in the tendered rates.				
B1.1	Contractor to make allowance for site clearance along the pipeline path. Removal of obstructing vegetation, rocks, stones, etc.	Sum	1,0		
B1.1	Remove topsoil to nominal depth of 150mm and stockpile	m ³	200,4		
B1.2	Excavate by hand not exceeding 1.2m deep in all material to expose the existing asbestos water pipeline .	m ³	1603,4		
B1.3	20% Extra-over for the above to excavate in hard rocky material	m ³	320,7		
B1.4	Excavate by hand in all material not exceeding 1.2m deep and to prepare for the installation of new 4x160mm diameter PVC and 1x110mm diameter PVC sleeve	m ³	1603,4		
B1.5	20% Extra over for excavating in hard rock material.	m ³	320,7		
B2	BEDDING AND BLANKET				
	From commercial sources:				

B2.1	a) Supply, lay and level 150mm bedding sand and compact to 100% MOD. AASHTO density	m ³	200,4		
	b) Supply, lay and level 160mm backfill sand and compact to 100% MOD. AASHTO	m ³	213,8		
B2.2	b) Supply, lay and level backfill 300mm blanket sand and compacted in layers of 150mm to 100% MOD. AASHTO	m ³	400,9		

4

CSIR WATER NETWORK UPGRADE

BILL OF QUANTITIES

SCHEDULE B,C: EARTHWORKS & PIPEWORK

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
	TRENCH FILLING				
B2.3	Surplus material from excavations and/ or stockpiles on site to be cart off to a dumping site to be located by the contractor				
B2.4	Import G1 material from pipeline stockpile (if suitable), place and compact in not more than 150 mm layers	m ³	935,3		
C1	PIPELINES:				
	<u>Keeping Pipelines Clean</u> All pipes laid must be closed by means of an adequately fixed plastic cap or other approved material, supplied by the Contractor, in order to prevent the ingress of foreign material.				
	<u>Pipes laid in common trench</u> Where two pipes are laid side by side in the same trench, the clear distance between the pipes shall not be less than 300 mm				
C1.1	Supply lay and seal 160mm class 16 PVC pipe according to manufacturer's	m	1391,0		
	Supply, lay and seal 110mm diameter PVC sleeve and complete with drawire	m	527,5		
C2	PIPE FITTINGS				
C2.1	a) 160mm 90° Bends	No	24		
	b) 160mm 45° bends Bends	No	12		

	c) 110mm 45° Bends	No	10		
	d) 160mm x 80mm female Tees including transition couplings	No	3		
	e) 110mm PVC end cap	No	1		
	f) 160mm end cap	No	1		
	f) 160mm steel flange adaptors	No	8		
	g) Allow for pipeline marking	Sum	1		
	h) Allow for thrust blocks on all pipe bends for stability	Sum	1		

5

CSIR WATER NETWORK UPGRADE**BILL OF QUANTITIES****SCHEDULE C & D: PIPEWORK & PAVING**

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
C2.2.	Fire Hydrants Supply and install 80mm CAS HYDRANT WHS-80 H/W S/LUG, 1m above ground level. Fire hydrant to be complete with wheel valve, made of cast iron-intake with cylinder pipe male threaded with duct buckle	No	3		
C2.3	Valves Supply, install and connect 160mm RS AVK GATE VALVE RHC CAP TOP SOC SANS664-2011	No	4		
C2.4	Extra over for valve boxes Supply and install 400mmx400mm brickwork/ precast concrete manhole including cover.	No	4		
D D1	PAVING/CONCRETE Demolition a) Existing paved concrete to be removed and cart off site	Sum	1		
	Stockpiling of road material b) The existing layerworks to be reinstated, compacted in layers not exceeding 150mm.	Sum	1		
	Concrete c) Supply concrete and reinstate the pathway in front of the pump station and make good	Sum	1		

	d) Allow for connecting to existing reservoirs	Sum	1		
	e) Allow for connetion to pump station and make good	Sum	1		
Total Carried Forward To Summary:					