

PROVISIONAL BILL OF QUANTITIES

FOR

CONSTRUCTION OF 40M TOWER AT ENZELBERG RS

FOR

**ESKOM TELECOMMUNICATIONS
TRANSMISSION**

Eskom Transmission - Telecommunications

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO.1</u>				
	<u>BILL No. 1</u>				
	<u>PRELIMINARY AND GENERAL (SANS 1200)</u>				
	<u>FIXED CHARGE ITEMS</u>				
1	Contractual requirements.	SUM	1		
	<u>Facilities for Contractor</u>				
2	Site establishment.	SUM	1		
3	Removal of site establishment.	SUM	1		
4	Water supplies, electric power and communications	SUM	1		
	Sub-Total				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>TIME RELATED ITEMS</u>				
	<u>Operation and Maintenance of Facilities on Site, for Duration of Construction, (unless otherwise stated)</u>				
	<u>Facilities for Contractor</u>				
1	Offices and storage sheds.	SUM	1		
2	Living accommodation.	SUM	1		
3	Ablution and latrine facilities.	SUM	1		
4	Water supplies, electric power, communications, dealing, with water, and access.	SUM	1		
5	Plant.	SUM	1		
6	Supervision for duration of construction.	SUM	1		
7	Complying with Health and Safety Specifications	SUM	1		
8	Complying with Environmental Management Plan and all other compliance obligations.	SUM	1		
9	Security for the works for the duration of the contract.	SUM	1		
	Transportation				
10	4x4 vehicle	km	100		
11	Mini bus passenger transport	km	100		
	Sub-Total				

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION NO.2</u>				

	<u>BILL No. 1</u>				
	<u>EARTHWORKS</u>				
	<u>Alterations</u>				
1	Dismantling of the existing 40m tower at Enzelberg RS	No	1		
	<u>DISPOSAL</u>				
2	Scrapping of the dismantled tower steel as per instruction by the Engineer.	Sum	1		
	<u>Siteworks</u>				
3	Stripping average 150mm thick layer of top soil and stockpiling on site	m2	56		
	<u>EARTHWORKS</u>				
	<u>EXCAVATION</u>				
	<u>Excavate in all material and use for backfill or dispose within a free haul distance of the site boundary</u>				
4	Tower bases	m3	56		
	<u>Extra over all excavations to all depths for</u>				
5	Intermediate material	m3	6		
6	Hard rock	m3	3		
	<u>Earthfilling</u>				
7	From stockpile	m3	17		
	<u>Importation of Materials from Commercial Sources. (Provisional)</u>				
8	G7 Material from commercial sources in accordance with SABS 1200 DM compacted to 95% Mod AASHTO density to be approved by the Engineer.	m3	8		
	<u>Soil Poisoning</u>				
9	Approved weedkiller applied in strict accordance to the manufacturer's instructions.	m2	56		
	<u>SUB-TOTAL</u>				

ITEM	DESCRIPTION	UNIT	QTY		
	<u>SECTION NO.2</u> <u>BILL No. 2</u> <u>CONCRETE, FORMWORK AND REINFORCEMENT</u>				
	<u>CONCRETE</u> <u>15MPa/19mm concrete, in</u>				
1	75mm Thick blinding layer	m2	56		
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>				
	<u>30MPa/19mm concrete</u>				
2	Tower bases	m3	42		
	<u>TEST CUBES</u>				
3	Making and testing 150 x 150 x 150mm concrete strength test cu	No	4		
	<u>CONCRETE SUNDRIES</u>				
	<u>Finishing top surfaces of concrete smooth with a wood float</u>				
4	Surface beds, slabs, etc	m2	20		
	<u>FORMWORK</u>				
	<u>Smooth</u>				
5	Vertical to bases	m2	21		
6	20 x 20mm Chamfer at edge	m	30		
	<u>REINFORCEMENT</u>				
	<u>Steel bars</u>				
	<u>High tensile</u>				
7	12mm Bars	kg	2112		
	<u>H.D. BOLTS</u>				
8	30mm Diameter galvanised high tensile steel holding down bolt 655mm long with one end threaded for a length of 100mm including nuts, etc. and other end with and including 160 x 160 x 16mm base plate welded on.	No	16		
	<u>SLEEVE PIPES</u>				
9	80mm Diameter uPVC pipes 600mm long with both ends skew cut and cast into concrete	No	3		
	<u>EARTHMAT</u>				
10	Earthing to tower as detailed by Eskom engineer	Sum	1		
	SUB-TOTAL				

ITEM	DESCRIPTION	UNIT	QTY		
	<u>SECTION NO.2</u> <u>BILL No. 3</u> <u>STRUCTURAL STEELWORK</u>				

	<u>SUPPLY AND FABRICATION OF ONE HEAVY DUTY HOT DIP 85um GALVANIZED 40m HIGH TOWER</u>				
1	Mild steel sections in plates, catladder, landing welded and/or bolted together and complete as per Eskom standard 240 – 59967638.	Kg	6215		
2	Horizontal cable tray/racking-heavy duty include supports	m	3		
3	Provide 150mm ² flat copper, install and braze an earth mat as per the scope of work and standard 240-56872313 Radio Station Earthing and Bonding. Copper to be contaminated with silver spray and stamped at intervals with "ESKOM (Pty)Ltd".	m	40		
4	Earthing terminating plates	No	1		
5	Supply and install waveguide entry plate – 600 x 380 x mm THK plate see drawing no no “0.54/8732 Control building wave guide entry details”	No	1		
6	Allow for breaking up the wall for wave guide entry at a size of approximately 1000 x 800 mm wide and making good.	No	1		
	<u>Antenna Mounting Brackets</u>				
7	3 x Universal antenna mounting bracket at 19 – 21.5 m	No	3		
8	3 x Universal antenna mounting bracket at 25.5 – 27 m	No	3		
9	3 x Universal antenna mounting bracket at 28.5 – 30 m	No	3		
	<u>Warning light</u>				
10	Supply and install navigation warning light	No	2		
11	Day light switch	No	2		
	<u>Delivery to site</u>				
12	Normal delivery (+/- 100km)	Kg	6215		
	<u>Erection on site</u>				
13	Off loading, stacking on site, and erection of steelwork complete	Kg	6215		
	<u>Bolts and nuts</u>				
	<u>Supply, deliver to site and store</u>				
14	Hot dipped galvanised bolts, nuts, washers (Bolts Grade 8.8 and nuts Grade 8), including nut and washers Washers and packers S275JR.	Kg	691		
15	Pint to bolts & nuts as specified in scope of works document 474-11023	Sum	1		
	<u>40m high tower workin drawings</u>				
16	Supply detailed working drawings hard and soft copies for the required tower as per detailed scope of work using PLS software and AUTOCAD. Provide use of PLS and AUTOCAD software of letter of intent to acquire such software.	Sum	1		
	<u>Paint work</u>				

17	Paint work to the 45m tower to all members as described in the paint work specification & as per CAA requirements – (red and white, equal spacing with red band on top)	No	1		
	SUB-TOTAL				

FINAL SUMMARY

40m Tower at Enzelberg RS

HEDU	DESCRIPTIONS	AMOUNT
	SECTION 1: PRELIMINARY AND GENERAL	
1	Preliminaries (Fixed & Time Related Items)	
2	Preliminaries (Provisional Day Works)	
	SUB-TOTAL	
	SECTION 2	
1	Bill No.1: EARTHWORKS	
2	Bill No.2: CONCRETE, FORMWORK AND REINFORCEMENT	
3	Bill No.3: STRUCTURAL STEELWORK	
	SUB-TOTAL	
	TENDER AMOUNT CARRIED TO NEC FORM OF OFFER	