Bending Schedule

Bar Mark	Bending Schedule Shape (not to scale)		Shape Code	No. of bars	Dia mm	Length mm	a mm	b mm	c mm	d mm	Spacing mm
1	a	Column bars	37	8	Y16	2300	300				250
2	a b	Column stirrups	60	7	R10	2300	520	520			242
3	a	Anchor bars	37	8	Y32	4300	300				
5	a b	Pad bars (top)	38	16	Y20	3300	810	1800			257
6	a b	Pad bars (bottom)	38	16	Y20	3300	810	1800			257

Diagram labels (Side View)

- Natural Ground Level (NGL)
- Rock Level
- Rock level
- 150 min / 550 max
- 1000 max
- 2000
- 1000
- 200 / 100
- 3200
- 100
- 100 Dia
- Debonded length 100 mm above and 300 mm below embedded rock surface

Plan View labels

- Side View
- 150 / 950 / 950 / 150
- 950 / 950
- 150 / 150
- Transverse axis
- Longitudinal axis
- Position of bottom end of tower stub
- Diagonals along which the column and stub should be tilted with the true angle towards the centre of the tower structure
- (General Layout dashed line = NGL)
- Plan View

3D View

- 600
- 600
- 1550
- 2000
- 1000
- 1900
- 1900
- Soil Layer on top of pad assumed = 1000 mm

Pricing Parameters

Steel Weight (kg)	Concrete Volume (m³)	Formwork surface area (m²)	Rock excavation (m³)	Anchor depth (m)	Grout volume (m²)	Anchors (N)	Pad embedment depth (m)	Tower stub weight (kg)
679.62	4.17	9.80	0.72	3.20	0.21	8	0.20	125.05

Quantities are based on dimensions of design drawings
NO Allowances have been made for material wastage or overbreak
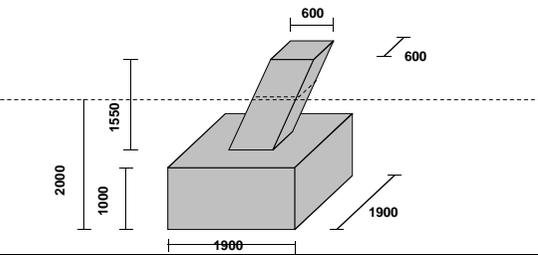
Design Loads (incl. load factor)

Compression kN	Uplift kN	Transverse kN	Longitudinal kN
1791.60	1573.20	92.40	68.40

Note:
1 Reinforcing layout diagrams are not to scale.
2 All design data and Construction to Specification TRMSCAAC5 (TI240-47172520)
3 Concrete strength: 25 MPa minimum at 28 days.
4 Construction joint between column and the pad to be scabbled and painted with cement slurry or wet/dry epoxy.
5 Rock anchor holes are 100 mm diameter.
6 Bottom end of tower stub is always in the centre of the pad in both the transverse and longitudinal directions

Stub and column angle (from vert)(maximum on diagonal line)   13.900 degrees

Min Cover required:
Pad: 75 mm
Column: 50 mm

Revision Description					Rev No

Rock Anchor Column and Pad Foundation for 518D Tower Hard Rock
Eskom Standard Design -

Eskom

Designed:	Checked:	Revision	Date:	Drawing No:
S DUDHIA	W H COMBRINCK	Rev 0	09-Sep-2015	