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# Tower Design Audit Certificate

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| Mast Reference Type | *T2000 51m LL17* |
| Mast Description | New 51m Tapered Triangular Tubular Lattice Tower |
| Mast Type | Self-supporting |
| Manufacturer / Supplier | RTS |

The tower has been audited to SANS specifications and approved for construction with respect to the following design parameters as detailed below:

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| Mast Outline GA Drawing No. | New Tapered Design *T2000 51m LL17* |
| Design Specification | SANS 10160-3:2019 |
| Basic Fund. Wind Speed / 3-sec Gust | 40m/s |
| Wind Return Period | 50yrs |
| Terrain Category | B |
| Site Altitude | 1000m Above Mean Sea Level |
| Ground Datumn | 0m |
| Mast Loading | $2m^2$ at Apex of Tower (51m) |
| Mast Deflection | 1.0 Degree |
| Material Grade | S355JR |
| Bolt Grade | Grade 8.8 |
| Mast Width @ Base | 2000mm c/c between main leg members |
| Mast Width @ Top / Apex | 550mm c/c between main leg members |
| Mast Sections | 17 x 3m Sections |
| Bolt Sizing and Quantity | As per Tower Key Plan |
| Main Leg Members: | |
| L1 | 219.1 OD 4.5t Circular Hollow Section |
| L2 | 219.1 OD 4.5t Circular Hollow Section |
| L3 | 193.7 OD 4.0t Circular Hollow Section |
| L4 | 177.8 OD 4.0t Circular Hollow Section |
| L5 | 165.1 OD 4.0t Circular Hollow Section |
| L6 | 152.4 OD 4.0t Circular Hollow Section |
| L7 | 139.7 OD 4.0t Circular Hollow Section |
| L8 | 127.0 OD 4.0t Circular Hollow Section |
| L9 | 114.3 OD 3.5t Circular Hollow Section |
| L10 | 101.6 OD 3.5t Circular Hollow Section |
| L11 | 101.6 OD 3.5t Circular Hollow Section |
| L12 | 88.9 OD 3.0t Circular Hollow Section |
| L13 | 76.2 OD 3.0t Circular Hollow Section |
| L14 | 60.3 OD 3.0t Circular Hollow Section |
| L15 | 60.3 OD 3.0t Circular Hollow Section |
| L16 | 48.4 OD 3.0t Circular Hollow Section |
| L17 | 38.1 OD 2.5t Circular Hollow Section |
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|---|---|
| Diagonal Members | |
| D1 – D4 | 48.4 OD 3.0t Circular Hollow Section |
| D3 – D17 | 38.1 OD 2.5t Circular Hollow Section |
| | |
| Horizontal Members | |
| H1 – H4 | 48.4 OD 3.0t Circular Hollow Section |
| H3 – H17 | 38.1 OD 2.5t Circular Hollow Section |
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This document does in no way relieve the supplier of any of their responsibilities for the structure.

Mike Adair
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