

## **TOWER TECHNICAL SPECIFICATIONS**

### **Tower Manufacturer**

Should have been primarily and continuously involved in the design and production of communication towers for at least 10 years. The Tower manufacturer shall be an AISC (or equivalent, such as CISC) Certified Fabricator. Only Certified Welders (AWS, CWB, IIW) shall be employed for tower fabrication. The manufacturer should have a qualified quality control department to establish minimum acceptable fabrication standards, procedures and documentation.

### **Design Life**

Design Life should be 50 years with no major maintenance required (painting). Note that Bermuda's environment is severely corrosive.

**TOWER HEIGHT:** 220ft

**TOWER LOCATION:** Tower should be located as close as practicable to the existing guyed tower with the objective to facilitate connection with nearby equipment facilities. Specific location to be determined.

**DESIGN WIND SPEED:** The tower should be able to sustain 160 mph of wind (before factoring). The tower should be fully operational during and after a Category 5 Hurricane.

### **DESIGN STANDARDS**

- Structural design should be in accordance to TIA-222-H Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures.
- Structure Class, exposure and topographic category:
  - o RISK CATEGORY III
  - o EXPOSURE CATEGORY C
  - o TOPOGRAPHIC CATEGORY 3: Hill

### **MATERIALS**

- Steel members should be hot-dip galvanized inside and out per ASTM A123. Minimum yield strength should be 50ksi.
- Welds should meet AWS D1.1/D1.1M:2015
- Bolts should meet ASTM F3125 standard specification and be of grade A325 Type 1.
- Nuts of the same type of finishing should meet ASTM A563 standards.
- Hardware should be galvanized per ASTM A153
- Concrete should conform to Specifications for Structural Concrete for Buildings, ACI 318-14

**LOCATION OF ANTENNAS**

Type and location of antennas shall be assumed to be the same as shown in the attached **Maintenance and Condition 2017 Assessment Report**.

**GEOTECHNICAL INFORMATION**

- Footing design can be based on Ultimate soil pressure of 50 ton/m2 and Allowable Bearing Pressure of 25 ton/m2

**NUMBER OF PLATFORMS**

- Suggested locations to be confirmed by Proponent, such that applicable Health and Safety Regulations are satisfied.

At 100'
At 150'
At 200'
At 220'

**CHANGES TO TECHNICAL SPECIFICATIONS**

If the tower manufacturer recommends alternatives to the technical specifications provided herein, please submit a rationale for consideration during RFP question period. The government of Bermuda will then post answers in an addendum such that all proponents are informed.