



**TOWER DESIGN LOADING**

DESIGN WIND LOAD PER 2006 INTERNATIONAL BUILDING CODE USING ANSI/TIA/EIA-222-F-1996 IN ACCORDANCE WITH SECTION 3108.4  
100 MPH 3-SECOND GUST WIND SPEED (1/2" RADIAL ICE LOAD)  
80 MPH FASTEST MILE WIND SPEED (1/2" RADIAL ICE LOAD)

THIS TOWER IS DESIGNED TO SUPPORT THE FOLLOWING LOADS:

ELEVATION (FT)	ANTENNA TYPE	LINE SIZE (NOM)
TOP	LIGHTS	(1)3/4"
TOP	(2)MET INSTRUMENTS ON 10' BOOMS (10 SO.FT. EPA TOTAL)	(2)CAT5
180	(1)MET INSTRUMENT ON 10' BOOM (5 SO.FT. EPA TOTAL)	(1)CAT5
100	(1)MET INSTRUMENT ON 10' BOOM (5 SO.FT. EPA TOTAL)	(1)CAT5

SEE STRESS ANALYSIS FOR A COMPLETE LISTING OF ALL LOADS ON TOWER

**SECTION MEMBER SCHEDULE**

ELEVATION (FT)	SECTION	SIZE	LEG		BRACE	
			BOLTED FLANGE CONNECTION NO.	SIZE	SIZE	END CONNECTION
0 - 1	1					
1 - 281	2	1.250 SOLID	4	1/2	0.4375 SOLID	WELDED
281 - 291	3	1.250 SOLID	4	1/2	0.4375 SOLID	WELDED

NOTE: SECTION NUMBERS ARE FOR REFERENCE ONLY.  
ALL SECTIONS ARE SINGLE BRACED  
BRACING PATTERN: TENSION COMPRESSION SYSTEM WITH 1'-3 3/4"  
NOMINAL PANEL SPACING.  
FACE WIDTH = 1'-4 3/4"

**GUY WIRE DATA**

GUY ELEV. (FT)	SIZE (IN)	TYPE	ULT. STR. (KIPS)
42	1/4	EHS	6.65
84	1/4	EHS	6.65
126	5/16	EHS	11.20
168	5/16	EHS	11.20
208	3/8	EHS	15.40
248	3/8	EHS	15.40
282	3/8	EHS	15.40

- GENERAL NOTES**
- ROHN COMMUNICATION TOWER DESIGNS CONFORM TO ANSI/TIA/EIA-222-F-1996 UNLESS OTHERWISE SPECIFIED UNDER TOWER DESIGN LOADING.
  - THE DESIGN LOADING CRITERIA INDICATED HAS BEEN PROVIDED TO ROHN. THE DESIGN LOADING CRITERIA HAS BEEN ASSUMED TO BE BASED ON SITE-SPECIFIC DATA IN ACCORDANCE WITH ANSI/TIA/EIA-222-F-1996 AND MUST BE VERIFIED BY OTHERS PRIOR TO INSTALLATION.
  - MET INSTRUMENTS AND LINES LISTED IN TOWER DESIGN LOADING TABLE ARE PROVIDED BY OTHERS UNLESS OTHERWISE SPECIFIED.
  - TOWER MEMBER DESIGN DOES NOT INCLUDE STRESSES DUE TO ERECTION SINCE ERECTION EQUIPMENT AND CONDITIONS ARE UNKNOWN. DESIGN ASSUMES COMPETENT AND QUALIFIED PERSONNEL WILL ERECT THE TOWER.
  - WORK SHALL BE IN ACCORDANCE WITH ANSI/TIA/EIA-222-F-1996, "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES".
  - THE MINIMUM YIELD STRENGTH OF STRUCTURAL STEEL MEMBERS SHALL BE 50 KSI, EXCEPT AS NOTED BELOW.  
SOLID BRACES SHALL BE 36 KSI.  
STRUCTURAL PLATES SHALL BE 36 KSI.
  - FIELD CONNECTIONS SHALL BE BOLTED. NO FIELD WELDS SHALL BE ALLOWED.
  - STRUCTURAL BOLTS SHALL CONFORM TO ASTM A-325, EXCEPT WHERE NOTED.
  - PAL NUTS SHALL BE PROVIDED FOR ALL TOWER BOLTS.
  - STRUCTURAL STEEL AND CONNECTION BOLTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION, IN ACCORDANCE WITH ANSI/TIA/EIA-222-F-1996.
  - ALL HIGH STRENGTH BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT CONDITION AS DEFINED IN THE JUNE 23, 2000, AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
  - PURCHASER SHALL VERIFY THE INSTALLATION IS IN CONFORMANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR OBSTRUCTION MARKING AND LIGHTING.
  - TOLERANCE ON TOWER STEEL HEIGHT IS EQUAL TO PLUS 1% OR MINUS 1/2%.
  - DESIGN ASSUMES THAT, AS A MINIMUM, MAINTENANCE AND INSPECTION WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE IN ACCORDANCE WITH ANSI/TIA/EIA-222-F-1996.
  - DESIGN ASSUMES LEVEL GRADE AT TOWER SITE.
  - INITIAL TENSION OF GUY WIRES SHALL BE 10% OF THEIR ULTIMATE STRENGTHS.
  - THE FACTOR OF SAFETY OF GUYS AND THEIR CONNECTIONS SHALL NOT BE LESS THAN 2.0.
  - IT SHALL BE THE RESPONSIBILITY OF THE ERECTOR TO TEMPORARILY GUY THE STRUCTURE WHEN REQUIRED DURING ERECTION TO MAINTAIN THE STABILITY OF THE STRUCTURE AND TO PREVENT OVERLOADING ANY MEMBER OF THE STRUCTURE.
  - FOUNDATIONS PROVIDED BY OTHERS, SHALL BE DESIGNED TO SUPPORT THE REACTIONS SHOWN FOR THE CONDITIONS EXISTING AT THE SITE.

TOWER SITE: PORT AUTHORITY TERMINAL  
COUNTY: HUDSON, NJ

**REACTIONS**

AT	VERT. (+/-)	HORIZ. (+/-)
BASE=0.0 FT	59.2 KIPS	N/A
150.0 FT	-8.9 KIPS	10.0 KIPS
232.0 FT	-13.5 KIPS	14.1 KIPS

No.	Revision Description	Date	Rev By	Ckd By	Appd By
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<b>ROHN</b>					
Scale:	NONE	By:	DWG	Date:	11/25/08
Drawn:		Checked:	WV	11/25/08	
App. Eng.:	WV	Parent File:	58862EH	ENG. FILE:	060-5622
				DWG. NO.:	B081138
				SHEET 1 OF 1	REV.

**290' 45GR GUYED TOWER DESIGN FOR PORT AUTHORITY FOR METRO-TEK ELECTRICAL SERVICES**

**ELEVATION VIEW**