Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbasite.com

May 2, 2018

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Notice of Exempt Modification
477 Route 7, Sharon, CT
41 54 34.04 N
-73 21 57.71 W
Sprint #: CT33XC104

Dear Ms. Bachman:

Sprint currently maintains antennas at the 118-foot level of the existing 130' Monopine Tower at 477 Route 7 in Sharon, CT. The tower is owned by SBA Towers, LLC. The property is owned by Theresa and Joel Meisel. Sprint now intends to add (2) newer technology cell antennas at the 118-foot level of the tower. The proposed full scope of work is as follows:

Remove: n/a

Remove and Replace: n/a

Install:

- (2) Commscope - DT465B-2XR – Panel Antennas
- (2) ALU - 800MHz – RRUs
- (2) ALU - TD-RRH8x20-25 – RRUs
- (1) 1-1/4" line
- (1) Platform Reinforcement Kit
- (1) V-Brace Kit
- (1) Handrail Kit

Existing Equipment to Remain (Including entitlements):

- (2) RFS - APXVSPP18-C-A20 – Panel Antennas
- (2) ALU - 1900MHz – RRUs
- (2) ALU - 800MHz – RRUs
- (2) ALU - 800MHz Filter – RRU Filters
- (4) RFS - ACU-A20-N – RETs
- (3) T-Arms
- (2) 1-1/4" lines

This facility was originally approved prior to the Council's jurisdiction granting approval for a 120 foot camouflaged and landscaped monopine tower. On February 6, 2007, Council approved Verizon's Petition #798 to extend the existing monopine to 130 feet with simulated branches extending to a total height of 135 feet. This modification complies with all conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Sharon's First Selectman, Brent M. Colley, and Land Use Administrator, Jamie Casey, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Sprint respectfully submits that the proposed modifications to the above-referenced telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
kpelletier@sbasite.com

Attachments
cc: Brent M. Colley, First Selectman / with attachments
Town of Sharon, 63 Main Street, Sharon, CT 06069
Jamie Casey, Land Use Administrator / with attachments
Town of Sharon, 63 Main Street, Sharon, CT 06069
Theresa and Joel Meisel / with attachments
12 Merriman Lane Prospect CT 06712-1421

POWER DENSITY

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20
Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd
Height (AGL):	**118 feet**	Height (AGL):	**118 feet**	Height (AGL):	**118 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	6,662.27	ERP (W):	6,662.27	ERP (W):	6,662.27
Antenna A1 MPE%	**2.01 %**	Antenna B1 MPE%	**2.01 %**	Antenna C1 MPE%	**2.01 %**
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope DT465B-2XR	Make / Model:	Commscope DT465B-2XR	Make / Model:	Commscope DT465B-2XR
Gain:	15.05 / 13.35 dBd	Gain:	15.05 / 13.35 dBd	Gain:	15.05 / 13.35 dBd
Height (AGL):	**118 feet**	Height (AGL):	**118 feet**	Height (AGL):	**118 feet**
Frequency Bands	2500 MHz (BRS) / 850 MHz	Frequency Bands	2500 MHz (BRS) / 850 MHz	Frequency Bands	2500 MHz (BRS) / 850 MHz
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	200 Watts	Total TX Power(W):	200 Watts	Total TX Power(W):	200 Watts
ERP (W):	5,983.32	ERP (W):	5,983.32	ERP (W):	5,983.32
Antenna A2 MPE%	**1.90 %**	Antenna B2 MPE%	**1.90 %**	Antenna C2 MPE%	**1.90 %**

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	**3.91 %**
Nextel	0.55 %
AT&T	3.64 %
Verizon Wireless	2.84 %
Site Total MPE %:	**10.94 %**

SPRINT Sector A Total:	3.91 %
SPRINT Sector B Total:	3.91 %
SPRINT Sector C Total:	3.91 %
Site Total:	10.94 %

SPRINT _ Frequency Band / Technology Max Power Values (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	437.55	118	1.25	850 MHz	567	0.22%
Sprint 1900 MHz (PCS) CDMA	5	622.47	118	8.92	1900 MHz (PCS)	1000	0.89%
Sprint 1900 MHz (PCS) LTE	2	1,556.18	118	8.92	1900 MHz (PCS)	1000	0.89%
Sprint 2500 MHz (BRS) LTE	8	639.78	118	14.67	2500 MHz (BRS)	1000	1.47%
Sprint 850 MHz LTE	2	432.54	118	2.48	850 MHz	567	0.44%
						Total:	**3.91%**

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477 ROUTE 7

Location	477 ROUTE 7	**Mblu**	23/ 13/ / /
Acct#	00139700	**Owner**	MEISEL THERESA & JOEL
Assessment	$401,210	**Appraisal**	$680,600
PID	819	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$323,300	$357,300	$680,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$226,400	$174,810	$401,210

Owner of Record

Owner	MEISEL THERESA & JOEL	**Sale Price**	$0
Co-Owner		**Certificate**	
		Book & Page	199/ 815
		Sale Date	02/08/2016
		Instrument	29

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MEISEL THERESA & JOEL	$0		199/ 815	29	02/08/2016
MEISEL THERESA C	$0		93/ 896	01	03/16/1977
PRESTIPINO PETER J	$15,000		93/ 37	08	07/02/1976

Building Information

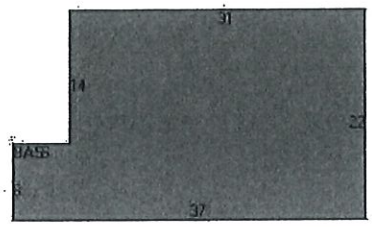
Building 1 : Section 1

Year Built:	1968
Living Area:	730
Building Percent Good:	82
Replacement Cost Less Depreciation:	$55,200

Building Layout

Building Attributes	
Field	**Description**
Style	Ranch

Model	Residential
Grade:	C
Stories:	1 Story
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt Shngl.
Interior Wall 1	Drywall
Interior Wall 2	Plywood Panel
Interior Flr 1	Carpet
Interior Flr 2	Slate
Heat Fuel	Gas
Heat Type:	Hydro Air
AC Type:	None
Total Bedrooms:	1 Bedroom
Total Bthrms:	1
Total Half Baths:	0
Total Rooms:	3
Bath Style:	Average
Kitchen Style:	Average



(http://images.vgsi.com/photos/SharonCTPhotos//Sketches/819_

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	730	730
		730	730

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
FPL	Fireplace	1 Units	$4,100	1

Land

Land Use

Use Code 101
Description Single Family
Zone RR
Alt Land Appr No
Category

Special Land			
Land Use Code	Land Use Description	Units	Unit Type
800	Open Space	12	AC

Land Line Valuation

Size (Acres) 20
Frontage
Depth
Assessed Value $174,810
Appraised Value $357,300

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed			132 S.F.	$1,800	1

CELL	Cell Tower site			1 UNITS	$205,200	1
CAB5	Cabin Exc.			230 S.F.	$13,100	1
FN4	Fence 8'			720 L.F.	$10,300	1
CAB5	Cabin Exc.			230 S.F.	$13,100	1
CAB5	Cabin Exc.			360 S.F.	$20,500	1

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 130 ft Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT02408-S

Customer Site Name: Sharon 3 CT

Carrier Name: Sprint Nextel

Carrier Site ID / Name: CT33XC104 / Sharon

Site Location: 477 Route 7

Sharon, Connecticut

Litchfield County

Latitude: 41.909456

Longitude: -73.366031

4/30/18

Analysis Result:

Max Structural Usage: 33.6% [Pass]

Max Foundation Usage: 66.7% [Pass]

Additional Usage Caused by Mount Modification: +0.70%

Report Prepared By: Dayne Colahan

Introduction

The purpose of this report is to summarize the analysis results on the 130 ft Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Fred A. Nudd Corporation, Project #8318;10125-029; Dated 04/2001
Foundation Drawing	Fred A. Nudd Corporation, Project #8318;10125-029; Dated 04/2001
Geotechnical Report	Jaworski Geotech, Inc., Project #00133G; Dated 04/05/2001
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 115.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 89.0 mph (3-Sec. Gust)
Wind Speed with Ice:	40 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.179, S_1 = 0.065

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	130.0	2	Antel - BXA-70063-6CF_2 - Panel	(3) T-Arm	(12) 1 5/8"	Verizon
2		6	Antel - LPA80080/6CF - Panel			
3		3	Antel - BXA-171085-12BF_2 - Panel			
4		1	Antel - BXA-70040-6CF - Panel			
5		6	RFS - FD9R6004/2C-3L - Diplexer			
-	118.0	2	RFS - APXVSPP18-C-A20 - Panel	(3) T-Arm	(2) 1-1/4"	Sprint Nextel
-		2	ALU - 1900MHz - RRU			
-		2	ALU - 800MHz - RRU			
-		2	ALU - 800MHz Filter – RRU Filter			
-		4	RFS - ACU-A20-N - RET			
13	100.0	6	Powerwave - 7770 - Panel	(3) T-Arm	(12) 1 5/8" (2) 3/4" DC (1) 7/16" Fiber	AT&T
14		2	KMW - AM-X-CD-16-65-00T-RET - Panel			
15		1	Kathrein - 800 10764 - Panel			
16		1	Raycap - DC6-48-60-18-8F - DC Surge			
17		3	Andrew - ABT-DF-DMADBH – Bias-T			
18		12	Powerwave - LGP21401 – Tma			
19		6	Powerwave - LGP21901 – Diplexer			
20		6	Ericsson - RRUS11 - RRU			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
6	118.0	2	Commscope - DT465B-2XR - Panel	(3) T-Arm w/ Modifications [(1) Platform Reinforcement Kit SitePro1 Part PRK-1245L; (1) Handrail Components-V-Brace Kit SitePro1 Park PRK-SFS-L; (1) Handrail Components-(3) Pipe2.0 STD x 6.5 Horiz. Rail; Sitepro1SCX x-K [(12) total] cross-over plates]	(3) 1-1/4" Fiber	Sprint Nextel
7		2	RFS - APXVSPP18-C-A20 - Panel			
8		4	RFS - ACU-A20-N RET – RETs			
9		2	ALU - 1900 Mhz - RRUs			
10		4	ALU - 800 Mhz - RRUs			
11		2	ALU - TD-RRH8x20-25 - RRUs			
12		2	ALU – 800 Mhz Filter - Filters			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate	Flange (Elev. 120')
Max. Usage:	**33.6%**	**36.0%**	**35.6%**	**18.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	5810.0	56.4
Analysis Reactions	2979.7	31.7
Factored Reactions*	7843.5	76.1
% of Design Reactions	38.0%	41.6%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.5205 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 33.56% at 0.0ft

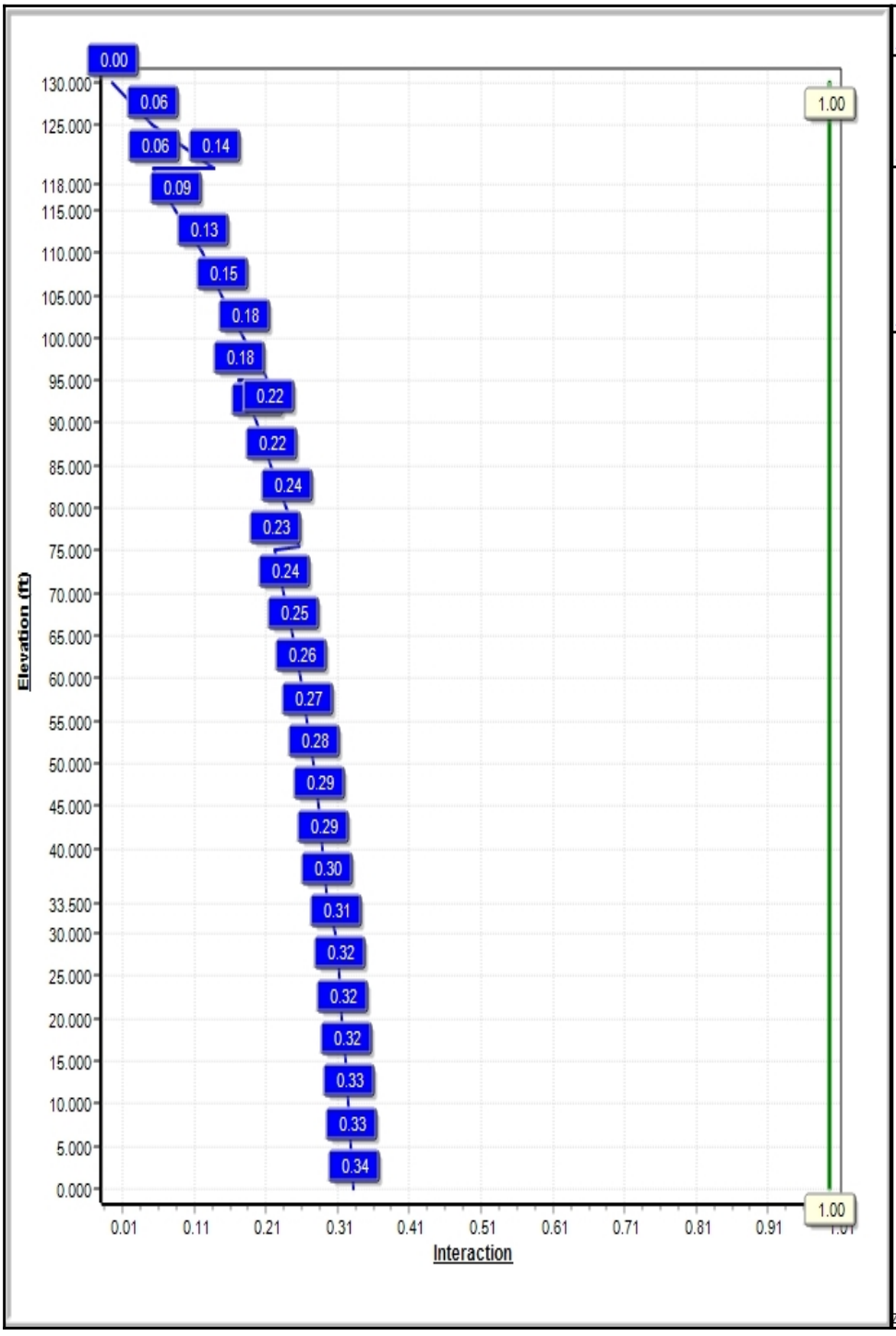
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

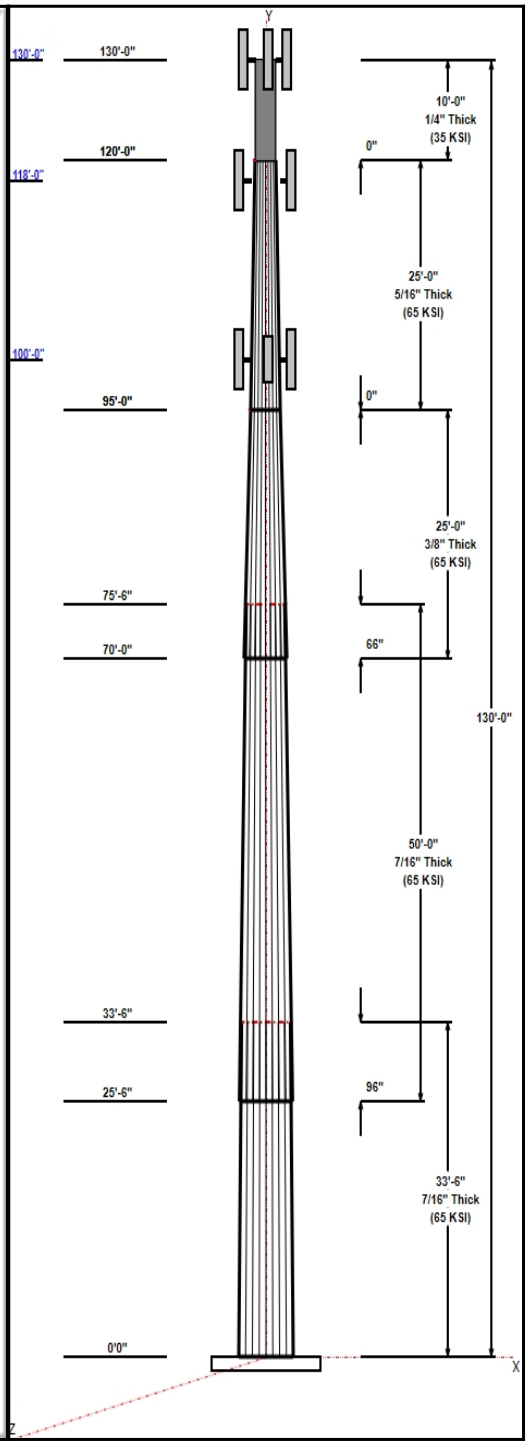
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 89 mph Wind

Iterations: 17





Structure: CT02408-S-SBA

Type: Custom
Site Name: Sharon 3 CT
Height: 130.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.41354

4/30/2018

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	33.50	58.15	72.00	0.438		0.41354	65
2	50.00	41.65	62.33	0.438	Slip	0.41354	65
3	25.00	34.34	44.68	0.375	Slip	0.41354	65
4	25.00	24.00	34.34	0.313	Butt	0.41354	65
5	10.00	24.00	24.00	0.250	Butt	0.00000	35

Discrete Appurtenances

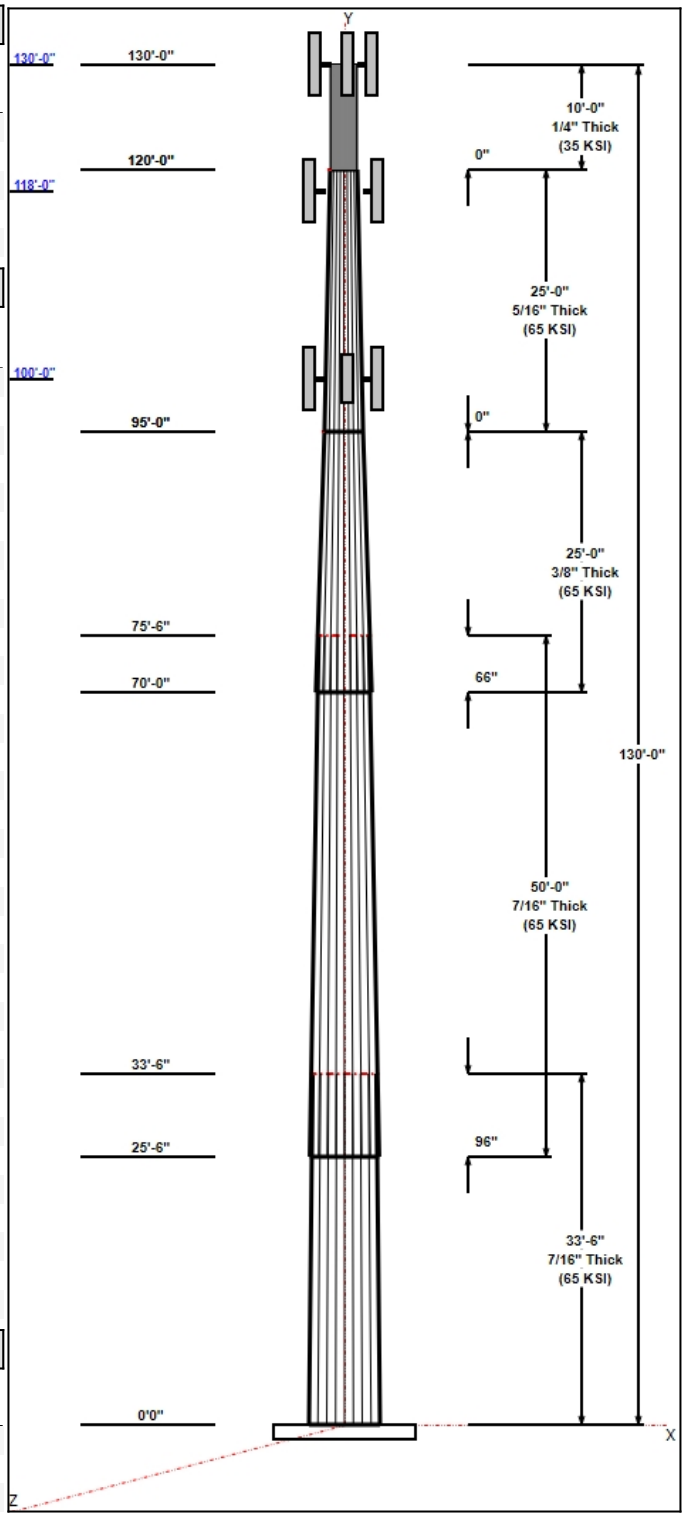
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
130.00	130.00	2	BXA-70063-6CF_2	Verizon
130.00	130.00	6	LPA80080/6CF	Verizon
130.00	130.00	3	BXA-171085-12BF_2	Verizon
130.00	130.00	1	BXA-70040-6CF	Verizon
130.00	130.00	6	FD9R6004/2C-3L	Verizon
130.00	130.00	1	Tree Pole Branchs	
130.00	130.00	3	T-Arm	Verizon
125.00	125.00	1	Tree Pole Branchs	
118.00	118.00	1	(3) Pipe 2.0 STD	Sprint Nextel
118.00	118.00	2	PRK-SFS-L	Sprint Nextel
118.00	118.00	1	PRK-1245L (kicker kit)	Sprint Nextel
118.00	118.00	3	T-Arm	Sprint Nextel
118.00	118.00	2	DT465B-2XR	Sprint Nextel
118.00	118.00	2	TD-RRH8x20-25	Sprint Nextel
118.00	118.00	2	APXVSPP18-C-A20	Sprint Nextel
118.00	118.00	2	1900 MHz	Sprint Nextel
118.00	118.00	4	800 MHz	Sprint Nextel
118.00	118.00	2	800MHz Filter	Sprint Nextel
118.00	118.00	4	ACU-A20-N RET	Sprint Nextel
115.00	115.00	1	Tree Pole Branchs	
105.00	105.00	1	Tree Pole Branchs	
100.00	100.00	3	T-Arm	Sprint Nextel
100.00	100.00	6	7770	AT&T
100.00	100.00	2	AM-X-CD-16-65-00T-RET	AT&T
100.00	100.00	1	800 10764	AT&T
100.00	100.00	1	DC6-48-60-18-8F	AT&T
100.00	100.00	3	ABT-DF-DMADBH	AT&T
100.00	100.00	12	LGP21401	AT&T
100.00	100.00	6	LGP21901	AT&T
100.00	100.00	6	RRUS11	AT&T
95.00	95.00	1	Tree Pole Branchs	
85.00	85.00	1	Tree Pole Branchs	
77.50	77.50	1	Tree Pole Branchs	

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	130.00	Inside	1 5/8" Coax	Verizon
0.00	118.00	Inside	1 1/4" Fiber	Sprint Nextel
0.00	100.00	Inside	1 5/8" Coax	AT&T
0.00	100.00	Inside	3/4" DC	AT&T

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement



25	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	74.0	60.0	Round

Reactions

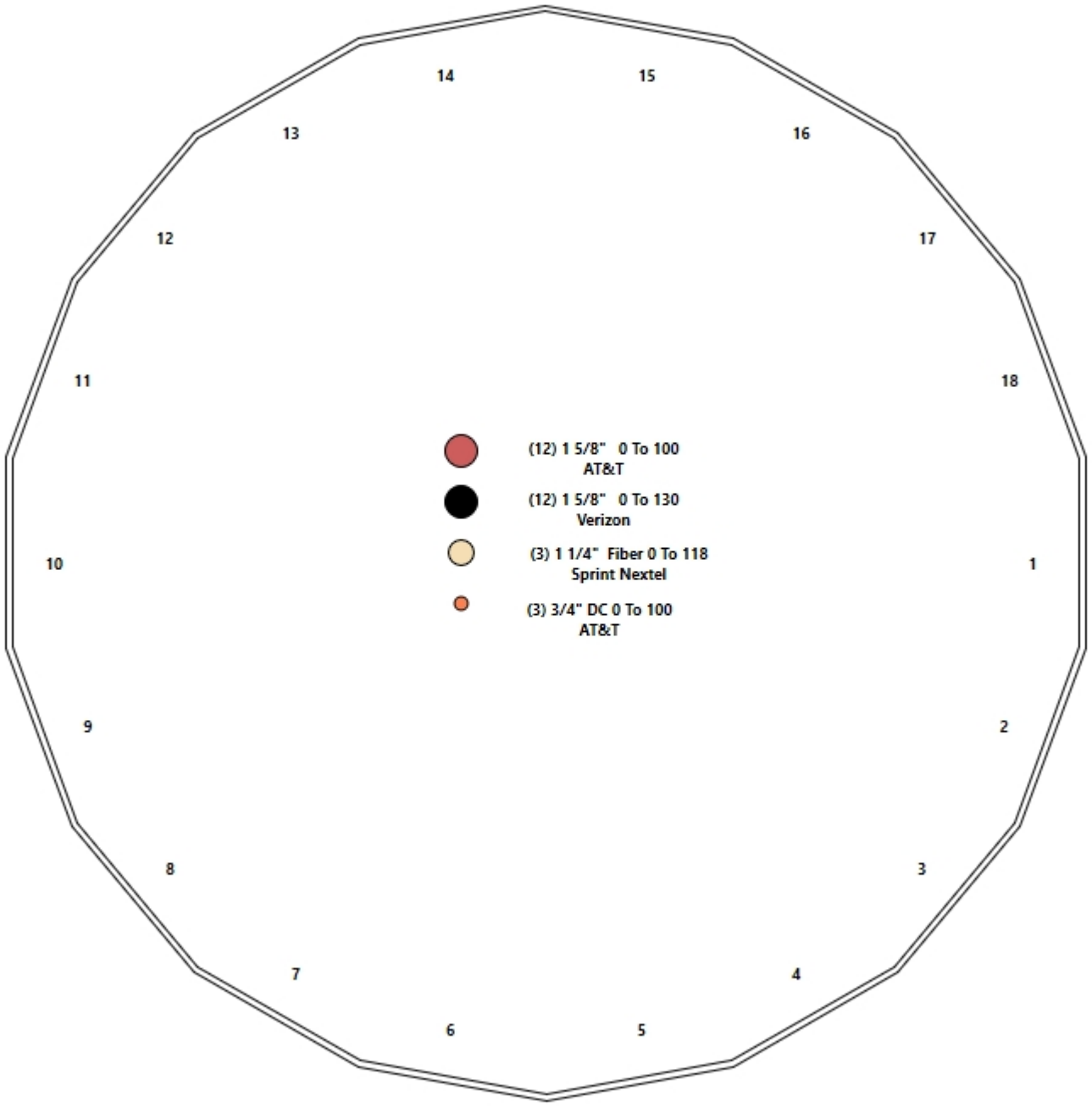
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 89 mph Wind	2979.7	31.7	47.9
0.9D + 1.6W 89 mph Wind	2971.1	31.7	35.9
1.2D + 1.0Di + 1.0Wi 40 mph Wind	578.9	6.3	79.3
1.2D + 1.0E	168.0	1.7	47.9
0.9D + 1.0E	167.5	1.7	35.9
1.0D + 1.0W 60 mph Wind	844.8	9.0	39.9

Structure: CT02408-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Sharon 3 CT
Height: 130.00 (ft)

4/30/2018

Tower Engineering Solutions



Shaft Properties

Structure:	CT02408-S-SBA		**Code:**	EIA/TIA-222-G	4/30/2018
Site Name:	Sharon 3 CT		**Exposure:**	B	
Height:	130.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	33.500	0.4375	65		0.00	10,231
2	18	50.000	0.4375	65	Slip	96.00	12,180
3	18	25.000	0.3750	65	Slip	66.00	3,962
4	18	25.000	0.3125	65	Flange	0.00	2,435
5	R	10.000	0.2500	35	Flange	0.00	635
					Total Shaft Weight:		**29,442**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	72.00	0.00	99.37	64295.26	27.61	164.57	58.15	33.50	80.13	33717.0	22.02	132.9	0.413542
2	62.33	25.50	85.94	41593.93	23.71	142.47	41.65	75.50	57.23	12282.6	15.38	95.21	0.413542
3	44.68	70.00	52.73	13075.19	19.60	119.14	34.34	95.00	40.42	5891.35	14.74	91.57	0.413542
4	34.34	95.00	33.75	4936.61	17.96	109.88	24.00	120.00	23.49	1665.53	12.13	76.80	0.413542
5	24.00	120.0	18.65	1316.20	0.00	96.00	24.00	130.00	18.65	1316.20	0.00	96.00	0.000000

Load Summary

Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	130.00	BXA-70063-6CF_2	2	17.00	7.57	0.78	211.92	11.203	0.81	0.00	0.00
2	130.00	LPA80080/6CF	6	21.00	4.33	1.50	293.16	5.927	1.38	0.00	0.00
3	130.00	BXA-171085-12BF_2	3	15.00	4.74	0.88	139.78	7.828	0.90	0.00	0.00
4	130.00	BXA-70040-6CF	1	38.00	14.40	0.70	417.67	18.126	0.72	0.00	0.00
5	130.00	FD9R6004/2C-3L	6	3.10	0.36	0.67	13.65	0.943	0.67	0.00	0.00
6	130.00	Tree Pole Branchs	1	100.00	12.00	1.00	1017.56	14.753	1.00	0.00	0.00
7	130.00	T-Arm	3	400.00	10.00	0.75	767.02	21.470	0.75	0.00	0.00
8	125.00	Tree Pole Branchs	1	100.00	60.00	1.00	1013.97	73.710	1.00	0.00	0.00
9	118.00	(3) Pipe 2.0 STD	1	302.36	8.13	0.75	769.45	18.473	0.75	0.00	0.00
10	118.00	PRK-SFS-L	2	140.00	3.70	0.75	369.00	8.743	0.75	0.00	0.00
11	118.00	PRK-1245L (kicker kit)	1	464.91	9.50	0.75	887.38	22.449	0.75	0.00	0.00
12	118.00	T-Arm	3	400.00	11.50	0.75	763.49	24.563	0.75	0.00	0.00
13	118.00	DT465B-2XR	2	58.00	9.10	0.83	373.44	10.878	0.85	0.00	0.00
14	118.00	TD-RRH8x20-25	2	70.00	4.05	0.67	223.01	5.133	0.67	0.00	0.00
15	118.00	APXVSPP18-C-A20	2	57.00	8.02	0.83	282.00	11.657	0.86	0.00	0.00
16	118.00	1900 MHz	2	60.00	2.77	0.67	168.61	4.421	0.67	0.00	0.00
17	118.00	800 MHz	4	59.50	2.64	0.67	161.04	4.147	0.67	0.00	0.00
18	118.00	800MHz Filter	2	8.80	0.78	0.67	31.77	1.622	0.67	0.00	0.00
19	118.00	ACU-A20-N RET	4	1.00	0.14	0.67	6.59	0.526	0.67	0.00	0.00
20	115.00	Tree Pole Branchs	1	100.00	76.00	1.00	1006.38	93.221	1.00	0.00	0.00
21	105.00	Tree Pole Branchs	1	100.00	70.00	1.00	998.17	85.718	1.00	0.00	0.00
22	100.00	T-Arm	3	400.00	10.00	0.75	757.52	21.172	0.75	0.00	0.00
23	100.00	7770	6	35.00	5.50	0.77	219.26	6.889	0.80	0.00	0.00
24	100.00	AM-X-CD-16-65-00T-RET	2	48.50	8.02	0.76	256.27	11.597	0.79	0.00	0.00
25	100.00	800 10764	1	40.80	5.88	0.79	204.06	8.623	0.82	0.00	0.00
26	100.00	DC6-48-60-18-8F	1	31.80	0.92	0.67	110.96	1.481	0.67	0.00	0.00
27	100.00	ABT-DF-DMADBH	3	1.10	0.05	0.67	3.96	0.296	0.67	0.00	0.00
28	100.00	LGP21401	12	14.10	1.29	0.67	46.11	2.360	0.67	0.00	0.00
29	100.00	LGP21901	6	5.50	0.23	0.67	15.35	0.701	0.67	0.00	0.00
30	100.00	RRUS11	6	51.00	2.52	0.67	143.53	3.331	0.67	0.00	0.00
31	95.00	Tree Pole Branchs	1	100.00	80.00	1.00	989.22	97.784	1.00	0.00	0.00
32	85.00	Tree Pole Branchs	1	100.00	80.00	1.00	979.39	97.588	1.00	0.00	0.00
33	77.50	Tree Pole Branchs	1	100.00	66.00	1.00	971.30	80.376	1.00	0.00	0.00
		Totals:	**93**	**7,249.57**			**25,826.38**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	130.00	(12) 1 5/8" Coax	0.00	Inside
0.00	118.00	(3) 1 1/4" Fiber	0.00	Inside
0.00	100.00	(12) 1 5/8" Coax	0.00	Inside
0.00	100.00	(3) 3/4" DC	0.00	Inside

Shaft Section Properties

Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	72.000	99.370	64295.3	27.61	164.57	68.9	1758.	0.0
5.00		0.4375	69.932	96.499	58881.5	26.77	159.85	69.9	1658.	1666.2
10.00		0.4375	67.865	93.628	53780.6	25.94	155.12	70.9	1560.	1617.4
15.00		0.4375	65.797	90.756	48983.1	25.11	150.39	71.9	1466.	1568.5
20.00		0.4375	63.729	87.885	44479.7	24.27	145.67	72.8	1374.	1519.7
25.00		0.4375	61.661	85.014	40261.2	23.44	140.94	73.8	1286.	1470.8
25.50	Bot - Section 2	0.4375	61.455	84.727	39854.6	23.36	140.47	73.9	1277.	144.4
30.00		0.4375	59.594	82.143	36318.2	22.61	136.21	74.8	1200.	2573.8
33.50	Top - Section 1	0.4375	59.021	81.348	35274.1	22.38	134.91	0.0	0.0	1947.1
35.00		0.4375	58.401	80.487	34165.5	22.13	133.49	75.4	1152.	413.0
40.00		0.4375	56.333	77.616	30638.0	21.29	128.76	76.4	1071.	1345.0
45.00		0.4375	54.266	74.744	27362.1	20.46	124.04	77.3	993.1	1296.1
50.00		0.4375	52.198	71.873	24328.5	19.63	119.31	78.3	918.0	1247.3
55.00		0.4375	50.130	69.002	21527.8	18.79	114.58	79.3	845.8	1198.4
60.00		0.4375	48.062	66.131	18950.8	17.96	109.86	80.3	776.6	1149.6
65.00		0.4375	45.995	63.260	16588.1	17.13	105.13	81.3	710.3	1100.7
70.00	Bot - Section 3	0.4375	43.927	60.389	14430.4	16.29	100.40	82.2	647.0	1051.9
75.00		0.4375	41.859	57.517	12468.4	15.46	95.68	82.5	586.7	1879.2
75.50	Top - Section 2	0.3750	42.403	50.022	11163.0	18.53	113.07	0.0	0.0	182.9
77.50		0.3750	41.576	49.037	10516.8	18.14	110.87	80.1	498.2	337.1
80.00		0.3750	40.542	47.807	9744.8	17.65	108.11	80.6	473.4	411.9
85.00		0.3750	38.474	45.346	8316.0	16.68	102.60	81.8	425.7	792.4
90.00		0.3750	36.406	42.885	7034.2	15.71	97.08	82.5	380.6	750.6
95.00	Top - Section 3	0.3750	34.339	40.424	5891.3	14.74	91.57	82.5	337.9	708.7
95.00	Bot - Section 4	0.3125	34.339	33.748	4936.6	17.68	109.88	80.3	283.2	
100.00		0.3125	32.271	31.698	4090.2	16.80	103.27	81.6	249.6	556.7
105.00		0.3125	30.203	29.647	3346.6	15.63	96.65	82.5	218.2	521.9
110.00		0.3125	28.135	27.596	2699.0	14.46	90.03	82.5	188.9	487.0
115.00		0.3125	26.068	25.545	2140.9	13.30	83.42	82.5	161.8	452.1
118.00		0.3125	24.827	24.315	1846.2	12.60	79.45	82.5	146.5	254.5
120.00	Top - Section 4	0.3125	24.000	23.494	1665.5	12.13	76.80	82.5	136.7	162.7
120.00	Bot - Section 5	0.2500	24.000	18.653	1316.2	15.16	96.00	34.8	109.7	
125.00		0.2500	24.000	18.653	1316.2	0.00	96.00	34.8	109.7	317.4
130.00		0.2500	24.000	18.653	1316.2	0.00	96.00	34.8	109.7	317.4
										29442.4

Wind Loading - Shaft

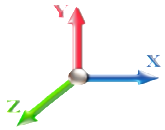
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 89 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 17

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	13.485	14.83	453.67	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	13.485	14.83	440.64	0.650	0.000	5.00	30.025	19.52	463.2	0.0	1999.5
10.00		1.00	0.70	13.485	14.83	427.61	0.650	0.000	5.00	29.151	18.95	449.7	0.0	1940.9
15.00		1.00	0.70	13.485	14.83	414.58	0.650	0.000	5.00	28.276	18.38	436.2	0.0	1882.3
20.00		1.00	0.70	13.485	14.83	401.55	0.650	0.000	5.00	27.401	17.81	422.7	0.0	1823.6
25.00		1.00	0.70	13.485	14.83	388.53	0.650	0.000	5.00	26.526	17.24	409.2	0.0	1765.0
25.50	Bot - Section 2	1.00	0.70	13.485	14.83	387.22	0.650	0.000	0.50	2.604	1.69	40.2	0.0	173.3
30.00		1.00	0.70	13.496	14.85	375.66	0.650	0.000	4.50	23.380	15.20	361.0	0.0	3088.6
33.50	Top - Section 1	1.00	0.72	13.928	15.32	372.36	0.650	0.000	3.50	17.694	11.50	281.9	0.0	2336.6
35.00		1.00	0.73	14.104	15.51	376.33	0.650	0.000	1.50	7.452	4.84	120.2	0.0	495.6
40.00		1.00	0.76	14.652	16.12	370.00	0.650	0.000	5.00	24.272	15.78	406.8	0.0	1614.0
45.00		1.00	0.79	15.154	16.67	362.47	0.650	0.000	5.00	23.397	15.21	405.6	0.0	1555.3
50.00		1.00	0.81	15.617	17.18	353.94	0.650	0.000	5.00	22.522	14.64	402.4	0.0	1496.7
55.00		1.00	0.83	16.048	17.65	344.58	0.650	0.000	5.00	21.647	14.07	397.4	0.0	1438.1
60.00		1.00	0.85	16.452	18.10	334.50	0.650	0.000	5.00	20.772	13.50	391.0	0.0	1379.5
65.00		1.00	0.87	16.833	18.52	323.79	0.650	0.000	5.00	19.898	12.93	383.2	0.0	1320.9
70.00	Bot - Section 3	1.00	0.89	17.193	18.91	312.53	0.650	0.000	5.00	19.023	12.36	374.1	0.0	1262.2
75.00		1.00	0.91	17.535	19.29	300.77	0.650	0.000	5.00	18.465	12.00	370.4	0.0	2255.0
75.50	Top - Section 2	1.00	0.91	17.568	19.33	299.57	0.650	0.000	0.50	1.798	1.17	36.1	0.0	219.5
77.50	Appurtenance(s)	1.00	0.92	17.700	19.47	300.13	0.650	0.000	2.00	7.106	4.62	143.9	0.0	404.5
80.00		1.00	0.93	17.861	19.65	294.00	0.650	0.000	2.50	8.686	5.65	177.5	0.0	494.3
85.00	Appurtenance(s)	1.00	0.94	18.173	19.99	281.43	0.650	0.000	5.00	16.716	10.87	347.5	0.0	950.9
90.00		1.00	0.96	18.473	20.32	268.49	0.650	0.000	5.00	15.841	10.30	334.8	0.0	900.7
95.00	Top - Section 3	1.00	0.97	18.760	20.64	255.20	0.650	0.000	5.00	14.966	9.73	321.2	0.0	850.4
100.00	Appurtenance(s)	1.00	0.99	19.037	20.94	241.60	0.650	0.000	5.00	14.091	9.16	306.9	0.0	668.1
105.00	Appurtenance(s)	1.00	1.00	19.304	21.23	227.70	0.650	0.000	5.00	13.216	8.59	291.9	0.0	626.2
110.00		1.00	1.02	19.563	21.52	213.53	0.650	0.000	5.00	12.341	8.02	276.2	0.0	584.4
115.00	Appurtenance(s)	1.00	1.03	19.813	21.79	199.10	0.650	0.000	5.00	11.467	7.45	259.9	0.0	542.5
118.00	Appurtenance(s)	1.00	1.04	19.959	21.95	190.32	0.650	0.000	3.00	6.460	4.20	147.5	0.0	305.4
120.00	Top - Section 4	1.00	1.04	20.055	22.06	184.42	0.650	0.000	2.00	4.132	2.69	94.8	0.0	195.2
125.00	Appurtenance(s)	1.00	1.05	20.290	22.32	182.68	0.600	0.000	5.00	10.000	6.00	214.3	0.0	380.8
130.00	Appurtenance(s)	1.00	1.07	20.519	22.57	183.71	0.600	0.000	5.00	10.000	6.00	216.7	0.0	380.8
								Totals:	**130.00**			**9,284.3**		**35,330.8**

Discrete Appurtenance Forces

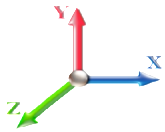
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 89 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 17

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	T-Arm	3	20.519	22.571	0.56	0.75	16.88	1440.00	0.000	0.000	609.42	0.00	0.00
2	130.00	Tree Pole Branchs	1	20.519	22.571	1.00	1.00	12.00	120.00	0.000	0.000	433.36	0.00	0.00
3	130.00	FD9R6004/2C-3L	6	20.519	22.571	0.54	0.80	1.16	22.32	0.000	0.000	41.81	0.00	0.00
4	130.00	BXA-70040-6CF	1	20.519	22.571	0.56	0.80	8.05	45.60	0.000	0.000	290.80	0.00	0.00
5	130.00	BXA-171085-12BF_2	3	20.519	22.571	0.70	0.80	9.98	54.00	0.000	0.000	360.30	0.00	0.00
6	130.00	LPA80080/6CF	6	20.519	22.571	1.20	0.80	31.13	151.20	0.000	0.000	1124.37	0.00	0.00
7	130.00	BXA-70063-6CF_2	2	20.519	22.571	0.62	0.80	9.39	40.80	0.000	0.000	338.99	0.00	0.00
8	125.00	Tree Pole Branchs	1	20.290	22.319	1.00	1.00	60.00	120.00	0.000	0.000	2142.67	0.00	0.00
9	118.00	ACU-A20-N RET	4	19.959	21.955	0.54	0.80	0.30	4.80	0.000	0.000	10.54	0.00	0.00
10	118.00	800MHz Filter	2	19.959	21.955	0.54	0.80	0.84	21.12	0.000	0.000	29.37	0.00	0.00
11	118.00	800 MHz	4	19.959	21.955	0.54	0.80	5.66	285.60	0.000	0.000	198.83	0.00	0.00
12	118.00	1900 MHz	2	19.959	21.955	0.54	0.80	2.97	144.00	0.000	0.000	104.31	0.00	0.00
13	118.00	APXVSPP18-C-A20	2	19.959	21.955	0.66	0.80	10.64	136.80	0.000	0.000	373.68	0.00	0.00
14	118.00	TD-RRH8x20-25	2	19.959	21.955	0.54	0.80	4.34	168.00	0.000	0.000	152.51	0.00	0.00
15	118.00	DT465B-2XR	2	19.959	21.955	0.66	0.80	12.06	139.20	0.000	0.000	423.49	0.00	0.00
16	118.00	T-Arm	3	19.959	21.955	0.56	0.75	19.41	1440.00	0.000	0.000	681.70	0.00	0.00
17	118.00	PRK-1245L (kicker kit)	1	19.959	21.955	0.56	0.75	5.34	557.89	0.000	0.000	187.71	0.00	0.00
18	118.00	(3) Pipe 2.0 STD	1	19.959	21.955	0.56	0.75	4.57	362.83	0.000	0.000	160.64	0.00	0.00
19	118.00	PRK-SFS-L	2	19.959	21.955	0.56	0.75	4.16	336.00	0.000	0.000	146.22	0.00	0.00
20	115.00	Tree Pole Branchs	1	19.813	21.794	1.00	1.00	76.00	120.00	0.000	0.000	2650.15	0.00	0.00
21	105.00	Tree Pole Branchs	1	19.304	21.235	1.00	1.00	70.00	120.00	0.000	0.000	2378.30	0.00	0.00
22	100.00	800 10764	1	19.037	20.941	0.63	0.80	3.71	48.96	0.000	0.000	124.35	0.00	0.00
23	100.00	T-Arm	3	19.037	20.941	0.56	0.75	16.88	1440.00	0.000	0.000	565.40	0.00	0.00
24	100.00	7770	6	19.037	20.941	0.61	0.80	20.22	252.00	0.000	0.000	677.56	0.00	0.00
25	100.00	AM-X-CD-16-65-00T-RET	2	19.037	20.941	0.61	0.80	9.71	116.40	0.000	0.000	325.47	0.00	0.00
26	100.00	ABT-DF-DMADBH	3	19.037	20.941	0.54	0.80	0.08	3.96	0.000	0.000	2.69	0.00	0.00
27	100.00	DC6-48-60-18-8F	1	19.037	20.941	0.54	0.80	0.49	38.16	0.000	0.000	16.52	0.00	0.00
28	100.00	LGP21401	12	19.037	20.941	0.54	0.80	8.30	203.04	0.000	0.000	278.00	0.00	0.00
29	100.00	LGP21901	6	19.037	20.941	0.54	0.80	0.74	39.60	0.000	0.000	24.78	0.00	0.00
30	100.00	RRUS11	6	19.037	20.941	0.54	0.80	8.10	367.20	0.000	0.000	271.54	0.00	0.00
31	95.00	Tree Pole Branchs	1	18.760	20.636	1.00	1.00	80.00	120.00	0.000	0.000	2641.44	0.00	0.00
32	85.00	Tree Pole Branchs	1	18.173	19.991	1.00	1.00	80.00	120.00	0.000	0.000	2558.81	0.00	0.00
33	77.50	Tree Pole Branchs	1	17.700	19.470	1.00	1.00	66.00	120.00	0.000	0.000	2056.04	0.00	0.00
							Totals:		**8,699.48**			**22,381.80**		

Total Applied Force Summary

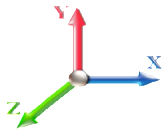
Structure:	CT02408-S-SBA		**Code:**	EIA/TIA-222-G	4/30/2018
Site Name:	Sharon 3 CT		**Exposure:**	B	
Height:	130.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 10

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 89 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 17

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		463.19	2168.33	0.00	0.00
10.00		449.69	2109.71	0.00	0.00
15.00		436.20	2051.09	0.00	0.00
20.00		422.70	1992.47	0.00	0.00
25.00		409.20	1933.85	0.00	0.00
25.50		40.18	190.16	0.00	0.00
30.00		360.97	3240.51	0.00	0.00
33.50		281.94	2454.75	0.00	0.00
35.00		120.24	546.27	0.00	0.00
40.00		406.85	1782.80	0.00	0.00
45.00		405.61	1724.18	0.00	0.00
50.00		402.37	1665.56	0.00	0.00
55.00		397.42	1606.94	0.00	0.00
60.00		390.96	1548.32	0.00	0.00
65.00		383.16	1489.70	0.00	0.00
70.00		374.15	1431.08	0.00	0.00
75.00		370.41	2423.88	0.00	0.00
75.50		36.14	236.40	0.00	0.00
77.50	(1) attachments	2199.93	592.03	0.00	0.00
80.00		177.48	578.73	0.00	0.00
85.00	(1) attachments	2906.34	1239.77	0.00	0.00
90.00		334.76	1069.52	0.00	0.00
95.00	(1) attachments	2962.63	1139.28	0.00	0.00
100.00	(40) attachments	2593.21	3346.25	0.00	0.00
105.00	(1) attachments	2670.17	832.98	0.00	0.00
110.00		276.20	671.11	0.00	0.00
115.00	(1) attachments	2910.05	749.24	0.00	0.00
118.00	(25) attachments	2616.52	3953.69	0.00	0.00
120.00		94.79	225.17	0.00	0.00
125.00	(1) attachments	2356.93	575.72	0.00	0.00
130.00	(22) attachments	3415.73	2329.64	0.00	0.00
	Totals:	**31,666.11**	**47,899.16**	**0.00**	**0.00**

Calculated Forces

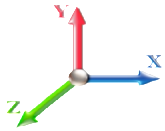
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 89 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 17

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.88	-31.69	0.00	-2979.7	0.00	2979.72	6164.54	3082.27	18158.3	9092.69	0.00	0.000	0.000	0.336
5.00	-45.68	-31.28	0.00	-2821.2	0.00	2821.25	6071.55	3035.77	17364.5	8695.20	0.04	-0.064	0.000	0.332
10.00	-43.53	-30.88	0.00	-2664.8	0.00	2664.85	5973.49	2986.74	16572.6	8298.64	0.14	-0.130	0.000	0.329
15.00	-41.44	-30.49	0.00	-2510.4	0.00	2510.46	5870.37	2935.18	15783.8	7903.67	0.31	-0.199	0.000	0.325
20.00	-39.42	-30.11	0.00	-2358.0	0.00	2358.02	5762.18	2881.09	14999.6	7510.95	0.56	-0.270	0.000	0.321
25.00	-37.46	-29.71	0.00	-2207.4	0.00	2207.49	5648.92	2824.46	14221.0	7121.12	0.88	-0.343	0.000	0.317
25.50	-37.25	-29.70	0.00	-2192.6	0.00	2192.64	5637.32	2818.66	14143.6	7082.32	0.92	-0.350	0.000	0.316
30.00	-33.98	-29.35	0.00	-2059.0	0.00	2059.01	5530.60	2765.30	13449.6	6734.83	1.28	-0.419	0.000	0.312
33.50	-31.51	-29.07	0.00	-1956.2	0.00	1956.28	5496.96	2748.48	13237.5	6628.61	1.61	-0.474	0.000	0.301
35.00	-30.94	-28.97	0.00	-1912.6	0.00	1912.68	5460.05	2730.03	13008.4	6513.87	1.76	-0.498	0.000	0.299
40.00	-29.12	-28.59	0.00	-1767.8	0.00	1767.81	5333.74	2666.87	12250.7	6134.50	2.33	-0.575	0.000	0.294
45.00	-27.36	-28.20	0.00	-1624.8	0.00	1624.87	5202.37	2601.19	11503.5	5760.34	2.97	-0.654	0.000	0.287
50.00	-25.66	-27.82	0.00	-1483.8	0.00	1483.85	5065.93	2532.97	10768.1	5392.07	3.70	-0.734	0.000	0.280
55.00	-24.02	-27.43	0.00	-1344.7	0.00	1344.77	4924.43	2462.22	10045.7	5030.32	4.52	-0.817	0.000	0.272
60.00	-22.44	-27.05	0.00	-1207.6	0.00	1207.60	4777.86	2388.93	9337.60	4675.74	5.42	-0.901	0.000	0.263
65.00	-20.92	-26.68	0.00	-1072.3	0.00	1072.34	4626.23	2313.11	8645.15	4329.00	6.41	-0.987	0.000	0.252
70.00	-19.45	-26.31	0.00	-938.96	0.00	938.96	4469.53	2234.76	7969.63	3990.74	7.49	-1.073	0.000	0.240
75.00	-17.02	-25.90	0.00	-807.43	0.00	807.43	4273.25	2136.63	7253.77	3632.28	8.66	-1.159	0.000	0.226
75.50	-16.77	-25.87	0.00	-794.48	0.00	794.48	3583.96	1791.98	6182.69	3095.94	8.79	-1.168	0.000	0.262
77.50	-16.21	-23.67	0.00	-742.75	0.00	742.75	3533.61	1766.81	5974.82	2991.85	9.28	-1.204	0.000	0.253
80.00	-15.60	-23.50	0.00	-683.58	0.00	683.58	3469.54	1734.77	5717.95	2863.23	9.93	-1.252	0.000	0.243
85.00	-14.40	-20.59	0.00	-566.09	0.00	566.09	3337.60	1668.80	5214.74	2611.24	11.29	-1.343	0.000	0.221
90.00	-13.31	-20.25	0.00	-463.16	0.00	463.16	3186.12	1593.06	4705.25	2356.12	12.75	-1.431	0.000	0.201
95.00	-12.22	-17.27	0.00	-361.94	0.00	361.94	3003.28	1501.64	4178.09	2092.15	14.29	-1.515	0.000	0.177
95.00	-12.22	-17.27	0.00	-361.94	0.00	361.94	2438.11	1219.05	3404.33	1704.70	14.29	-1.515	0.000	0.218
100.00	-8.92	-14.60	0.00	-275.58	0.00	275.58	2329.09	1164.55	3052.69	1528.62	15.92	-1.592	0.000	0.184
105.00	-8.15	-11.92	0.00	-202.58	0.00	202.58	2202.60	1101.30	2698.31	1351.16	17.64	-1.675	0.000	0.154
110.00	-7.48	-11.63	0.00	-142.98	0.00	142.98	2050.23	1025.12	2336.11	1169.79	19.43	-1.748	0.000	0.126
115.00	-6.81	-8.71	0.00	-84.82	0.00	84.82	1897.87	948.93	2000.01	1001.49	21.30	-1.809	0.000	0.088
118.00	-2.94	-5.97	0.00	-58.70	0.00	58.70	1806.45	903.22	1810.87	906.78	22.45	-1.837	0.000	0.066
120.00	-2.72	-5.86	0.00	-46.77	0.00	46.77	1745.50	872.75	1690.00	846.25	23.22	-1.853	0.000	0.057
120.00	-2.72	-5.86	0.00	-46.77	0.00	46.77	583.92	291.96	571.48	339.36	23.22	-1.853	0.000	0.143
125.00	-2.22	-3.49	0.00	-17.45	0.00	17.45	583.92	291.96	571.48	339.36	25.18	-1.881	0.000	0.055
130.00	0.00	-3.42	0.00	0.00	0.00	0.00	583.92	291.96	571.48	339.36	27.15	-1.890	0.000	0.000

Wind Loading - Shaft

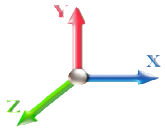
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 89 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 17

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	13.485	14.83	453.67	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	13.485	14.83	440.64	0.650	0.000	5.00	30.025	19.52	463.2	0.0	1499.6
10.00		1.00	0.70	13.485	14.83	427.61	0.650	0.000	5.00	29.151	18.95	449.7	0.0	1455.7
15.00		1.00	0.70	13.485	14.83	414.58	0.650	0.000	5.00	28.276	18.38	436.2	0.0	1411.7
20.00		1.00	0.70	13.485	14.83	401.55	0.650	0.000	5.00	27.401	17.81	422.7	0.0	1367.7
25.00		1.00	0.70	13.485	14.83	388.53	0.650	0.000	5.00	26.526	17.24	409.2	0.0	1323.8
25.50	Bot - Section 2	1.00	0.70	13.485	14.83	387.22	0.650	0.000	0.50	2.604	1.69	40.2	0.0	130.0
30.00		1.00	0.70	13.496	14.85	375.66	0.650	0.000	4.50	23.380	15.20	361.0	0.0	2316.4
33.50	Top - Section 1	1.00	0.72	13.928	15.32	372.36	0.650	0.000	3.50	17.694	11.50	281.9	0.0	1752.4
35.00		1.00	0.73	14.104	15.51	376.33	0.650	0.000	1.50	7.452	4.84	120.2	0.0	371.7
40.00		1.00	0.76	14.652	16.12	370.00	0.650	0.000	5.00	24.272	15.78	406.8	0.0	1210.5
45.00		1.00	0.79	15.154	16.67	362.47	0.650	0.000	5.00	23.397	15.21	405.6	0.0	1166.5
50.00		1.00	0.81	15.617	17.18	353.94	0.650	0.000	5.00	22.522	14.64	402.4	0.0	1122.5
55.00		1.00	0.83	16.048	17.65	344.58	0.650	0.000	5.00	21.647	14.07	397.4	0.0	1078.6
60.00		1.00	0.85	16.452	18.10	334.50	0.650	0.000	5.00	20.772	13.50	391.0	0.0	1034.6
65.00		1.00	0.87	16.833	18.52	323.79	0.650	0.000	5.00	19.898	12.93	383.2	0.0	990.6
70.00	Bot - Section 3	1.00	0.89	17.193	18.91	312.53	0.650	0.000	5.00	19.023	12.36	374.1	0.0	946.7
75.00		1.00	0.91	17.535	19.29	300.77	0.650	0.000	5.00	18.465	12.00	370.4	0.0	1691.3
75.50	Top - Section 2	1.00	0.91	17.568	19.33	299.57	0.650	0.000	0.50	1.798	1.17	36.1	0.0	164.6
77.50	Appurtenance(s)	1.00	0.92	17.700	19.47	300.13	0.650	0.000	2.00	7.106	4.62	143.9	0.0	303.4
80.00		1.00	0.93	17.861	19.65	294.00	0.650	0.000	2.50	8.686	5.65	177.5	0.0	370.7
85.00	Appurtenance(s)	1.00	0.94	18.173	19.99	281.43	0.650	0.000	5.00	16.716	10.87	347.5	0.0	713.2
90.00		1.00	0.96	18.473	20.32	268.49	0.650	0.000	5.00	15.841	10.30	334.8	0.0	675.5
95.00	Top - Section 3	1.00	0.97	18.760	20.64	255.20	0.650	0.000	5.00	14.966	9.73	321.2	0.0	637.8
100.00	Appurtenance(s)	1.00	0.99	19.037	20.94	241.60	0.650	0.000	5.00	14.091	9.16	306.9	0.0	501.1
105.00	Appurtenance(s)	1.00	1.00	19.304	21.23	227.70	0.650	0.000	5.00	13.216	8.59	291.9	0.0	469.7
110.00		1.00	1.02	19.563	21.52	213.53	0.650	0.000	5.00	12.341	8.02	276.2	0.0	438.3
115.00	Appurtenance(s)	1.00	1.03	19.813	21.79	199.10	0.650	0.000	5.00	11.467	7.45	259.9	0.0	406.9
118.00	Appurtenance(s)	1.00	1.04	19.959	21.95	190.32	0.650	0.000	3.00	6.460	4.20	147.5	0.0	229.0
120.00	Top - Section 4	1.00	1.04	20.055	22.06	184.42	0.650	0.000	2.00	4.132	2.69	94.8	0.0	146.4
125.00	Appurtenance(s)	1.00	1.05	20.290	22.32	182.68	0.600	0.000	5.00	10.000	6.00	214.3	0.0	285.6
130.00	Appurtenance(s)	1.00	1.07	20.519	22.57	183.71	0.600	0.000	5.00	10.000	6.00	216.7	0.0	285.6
								Totals:	**130.00**			**9,284.3**		**26,498.1**

Discrete Appurtenance Forces

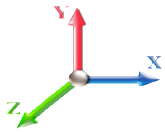
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 89 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 17

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	T-Arm	3	20.519	22.571	0.56	0.75	16.88	1080.00	0.000	0.000	609.42	0.00	0.00
2	130.00	Tree Pole Branchs	1	20.519	22.571	1.00	1.00	12.00	90.00	0.000	0.000	433.36	0.00	0.00
3	130.00	FD9R6004/2C-3L	6	20.519	22.571	0.54	0.80	1.16	16.74	0.000	0.000	41.81	0.00	0.00
4	130.00	BXA-70040-6CF	1	20.519	22.571	0.56	0.80	8.05	34.20	0.000	0.000	290.80	0.00	0.00
5	130.00	BXA-171085-12BF_2	3	20.519	22.571	0.70	0.80	9.98	40.50	0.000	0.000	360.30	0.00	0.00
6	130.00	LPA80080/6CF	6	20.519	22.571	1.20	0.80	31.13	113.40	0.000	0.000	1124.37	0.00	0.00
7	130.00	BXA-70063-6CF_2	2	20.519	22.571	0.62	0.80	9.39	30.60	0.000	0.000	338.99	0.00	0.00
8	125.00	Tree Pole Branchs	1	20.290	22.319	1.00	1.00	60.00	90.00	0.000	0.000	2142.67	0.00	0.00
9	118.00	ACU-A20-N RET	4	19.959	21.955	0.54	0.80	0.30	3.60	0.000	0.000	10.54	0.00	0.00
10	118.00	800MHz Filter	2	19.959	21.955	0.54	0.80	0.84	15.84	0.000	0.000	29.37	0.00	0.00
11	118.00	800 MHz	4	19.959	21.955	0.54	0.80	5.66	214.20	0.000	0.000	198.83	0.00	0.00
12	118.00	1900 MHz	2	19.959	21.955	0.54	0.80	2.97	108.00	0.000	0.000	104.31	0.00	0.00
13	118.00	APXVSPP18-C-A20	2	19.959	21.955	0.66	0.80	10.64	102.60	0.000	0.000	373.68	0.00	0.00
14	118.00	TD-RRH8x20-25	2	19.959	21.955	0.54	0.80	4.34	126.00	0.000	0.000	152.51	0.00	0.00
15	118.00	DT465B-2XR	2	19.959	21.955	0.66	0.80	12.06	104.40	0.000	0.000	423.49	0.00	0.00
16	118.00	T-Arm	3	19.959	21.955	0.56	0.75	19.41	1080.00	0.000	0.000	681.70	0.00	0.00
17	118.00	PRK-1245L (kicker kit)	1	19.959	21.955	0.56	0.75	5.34	418.42	0.000	0.000	187.71	0.00	0.00
18	118.00	(3) Pipe 2.0 STD	1	19.959	21.955	0.56	0.75	4.57	272.12	0.000	0.000	160.64	0.00	0.00
19	118.00	PRK-SFS-L	2	19.959	21.955	0.56	0.75	4.16	252.00	0.000	0.000	146.22	0.00	0.00
20	115.00	Tree Pole Branchs	1	19.813	21.794	1.00	1.00	76.00	90.00	0.000	0.000	2650.15	0.00	0.00
21	105.00	Tree Pole Branchs	1	19.304	21.235	1.00	1.00	70.00	90.00	0.000	0.000	2378.30	0.00	0.00
22	100.00	800 10764	1	19.037	20.941	0.63	0.80	3.71	36.72	0.000	0.000	124.35	0.00	0.00
23	100.00	T-Arm	3	19.037	20.941	0.56	0.75	16.88	1080.00	0.000	0.000	565.40	0.00	0.00
24	100.00	7770	6	19.037	20.941	0.61	0.80	20.22	189.00	0.000	0.000	677.56	0.00	0.00
25	100.00	AM-X-CD-16-65-00T-RET	2	19.037	20.941	0.61	0.80	9.71	87.30	0.000	0.000	325.47	0.00	0.00
26	100.00	ABT-DF-DMADBH	3	19.037	20.941	0.54	0.80	0.08	2.97	0.000	0.000	2.69	0.00	0.00
27	100.00	DC6-48-60-18-8F	1	19.037	20.941	0.54	0.80	0.49	28.62	0.000	0.000	16.52	0.00	0.00
28	100.00	LGP21401	12	19.037	20.941	0.54	0.80	8.30	152.28	0.000	0.000	278.00	0.00	0.00
29	100.00	LGP21901	6	19.037	20.941	0.54	0.80	0.74	29.70	0.000	0.000	24.78	0.00	0.00
30	100.00	RRUS11	6	19.037	20.941	0.54	0.80	8.10	275.40	0.000	0.000	271.54	0.00	0.00
31	95.00	Tree Pole Branchs	1	18.760	20.636	1.00	1.00	80.00	90.00	0.000	0.000	2641.44	0.00	0.00
32	85.00	Tree Pole Branchs	1	18.173	19.991	1.00	1.00	80.00	90.00	0.000	0.000	2558.81	0.00	0.00
33	77.50	Tree Pole Branchs	1	17.700	19.470	1.00	1.00	66.00	90.00	0.000	0.000	2056.04	0.00	0.00
							Totals:		**6,524.61**			**22,381.80**		

Total Applied Force Summary

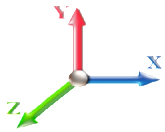
Structure:	CT02408-S-SBA		**Code:**	EIA/TIA-222-G	4/30/2018
Site Name:	Sharon 3 CT		**Exposure:**	B	
Height:	130.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 89 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 17

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		463.19	1626.25	0.00	0.00
10.00		449.69	1582.28	0.00	0.00
15.00		436.20	1538.32	0.00	0.00
20.00		422.70	1494.35	0.00	0.00
25.00		409.20	1450.39	0.00	0.00
25.50		40.18	142.62	0.00	0.00
30.00		360.97	2430.39	0.00	0.00
33.50		281.94	1841.06	0.00	0.00
35.00		120.24	409.70	0.00	0.00
40.00		406.85	1337.10	0.00	0.00
45.00		405.61	1293.14	0.00	0.00
50.00		402.37	1249.17	0.00	0.00
55.00		397.42	1205.21	0.00	0.00
60.00		390.96	1161.24	0.00	0.00
65.00		383.16	1117.28	0.00	0.00
70.00		374.15	1073.31	0.00	0.00
75.00		370.41	1817.91	0.00	0.00
75.50		36.14	177.30	0.00	0.00
77.50	(1) attachments	2199.93	444.02	0.00	0.00
80.00		177.48	434.05	0.00	0.00
85.00	(1) attachments	2906.34	929.83	0.00	0.00
90.00		334.76	802.14	0.00	0.00
95.00	(1) attachments	2962.63	854.46	0.00	0.00
100.00	(40) attachments	2593.21	2509.69	0.00	0.00
105.00	(1) attachments	2670.17	624.74	0.00	0.00
110.00		276.20	503.33	0.00	0.00
115.00	(1) attachments	2910.05	561.93	0.00	0.00
118.00	(25) attachments	2616.52	2965.27	0.00	0.00
120.00		94.79	168.88	0.00	0.00
125.00	(1) attachments	2356.93	431.79	0.00	0.00
130.00	(22) attachments	3415.73	1747.23	0.00	0.00
	Totals:	**31,666.11**	**35,924.37**	**0.00**	**0.00**

Calculated Forces

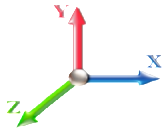
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 89 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 17

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-35.91	-31.69	0.00	-2971.0	0.00	2971.07	6164.54	3082.27	18158.3	9092.69	0.00	0.000	0.000	0.333
5.00	-34.24	-31.26	0.00	-2812.6	0.00	2812.64	6071.55	3035.77	17364.5	8695.20	0.04	-0.064	0.000	0.329
10.00	-32.63	-30.85	0.00	-2656.3	0.00	2656.33	5973.49	2986.74	16572.6	8298.64	0.14	-0.130	0.000	0.326
15.00	-31.05	-30.44	0.00	-2502.1	0.00	2502.10	5870.37	2935.18	15783.8	7903.67	0.31	-0.198	0.000	0.322
20.00	-29.52	-30.05	0.00	-2349.8	0.00	2349.88	5762.18	2881.09	14999.6	7510.95	0.56	-0.269	0.000	0.318
25.00	-28.05	-29.65	0.00	-2199.6	0.00	2199.62	5648.92	2824.46	14221.0	7121.12	0.88	-0.341	0.000	0.314
25.50	-27.89	-29.63	0.00	-2184.7	0.00	2184.79	5637.32	2818.66	14143.6	7082.32	0.92	-0.349	0.000	0.314
30.00	-25.43	-29.28	0.00	-2051.4	0.00	2051.45	5530.60	2765.30	13449.6	6734.83	1.28	-0.417	0.000	0.309
33.50	-23.57	-29.00	0.00	-1948.9	0.00	1948.96	5496.96	2748.48	13237.5	6628.61	1.61	-0.472	0.000	0.298
35.00	-23.14	-28.90	0.00	-1905.4	0.00	1905.45	5460.05	2730.03	13008.4	6513.87	1.76	-0.496	0.000	0.297
40.00	-21.77	-28.51	0.00	-1760.9	0.00	1760.96	5333.74	2666.87	12250.7	6134.50	2.32	-0.573	0.000	0.291
45.00	-20.44	-28.12	0.00	-1618.4	0.00	1618.41	5202.37	2601.19	11503.5	5760.34	2.96	-0.651	0.000	0.285
50.00	-19.16	-27.73	0.00	-1477.8	0.00	1477.82	5065.93	2532.97	10768.1	5392.07	3.69	-0.732	0.000	0.278
55.00	-17.92	-27.34	0.00	-1339.1	0.00	1339.18	4924.43	2462.22	10045.7	5030.32	4.50	-0.814	0.000	0.270
60.00	-16.72	-26.96	0.00	-1202.4	0.00	1202.48	4777.86	2388.93	9337.60	4675.74	5.40	-0.898	0.000	0.261
65.00	-15.57	-26.58	0.00	-1067.7	0.00	1067.70	4626.23	2313.11	8645.15	4329.00	6.39	-0.983	0.000	0.250
70.00	-14.47	-26.21	0.00	-934.80	0.00	934.80	4469.53	2234.76	7969.63	3990.74	7.47	-1.069	0.000	0.238
75.00	-12.63	-25.81	0.00	-803.77	0.00	803.77	4273.25	2136.63	7253.77	3632.28	8.63	-1.155	0.000	0.224
75.50	-12.45	-25.78	0.00	-790.86	0.00	790.86	3583.96	1791.98	6182.69	3095.94	8.75	-1.164	0.000	0.259
77.50	-12.03	-23.58	0.00	-739.31	0.00	739.31	3533.61	1766.81	5974.82	2991.85	9.25	-1.199	0.000	0.251
80.00	-11.57	-23.40	0.00	-680.37	0.00	680.37	3469.54	1734.77	5717.95	2863.23	9.89	-1.247	0.000	0.241
85.00	-10.68	-20.49	0.00	-563.34	0.00	563.34	3337.60	1668.80	5214.74	2611.24	11.25	-1.338	0.000	0.219
90.00	-9.85	-20.16	0.00	-460.87	0.00	460.87	3186.12	1593.06	4705.25	2356.12	12.70	-1.426	0.000	0.199
95.00	-9.05	-17.18	0.00	-360.10	0.00	360.10	3003.28	1501.64	4178.09	2092.15	14.24	-1.509	0.000	0.175
95.00	-9.05	-17.18	0.00	-360.10	0.00	360.10	2438.11	1219.05	3404.33	1704.70	14.24	-1.509	0.000	0.215
100.00	-6.59	-14.53	0.00	-274.17	0.00	274.17	2329.09	1164.55	3052.69	1528.62	15.86	-1.585	0.000	0.182
105.00	-6.03	-11.85	0.00	-201.51	0.00	201.51	2202.60	1101.30	2698.31	1351.16	17.57	-1.668	0.000	0.152
110.00	-5.52	-11.57	0.00	-142.23	0.00	142.23	2050.23	1025.12	2336.11	1169.79	19.36	-1.741	0.000	0.124
115.00	-5.04	-8.65	0.00	-84.38	0.00	84.38	1897.87	948.93	2000.01	1001.49	21.22	-1.801	0.000	0.087
118.00	-2.16	-5.94	0.00	-58.44	0.00	58.44	1806.45	903.22	1810.87	906.78	22.36	-1.829	0.000	0.066
120.00	-1.99	-5.84	0.00	-46.56	0.00	46.56	1745.50	872.75	1690.00	846.25	23.13	-1.845	0.000	0.056
120.00	-1.99	-5.84	0.00	-46.56	0.00	46.56	583.92	291.96	571.48	339.36	23.13	-1.845	0.000	0.141
125.00	-1.63	-3.47	0.00	-17.36	0.00	17.36	583.92	291.96	571.48	339.36	25.08	-1.873	0.000	0.054
130.00	0.00	-3.42	0.00	0.00	0.00	0.00	583.92	291.96	571.48	339.36	27.05	-1.882	0.000	0.000

Wind Loading - Shaft

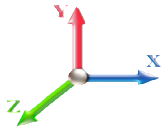
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 16

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	2.724	3.00	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	2.724	3.00	0.00	1.200	1.656	5.00	31.405	37.69	112.9	735.1	2734.6
10.00		1.00	0.70	2.724	3.00	0.00	1.200	1.775	5.00	30.630	36.76	110.1	766.4	2707.3
15.00		1.00	0.70	2.724	3.00	0.00	1.200	1.848	5.00	29.816	35.78	107.2	775.2	2657.5
20.00		1.00	0.70	2.724	3.00	0.00	1.200	1.902	5.00	28.986	34.78	104.2	774.1	2597.7
25.00		1.00	0.70	2.724	3.00	0.00	1.200	1.945	5.00	28.147	33.78	101.2	767.1	2532.1
25.50	Bot - Section 2	1.00	0.70	2.724	3.00	0.00	1.200	1.949	0.50	2.767	3.32	9.9	76.6	249.9
30.00		1.00	0.70	2.726	3.00	0.00	1.200	1.981	4.50	24.866	29.84	89.5	690.3	3778.9
33.50	Top - Section 1	1.00	0.72	2.813	3.09	0.00	1.200	2.003	3.50	18.863	22.64	70.1	530.5	2867.0
35.00		1.00	0.73	2.849	3.13	0.00	1.200	2.012	1.50	7.955	9.55	29.9	226.1	721.7
40.00		1.00	0.76	2.960	3.26	0.00	1.200	2.039	5.00	25.971	31.16	101.5	737.8	2351.8
45.00		1.00	0.79	3.061	3.37	0.00	1.200	2.063	5.00	25.116	30.14	101.5	720.4	2275.8
50.00		1.00	0.81	3.155	3.47	0.00	1.200	2.085	5.00	24.259	29.11	101.0	701.6	2198.3
55.00		1.00	0.83	3.242	3.57	0.00	1.200	2.105	5.00	23.401	28.08	100.1	681.6	2119.7
60.00		1.00	0.85	3.323	3.66	0.00	1.200	2.123	5.00	22.542	27.05	98.9	660.5	2040.0
65.00		1.00	0.87	3.400	3.74	0.00	1.200	2.140	5.00	21.681	26.02	97.3	638.6	1959.5
70.00	Bot - Section 3	1.00	0.89	3.473	3.82	0.00	1.200	2.156	5.00	20.820	24.98	95.4	615.9	1878.2
75.00		1.00	0.91	3.542	3.90	0.00	1.200	2.171	5.00	20.274	24.33	94.8	602.6	2857.7
75.50	Top - Section 2	1.00	0.91	3.549	3.90	0.00	1.200	2.173	0.50	1.979	2.38	9.3	60.0	279.5
77.50	Appurtenance(s)	1.00	0.92	3.575	3.93	0.00	1.200	2.178	2.00	7.832	9.40	37.0	236.3	640.8
80.00		1.00	0.93	3.608	3.97	0.00	1.200	2.185	2.50	9.596	11.52	45.7	289.3	783.7
85.00	Appurtenance(s)	1.00	0.94	3.671	4.04	0.00	1.200	2.198	5.00	18.548	22.26	89.9	554.2	1505.1
90.00		1.00	0.96	3.731	4.10	0.00	1.200	2.211	5.00	17.683	21.22	87.1	529.2	1429.9
95.00	Top - Section 3	1.00	0.97	3.789	4.17	0.00	1.200	2.223	5.00	16.818	20.18	84.1	503.7	1354.1
100.00	Appurtenance(s)	1.00	0.99	3.845	4.23	0.00	1.200	2.234	5.00	15.953	19.14	81.0	477.8	1145.9
105.00	Appurtenance(s)	1.00	1.00	3.899	4.29	0.00	1.200	2.245	5.00	15.087	18.10	77.7	451.5	1077.7
110.00		1.00	1.02	3.952	4.35	0.00	1.200	2.256	5.00	14.221	17.07	74.2	424.8	1009.1
115.00	Appurtenance(s)	1.00	1.03	4.002	4.40	0.00	1.200	2.266	5.00	13.355	16.03	70.5	397.8	940.2
118.00	Appurtenance(s)	1.00	1.04	4.032	4.43	0.00	1.200	2.272	3.00	7.596	9.12	40.4	228.8	534.2
120.00	Top - Section 4	1.00	1.04	4.051	4.46	0.00	1.200	2.276	2.00	4.890	5.87	26.1	148.2	343.4
125.00	Appurtenance(s)	1.00	1.05	4.099	4.51	0.00	1.200	2.285	5.00	11.904	14.28	64.4	366.9	747.7
130.00	Appurtenance(s)	1.00	1.07	4.145	4.56	0.00	1.200	2.294	5.00	11.912	14.29	65.2	368.4	749.3
								Totals:	**130.00**			**2,378.1**		**51,068.2**

Discrete Appurtenance Forces

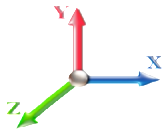
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 16

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	T-Arm	3	4.145	4.559	0.56	0.75	36.23	2301.07	0.000	0.000	165.18	0.00	0.00
2	130.00	Tree Pole Branchs	1	4.145	4.559	1.00	1.00	14.75	837.56	0.000	0.000	67.26	0.00	0.00
3	130.00	FD9R6004/2C-3L	6	4.145	4.559	0.54	0.80	3.03	71.82	0.000	0.000	13.82	0.00	0.00
4	130.00	BXA-70040-6CF	1	4.145	4.559	0.58	0.80	10.50	342.47	0.000	0.000	47.87	0.00	0.00
5	130.00	BXA-171085-12BF_2	3	4.145	4.559	0.72	0.80	16.95	346.74	0.000	0.000	77.26	0.00	0.00
6	130.00	LPA80080/6CF	6	4.145	4.559	1.10	0.80	39.17	1784.17	0.000	0.000	178.60	0.00	0.00
7	130.00	BXA-70063-6CF_2	2	4.145	4.559	0.65	0.80	14.52	345.64	0.000	0.000	66.19	0.00	0.00
8	125.00	Tree Pole Branchs	1	4.099	4.508	1.00	1.00	73.71	833.97	0.000	0.000	332.31	0.00	0.00
9	118.00	ACU-A20-N RET	4	4.032	4.435	0.54	0.80	1.13	21.97	0.000	0.000	5.00	0.00	0.00
10	118.00	800MHz Filter	2	4.032	4.435	0.54	0.80	1.74	57.05	0.000	0.000	7.71	0.00	0.00
11	118.00	800 MHz	4	4.032	4.435	0.54	0.80	8.89	602.16	0.000	0.000	39.43	0.00	0.00
12	118.00	1900 MHz	2	4.032	4.435	0.54	0.80	4.74	313.42	0.000	0.000	21.02	0.00	0.00
13	118.00	APXVSPP18-C-A20	2	4.032	4.435	0.68	0.80	15.96	487.81	0.000	0.000	70.80	0.00	0.00
14	118.00	TD-RRH8x20-25	2	4.032	4.435	0.54	0.80	5.50	474.01	0.000	0.000	24.40	0.00	0.00
15	118.00	DT465B-2XR	2	4.032	4.435	0.68	0.80	14.81	770.07	0.000	0.000	65.68	0.00	0.00
16	118.00	T-Arm	3	4.032	4.435	0.56	0.75	41.45	2290.46	0.000	0.000	183.82	0.00	0.00
17	118.00	PRK-1245L (kicker kit)	1	4.032	4.435	0.56	0.75	12.63	885.27	0.000	0.000	56.00	0.00	0.00
18	118.00	(3) Pipe 2.0 STD	1	4.032	4.435	0.56	0.75	10.39	1132.28	0.000	0.000	46.08	0.00	0.00
19	118.00	PRK-SFS-L	2	4.032	4.435	0.56	0.75	9.84	673.99	0.000	0.000	43.62	0.00	0.00
20	115.00	Tree Pole Branchs	1	4.002	4.402	1.00	1.00	93.22	826.38	0.000	0.000	410.38	0.00	0.00
21	105.00	Tree Pole Branchs	1	3.899	4.289	1.00	1.00	85.72	818.17	0.000	0.000	367.67	0.00	0.00
22	100.00	800 10764	1	3.845	4.230	0.66	0.80	5.66	175.72	0.000	0.000	23.93	0.00	0.00
23	100.00	T-Arm	3	3.845	4.230	0.56	0.75	35.73	2272.56	0.000	0.000	151.13	0.00	0.00
24	100.00	7770	6	3.845	4.230	0.64	0.80	26.55	1357.56	0.000	0.000	112.32	0.00	0.00
25	100.00	AM-X-CD-16-65-00T-RET	2	3.845	4.230	0.63	0.80	14.70	438.94	0.000	0.000	62.16	0.00	0.00
26	100.00	ABT-DF-DMADBH	3	3.845	4.230	0.54	0.80	0.48	10.43	0.000	0.000	2.02	0.00	0.00
27	100.00	DC6-48-60-18-8F	1	3.845	4.230	0.54	0.80	0.79	99.62	0.000	0.000	3.36	0.00	0.00
28	100.00	LGP21401	12	3.845	4.230	0.54	0.80	15.18	501.97	0.000	0.000	64.21	0.00	0.00
29	100.00	LGP21901	6	3.845	4.230	0.54	0.80	2.25	85.48	0.000	0.000	9.54	0.00	0.00
30	100.00	RRUS11	6	3.845	4.230	0.54	0.80	10.71	826.41	0.000	0.000	45.31	0.00	0.00
31	95.00	Tree Pole Branchs	1	3.789	4.168	1.00	1.00	97.78	809.22	0.000	0.000	407.61	0.00	0.00
32	85.00	Tree Pole Branchs	1	3.671	4.038	1.00	1.00	97.59	799.39	0.000	0.000	394.06	0.00	0.00
33	77.50	Tree Pole Branchs	1	3.575	3.933	1.00	1.00	80.38	791.30	0.000	0.000	316.11	0.00	0.00
							Totals:		**24,385.06**			**3,881.87**		

Total Applied Force Summary

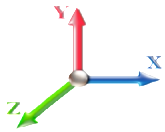
Structure:	CT02408-S-SBA		**Code:**	EIA/TIA-222-G	4/30/2018
Site Name:	Sharon 3 CT		**Exposure:**	B	
Height:	130.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 18

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 16

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		112.92	2903.45	0.00	0.00
10.00		110.13	2876.12	0.00	0.00
15.00		107.20	2826.34	0.00	0.00
20.00		104.22	2766.57	0.00	0.00
25.00		101.20	2700.98	0.00	0.00
25.50		9.95	266.78	0.00	0.00
30.00		89.48	3930.83	0.00	0.00
33.50		70.05	2985.22	0.00	0.00
35.00		29.92	772.32	0.00	0.00
40.00		101.46	2520.63	0.00	0.00
45.00		101.48	2444.59	0.00	0.00
50.00		101.02	2367.14	0.00	0.00
55.00		100.13	2288.50	0.00	0.00
60.00		98.88	2208.85	0.00	0.00
65.00		97.31	2128.31	0.00	0.00
70.00		95.44	2046.99	0.00	0.00
75.00		94.79	3026.51	0.00	0.00
75.50		9.27	296.43	0.00	0.00
77.50	(1) attachments	353.07	1499.62	0.00	0.00
80.00		45.70	868.07	0.00	0.00
85.00	(1) attachments	483.94	2473.35	0.00	0.00
90.00		87.10	1598.70	0.00	0.00
95.00	(1) attachments	491.73	2332.20	0.00	0.00
100.00	(40) attachments	554.95	7083.40	0.00	0.00
105.00	(1) attachments	445.33	1982.62	0.00	0.00
110.00		74.18	1095.90	0.00	0.00
115.00	(1) attachments	480.93	1853.37	0.00	0.00
118.00	(25) attachments	604.00	8294.77	0.00	0.00
120.00		26.15	373.33	0.00	0.00
125.00	(1) attachments	396.71	1656.56	0.00	0.00
130.00	(22) attachments	681.35	6853.62	0.00	0.00
	Totals:	**6,259.99**	**79,322.08**	**0.00**	**0.00**

Calculated Forces

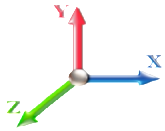
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 16

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-79.32	-6.27	0.00	-578.88	0.00	578.88	6164.54	3082.27	18158.3	9092.69	0.00	0.000	0.000	0.077
5.00	-76.42	-6.17	0.00	-547.53	0.00	547.53	6071.55	3035.77	17364.5	8695.20	0.01	-0.012	0.000	0.076
10.00	-73.54	-6.08	0.00	-516.68	0.00	516.68	5973.49	2986.74	16572.6	8298.64	0.03	-0.025	0.000	0.075
15.00	-70.71	-5.99	0.00	-486.29	0.00	486.29	5870.37	2935.18	15783.8	7903.67	0.06	-0.039	0.000	0.074
20.00	-67.94	-5.90	0.00	-456.36	0.00	456.36	5762.18	2881.09	14999.6	7510.95	0.11	-0.052	0.000	0.073
25.00	-65.24	-5.80	0.00	-426.88	0.00	426.88	5648.92	2824.46	14221.0	7121.12	0.17	-0.066	0.000	0.071
25.50	-64.97	-5.80	0.00	-423.98	0.00	423.98	5637.32	2818.66	14143.6	7082.32	0.18	-0.068	0.000	0.071
30.00	-61.04	-5.72	0.00	-397.89	0.00	397.89	5530.60	2765.30	13449.6	6734.83	0.25	-0.081	0.000	0.070
33.50	-58.06	-5.65	0.00	-377.88	0.00	377.88	5496.96	2748.48	13237.5	6628.61	0.31	-0.092	0.000	0.068
35.00	-57.28	-5.63	0.00	-369.41	0.00	369.41	5460.05	2730.03	13008.4	6513.87	0.34	-0.096	0.000	0.067
40.00	-54.76	-5.54	0.00	-341.27	0.00	341.27	5333.74	2666.87	12250.7	6134.50	0.45	-0.111	0.000	0.066
45.00	-52.32	-5.44	0.00	-313.58	0.00	313.58	5202.37	2601.19	11503.5	5760.34	0.58	-0.126	0.000	0.064
50.00	-49.95	-5.35	0.00	-286.36	0.00	286.36	5065.93	2532.97	10768.1	5392.07	0.72	-0.142	0.000	0.063
55.00	-47.66	-5.26	0.00	-259.60	0.00	259.60	4924.43	2462.22	10045.7	5030.32	0.87	-0.158	0.000	0.061
60.00	-45.45	-5.17	0.00	-233.31	0.00	233.31	4777.86	2388.93	9337.60	4675.74	1.05	-0.174	0.000	0.059
65.00	-43.32	-5.08	0.00	-207.48	0.00	207.48	4626.23	2313.11	8645.15	4329.00	1.24	-0.191	0.000	0.057
70.00	-41.27	-4.98	0.00	-182.10	0.00	182.10	4469.53	2234.76	7969.63	3990.74	1.45	-0.208	0.000	0.055
75.00	-38.24	-4.88	0.00	-157.18	0.00	157.18	4273.25	2136.63	7253.77	3632.28	1.68	-0.224	0.000	0.052
75.50	-37.95	-4.88	0.00	-154.74	0.00	154.74	3583.96	1791.98	6182.69	3095.94	1.70	-0.226	0.000	0.061
77.50	-36.45	-4.52	0.00	-144.98	0.00	144.98	3533.61	1766.81	5974.82	2991.85	1.80	-0.233	0.000	0.059
80.00	-35.58	-4.48	0.00	-133.68	0.00	133.68	3469.54	1734.77	5717.95	2863.23	1.92	-0.242	0.000	0.057
85.00	-33.11	-4.00	0.00	-111.26	0.00	111.26	3337.60	1668.80	5214.74	2611.24	2.18	-0.260	0.000	0.053
90.00	-31.51	-3.91	0.00	-91.28	0.00	91.28	3186.12	1593.06	4705.25	2356.12	2.47	-0.278	0.000	0.049
95.00	-29.18	-3.42	0.00	-71.71	0.00	71.71	3003.28	1501.64	4178.09	2092.15	2.77	-0.294	0.000	0.044
95.00	-29.18	-3.42	0.00	-71.71	0.00	71.71	2438.11	1219.05	3404.33	1704.70	2.77	-0.294	0.000	0.054
100.00	-22.09	-2.83	0.00	-54.63	0.00	54.63	2329.09	1164.55	3052.69	1528.62	3.08	-0.309	0.000	0.045
105.00	-20.11	-2.38	0.00	-40.47	0.00	40.47	2202.60	1101.30	2698.31	1351.16	3.42	-0.326	0.000	0.039
110.00	-19.02	-2.30	0.00	-28.57	0.00	28.57	2050.23	1025.12	2336.11	1169.79	3.77	-0.341	0.000	0.034
115.00	-17.17	-1.81	0.00	-17.05	0.00	17.05	1897.87	948.93	2000.01	1001.49	4.13	-0.353	0.000	0.026
118.00	-8.88	-1.16	0.00	-11.61	0.00	11.61	1806.45	903.22	1810.87	906.78	4.35	-0.358	0.000	0.018
120.00	-8.50	-1.13	0.00	-9.29	0.00	9.29	1745.50	872.75	1690.00	846.25	4.51	-0.362	0.000	0.016
120.00	-8.50	-1.13	0.00	-9.29	0.00	9.29	583.92	291.96	571.48	339.36	4.51	-0.362	0.000	0.042
125.00	-6.85	-0.73	0.00	-3.63	0.00	3.63	583.92	291.96	571.48	339.36	4.89	-0.367	0.000	0.022
130.00	0.00	-0.68	0.00	0.00	0.00	0.00	583.92	291.96	571.48	339.36	5.27	-0.369	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT02408-S-SBA		**Code:**	EIA/TIA-222-G	4/30/2018
Site Name:	Sharon 3 CT		**Exposure:**	B	
Height:	130.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 20

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	15
Gust Response Factor	1.10				**Sds**	0.19		**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency**	0.72		**SA**	0.08	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1666.2	0.00	0.04	0.02	18.65	
10.00		1617.3	0.01	0.06	0.03	27.69	
15.00		1568.5	0.03	0.07	0.04	31.92	
20.00		1519.6	0.04	0.07	0.04	33.89	
25.00		1470.8	0.07	0.07	0.04	34.96	
25.50	Bot - Section 2	144.40	0.07	0.07	0.04	3.45	
30.00		2573.8	0.10	0.07	0.04	64.74	
33.50	Top - Section 1	1947.1	0.13	0.07	0.03	50.88	
35.00		413.02	0.14	0.07	0.03	10.96	
40.00		1344.9	0.18	0.07	0.03	37.41	
45.00		1296.1	0.23	0.06	0.02	37.19	
50.00		1247.2	0.28	0.05	0.01	35.91	
55.00		1198.4	0.34	0.04	0.01	33.23	
60.00		1149.5	0.40	0.02	0.01	28.99	
65.00		1100.7	0.47	-0.01	0.01	23.32	
70.00	Bot - Section 3	1051.8	0.55	-0.03	0.01	16.80	
75.00		1879.2	0.63	-0.06	0.02	19.46	
75.50	Top - Section 2	182.93	0.64	-0.07	0.02	1.80	
77.50	Appurtenance(s)	437.07	0.67	-0.08	0.02	3.40	
80.00		411.92	0.72	-0.09	0.03	2.30	
85.00	Appurtenance(s)	892.44	0.81	-0.11	0.06	2.84	
90.00		750.57	0.91	-0.12	0.09	3.52	
95.00	Top - Section 3	808.70	1.01	-0.11	0.14	9.25	
100.00	Appurtenance(s)	2647.8	1.12	-0.06	0.20	64.53	
105.00	Appurtenance(s)	621.85	1.23	0.04	0.28	27.44	
110.00		486.96	1.35	0.20	0.39	34.60	
115.00	Appurtenance(s)	552.07	1.48	0.45	0.52	58.19	
118.00	Appurtenance(s)	3251.3	1.56	0.65	0.61	421.49	
120.00	Top - Section 4	162.68	1.61	0.81	0.68	23.96	
125.00	Appurtenance(s)	417.36	1.75	1.31	0.89	82.16	
130.00	Appurtenance(s)	1878.9	1.89	1.98	1.14	477.60	
	Totals:	**36,691.9**				**1,722.6**	**Total Wind:** **31,666.1**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Iterations 15

Gust Response Factor	1.10			**Sds**	0.19			**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency**	0.72	**SA**	0.08			**Seismic Importance Factor**	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.90	-1.72	0.00	-168.02	0.00	168.02	6164.54	3082.27	18158.3	9092.69		0.00	0.00	0.026
5.00	-45.73	-1.71	0.00	-159.40	0.00	159.40	6071.55	3035.77	17364.5	8695.20		0.00	0.00	0.026
10.00	-43.62	-1.68	0.00	-150.86	0.00	150.86	5973.49	2986.74	16572.6	8298.64		0.01	-0.01	0.025
15.00	-41.57	-1.65	0.00	-142.45	0.00	142.45	5870.37	2935.18	15783.8	7903.67		0.02	-0.01	0.025
20.00	-39.58	-1.62	0.00	-134.19	0.00	134.19	5762.18	2881.09	14999.6	7510.95		0.03	-0.02	0.025
25.00	-37.64	-1.59	0.00	-126.08	0.00	126.08	5648.92	2824.46	14221.0	7121.12		0.05	-0.02	0.024
25.50	-37.45	-1.59	0.00	-125.28	0.00	125.28	5637.32	2818.66	14143.6	7082.32		0.05	-0.02	0.024
30.00	-34.21	-1.52	0.00	-118.15	0.00	118.15	5530.60	2765.30	13449.6	6734.83		0.07	-0.02	0.024
33.50	-31.76	-1.47	0.00	-112.82	0.00	112.82	5496.96	2748.48	13237.5	6628.61		0.09	-0.03	0.023
35.00	-31.21	-1.46	0.00	-110.62	0.00	110.62	5460.05	2730.03	13008.4	6513.87		0.10	-0.03	0.023
40.00	-29.43	-1.43	0.00	-103.31	0.00	103.31	5333.74	2666.87	12250.7	6134.50		0.13	-0.03	0.022
45.00	-27.70	-1.39	0.00	-96.19	0.00	96.19	5202.37	2601.19	11503.5	5760.34		0.17	-0.04	0.022
50.00	-26.04	-1.35	0.00	-89.24	0.00	89.24	5065.93	2532.97	10768.1	5392.07		0.21	-0.04	0.022
55.00	-24.43	-1.32	0.00	-82.47	0.00	82.47	4924.43	2462.22	10045.7	5030.32		0.26	-0.05	0.021
60.00	-22.88	-1.29	0.00	-75.86	0.00	75.86	4777.86	2388.93	9337.60	4675.74		0.31	-0.05	0.021
65.00	-21.39	-1.27	0.00	-69.39	0.00	69.39	4626.23	2313.11	8645.15	4329.00		0.37	-0.06	0.021
70.00	-19.96	-1.26	0.00	-63.03	0.00	63.03	4469.53	2234.76	7969.63	3990.74		0.43	-0.06	0.020
75.00	-17.54	-1.23	0.00	-56.76	0.00	56.76	4273.25	2136.63	7253.77	3632.28		0.50	-0.07	0.020
75.50	-17.30	-1.23	0.00	-56.14	0.00	56.14	3583.96	1791.98	6182.69	3095.94		0.51	-0.07	0.023
77.50	-16.71	-1.23	0.00	-53.68	0.00	53.68	3533.61	1766.81	5974.82	2991.85		0.54	-0.07	0.023
80.00	-16.13	-1.23	0.00	-50.60	0.00	50.60	3469.54	1734.77	5717.95	2863.23		0.58	-0.08	0.022
85.00	-14.89	-1.22	0.00	-44.47	0.00	44.47	3337.60	1668.80	5214.74	2611.24		0.66	-0.08	0.021
90.00	-13.82	-1.22	0.00	-38.34	0.00	38.34	3186.12	1593.06	4705.25	2356.12		0.75	-0.09	0.021
95.00	-12.68	-1.21	0.00	-32.24	0.00	32.24	3003.28	1501.64	4178.09	2092.15		0.85	-0.10	0.020
95.00	-12.68	-1.21	0.00	-32.24	0.00	32.24	2438.11	1219.05	3404.33	1704.70		0.85	-0.10	0.024
100.00	-9.34	-1.14	0.00	-26.18	0.00	26.18	2329.09	1164.55	3052.69	1528.62		0.96	-0.10	0.021
105.00	-8.50	-1.11	0.00	-20.46	0.00	20.46	2202.60	1101.30	2698.31	1351.16		1.07	-0.11	0.019
110.00	-7.83	-1.08	0.00	-14.89	0.00	14.89	2050.23	1025.12	2336.11	1169.79		1.19	-0.12	0.017
115.00	-7.08	-1.02	0.00	-9.49	0.00	9.49	1897.87	948.93	2000.01	1001.49		1.32	-0.13	0.013
118.00	-3.13	-0.59	0.00	-6.43	0.00	6.43	1806.45	903.22	1810.87	906.78		1.40	-0.13	0.009
120.00	-2.90	-0.57	0.00	-5.25	0.00	5.25	1745.50	872.75	1690.00	846.25		1.46	-0.13	0.008
120.00	-2.90	-0.57	0.00	-5.25	0.00	5.25	583.92	291.96	571.48	339.36		1.46	-0.13	0.020
125.00	-2.33	-0.48	0.00	-2.42	0.00	2.42	583.92	291.96	571.48	339.36		1.60	-0.13	0.011
130.00	0.00	-0.48	0.00	0.00	0.00	0.00	583.92	291.96	571.48	339.36		1.74	-0.14	0.000

Seismic Segment Forces (Factored)

Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E					**Iterations**	15
Gust Response Factor	1.10			**Sds**	0.19	**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency**	0.72	**SA**	0.08	**Seismic Importance Factor**	1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1666.2	0.00	0.04	0.02	18.65	
10.00		1617.3	0.01	0.06	0.03	27.69	
15.00		1568.5	0.03	0.07	0.04	31.92	
20.00		1519.6	0.04	0.07	0.04	33.89	
25.00		1470.8	0.07	0.07	0.04	34.96	
25.50	Bot - Section 2	144.40	0.07	0.07	0.04	3.45	
30.00		2573.8	0.10	0.07	0.04	64.74	
33.50	Top - Section 1	1947.1	0.13	0.07	0.03	50.88	
35.00		413.02	0.14	0.07	0.03	10.96	
40.00		1344.9	0.18	0.07	0.03	37.41	
45.00		1296.1	0.23	0.06	0.02	37.19	
50.00		1247.2	0.28	0.05	0.01	35.91	
55.00		1198.4	0.34	0.04	0.01	33.23	
60.00		1149.5	0.40	0.02	0.01	28.99	
65.00		1100.7	0.47	-0.01	0.01	23.32	
70.00	Bot - Section 3	1051.8	0.55	-0.03	0.01	16.80	
75.00		1879.2	0.63	-0.06	0.02	19.46	
75.50	Top - Section 2	182.93	0.64	-0.07	0.02	1.80	
77.50	Appurtenance(s)	437.07	0.67	-0.08	0.02	3.40	
80.00		411.92	0.72	-0.09	0.03	2.30	
85.00	Appurtenance(s)	892.44	0.81	-0.11	0.06	2.84	
90.00		750.57	0.91	-0.12	0.09	3.52	
95.00	Top - Section 3	808.70	1.01	-0.11	0.14	9.25	
100.00	Appurtenance(s)	2647.8	1.12	-0.06	0.20	64.53	
105.00	Appurtenance(s)	621.85	1.23	0.04	0.28	27.44	
110.00		486.96	1.35	0.20	0.39	34.60	
115.00	Appurtenance(s)	552.07	1.48	0.45	0.52	58.19	
118.00	Appurtenance(s)	3251.3	1.56	0.65	0.61	421.49	
120.00	Top - Section 4	162.68	1.61	0.81	0.68	23.96	
125.00	Appurtenance(s)	417.36	1.75	1.31	0.89	82.16	
130.00	Appurtenance(s)	1878.9	1.89	1.98	1.14	477.60	
	Totals:	**36,691.9**				**1,722.6**	**Total Wind:** **31,666.1**

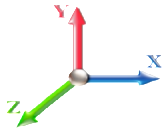
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Load Case: 0.9D + 1.0E



Gust Response Factor	1.10			**Sds**	0.19	**Iterations**	15
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency**	0.72	**SA**	0.08	**S1**	0.07
						Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-35.92	-1.72	0.00	-167.49	0.00	167.49	6164.54	3082.27	18158.3	9092.69		0.00	0.00	0.024
5.00	-34.30	-1.71	0.00	-158.88	0.00	158.88	6071.55	3035.77	17364.5	8695.20		0.00	0.00	0.024
10.00	-32.72	-1.68	0.00	-150.35	0.00	150.35	5973.49	2986.74	16572.6	8298.64		0.01	-0.01	0.024
15.00	-31.18	-1.65	0.00	-141.94	0.00	141.94	5870.37	2935.18	15783.8	7903.67		0.02	-0.01	0.023
20.00	-29.68	-1.62	0.00	-133.69	0.00	133.69	5762.18	2881.09	14999.6	7510.95		0.03	-0.02	0.023
25.00	-28.23	-1.58	0.00	-125.60	0.00	125.60	5648.92	2824.46	14221.0	7121.12		0.05	-0.02	0.023
25.50	-28.09	-1.58	0.00	-124.80	0.00	124.80	5637.32	2818.66	14143.6	7082.32		0.05	-0.02	0.023
30.00	-25.66	-1.52	0.00	-117.69	0.00	117.69	5530.60	2765.30	13449.6	6734.83		0.07	-0.02	0.022
33.50	-23.82	-1.47	0.00	-112.37	0.00	112.37	5496.96	2748.48	13237.5	6628.61		0.09	-0.03	0.021
35.00	-23.41	-1.46	0.00	-110.17	0.00	110.17	5460.05	2730.03	13008.4	6513.87		0.10	-0.03	0.021
40.00	-22.07	-1.42	0.00	-102.89	0.00	102.89	5333.74	2666.87	12250.7	6134.50		0.13	-0.03	0.021
45.00	-20.78	-1.38	0.00	-95.79	0.00	95.79	5202.37	2601.19	11503.5	5760.34		0.17	-0.04	0.021
50.00	-19.53	-1.35	0.00	-88.86	0.00	88.86	5065.93	2532.97	10768.1	5392.07		0.21	-0.04	0.020
55.00	-18.32	-1.32	0.00	-82.12	0.00	82.12	4924.43	2462.22	10045.7	5030.32		0.26	-0.05	0.020
60.00	-17.16	-1.29	0.00	-75.53	0.00	75.53	4777.86	2388.93	9337.60	4675.74		0.31	-0.05	0.020
65.00	-16.04	-1.27	0.00	-69.09	0.00	69.09	4626.23	2313.11	8645.15	4329.00		0.37	-0.06	0.019
70.00	-14.97	-1.25	0.00	-62.76	0.00	62.76	4469.53	2234.76	7969.63	3990.74		0.43	-0.06	0.019
75.00	-13.15	-1.23	0.00	-56.52	0.00	56.52	4273.25	2136.63	7253.77	3632.28		0.50	-0.07	0.019
75.50	-12.98	-1.23	0.00	-55.91	0.00	55.91	3583.96	1791.98	6182.69	3095.94		0.51	-0.07	0.022
77.50	-12.53	-1.22	0.00	-53.45	0.00	53.45	3533.61	1766.81	5974.82	2991.85		0.54	-0.07	0.021
80.00	-12.10	-1.22	0.00	-50.39	0.00	50.39	3469.54	1734.77	5717.95	2863.23		0.58	-0.08	0.021
85.00	-11.17	-1.22	0.00	-44.28	0.00	44.28	3337.60	1668.80	5214.74	2611.24		0.66	-0.08	0.020
90.00	-10.37	-1.22	0.00	-38.19	0.00	38.19	3186.12	1593.06	4705.25	2356.12		0.75	-0.09	0.019
95.00	-9.51	-1.21	0.00	-32.11	0.00	32.11	3003.28	1501.64	4178.09	2092.15		0.85	-0.10	0.019
95.00	-9.51	-1.21	0.00	-32.11	0.00	32.11	2438.11	1219.05	3404.33	1704.70		0.85	-0.10	0.023
100.00	-7.00	-1.14	0.00	-26.08	0.00	26.08	2329.09	1164.55	3052.69	1528.62		0.95	-0.10	0.020
105.00	-6.38	-1.11	0.00	-20.39	0.00	20.39	2202.60	1101.30	2698.31	1351.16		1.07	-0.11	0.018
110.00	-5.87	-1.08	0.00	-14.84	0.00	14.84	2050.23	1025.12	2336.11	1169.79		1.19	-0.12	0.016
115.00	-5.31	-1.02	0.00	-9.46	0.00	9.46	1897.87	948.93	2000.01	1001.49		1.32	-0.13	0.012
118.00	-2.35	-0.59	0.00	-6.41	0.00	6.41	1806.45	903.22	1810.87	906.78		1.40	-0.13	0.008
120.00	-2.18	-0.56	0.00	-5.23	0.00	5.23	1745.50	872.75	1690.00	846.25		1.45	-0.13	0.007
120.00	-2.18	-0.56	0.00	-5.23	0.00	5.23	583.92	291.96	571.48	339.36		1.45	-0.13	0.019
125.00	-1.75	-0.48	0.00	-2.41	0.00	2.41	583.92	291.96	571.48	339.36		1.59	-0.13	0.010
130.00	0.00	-0.48	0.00	0.00	0.00	0.00	583.92	291.96	571.48	339.36		1.73	-0.14	0.000

Wind Loading - Shaft

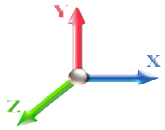
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 16

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	305.84	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	297.06	0.650	0.000	5.00	30.025	19.52	131.6	0.0	1666.2
10.00		1.00	0.70	6.129	6.74	288.28	0.650	0.000	5.00	29.151	18.95	127.7	0.0	1617.4
15.00		1.00	0.70	6.129	6.74	279.49	0.650	0.000	5.00	28.276	18.38	123.9	0.0	1568.5
20.00		1.00	0.70	6.129	6.74	270.71	0.650	0.000	5.00	27.401	17.81	120.1	0.0	1519.7
25.00		1.00	0.70	6.129	6.74	261.93	0.650	0.000	5.00	26.526	17.24	116.2	0.0	1470.8
25.50	Bot - Section 2	1.00	0.70	6.129	6.74	261.05	0.650	0.000	0.50	2.604	1.69	11.4	0.0	144.4
30.00		1.00	0.70	6.134	6.75	253.25	0.650	0.000	4.50	23.380	15.20	102.5	0.0	2573.8
33.50	Top - Section 1	1.00	0.72	6.330	6.96	251.03	0.650	0.000	3.50	17.694	11.50	80.1	0.0	1947.1
35.00		1.00	0.73	6.410	7.05	253.71	0.650	0.000	1.50	7.452	4.84	34.2	0.0	413.0
40.00		1.00	0.76	6.659	7.33	249.44	0.650	0.000	5.00	24.272	15.78	115.6	0.0	1345.0
45.00		1.00	0.79	6.887	7.58	244.36	0.650	0.000	5.00	23.397	15.21	115.2	0.0	1296.1
50.00		1.00	0.81	7.098	7.81	238.61	0.650	0.000	5.00	22.522	14.64	114.3	0.0	1247.3
55.00		1.00	0.83	7.294	8.02	232.30	0.650	0.000	5.00	21.647	14.07	112.9	0.0	1198.4
60.00		1.00	0.85	7.477	8.22	225.51	0.650	0.000	5.00	20.772	13.50	111.1	0.0	1149.6
65.00		1.00	0.87	7.650	8.42	218.29	0.650	0.000	5.00	19.898	12.93	108.8	0.0	1100.7
70.00	Bot - Section 3	1.00	0.89	7.814	8.60	210.69	0.650	0.000	5.00	19.023	12.36	106.3	0.0	1051.9
75.00		1.00	0.91	7.969	8.77	202.76	0.650	0.000	5.00	18.465	12.00	105.2	0.0	1879.2
75.50	Top - Section 2	1.00	0.91	7.985	8.78	201.95	0.650	0.000	0.50	1.798	1.17	10.3	0.0	182.9
77.50	Appurtenance(s)	1.00	0.92	8.044	8.85	202.34	0.650	0.000	2.00	7.106	4.62	40.9	0.0	337.1
80.00		1.00	0.93	8.118	8.93	198.20	0.650	0.000	2.50	8.686	5.65	50.4	0.0	411.9
85.00	Appurtenance(s)	1.00	0.94	8.260	9.09	189.73	0.650	0.000	5.00	16.716	10.87	98.7	0.0	792.4
90.00		1.00	0.96	8.396	9.24	181.00	0.650	0.000	5.00	15.841	10.30	95.1	0.0	750.6
95.00	Top - Section 3	1.00	0.97	8.526	9.38	172.05	0.650	0.000	5.00	14.966	9.73	91.2	0.0	708.7
100.00	Appurtenance(s)	1.00	0.99	8.652	9.52	162.88	0.650	0.000	5.00	14.091	9.16	87.2	0.0	556.7
105.00	Appurtenance(s)	1.00	1.00	8.774	9.65	153.51	0.650	0.000	5.00	13.216	8.59	82.9	0.0	521.9
110.00		1.00	1.02	8.891	9.78	143.95	0.650	0.000	5.00	12.341	8.02	78.5	0.0	487.0
115.00	Appurtenance(s)	1.00	1.03	9.005	9.91	134.22	0.650	0.000	5.00	11.467	7.45	73.8	0.0	452.1
118.00	Appurtenance(s)	1.00	1.04	9.071	9.98	128.30	0.650	0.000	3.00	6.460	4.20	41.9	0.0	254.5
120.00	Top - Section 4	1.00	1.04	9.115	10.03	124.33	0.650	0.000	2.00	4.132	2.69	26.9	0.0	162.7
125.00	Appurtenance(s)	1.00	1.05	9.222	10.14	123.16	0.600	0.000	5.00	10.000	6.00	60.9	0.0	317.4
130.00	Appurtenance(s)	1.00	1.07	9.326	10.26	123.85	0.600	0.000	5.00	10.000	6.00	61.5	0.0	317.4
								Totals:	**130.00**			**2,637.3**		**29,442.4**

Discrete Appurtenance Forces

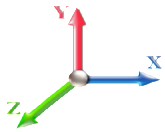
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 16

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	T-Arm	3	9.326	10.258	0.56	0.75	16.88	1200.00	0.000	0.000	173.11	0.00	0.00
2	130.00	Tree Pole Branchs	1	9.326	10.258	1.00	1.00	12.00	100.00	0.000	0.000	123.10	0.00	0.00
3	130.00	FD9R6004/2C-3L	6	9.326	10.258	0.54	0.80	1.16	18.60	0.000	0.000	11.88	0.00	0.00
4	130.00	BXA-70040-6CF	1	9.326	10.258	0.56	0.80	8.05	38.00	0.000	0.000	82.60	0.00	0.00
5	130.00	BXA-171085-12BF_2	3	9.326	10.258	0.70	0.80	9.98	45.00	0.000	0.000	102.34	0.00	0.00
6	130.00	LPA80080/6CF	6	9.326	10.258	1.20	0.80	31.13	126.00	0.000	0.000	319.38	0.00	0.00
7	130.00	BXA-70063-6CF_2	2	9.326	10.258	0.62	0.80	9.39	34.00	0.000	0.000	96.29	0.00	0.00
8	125.00	Tree Pole Branchs	1	9.222	10.144	1.00	1.00	60.00	100.00	0.000	0.000	608.64	0.00	0.00
9	118.00	ACU-A20-N RET	4	9.071	9.978	0.54	0.80	0.30	4.00	0.000	0.000	3.00	0.00	0.00
10	118.00	800MHz Filter	2	9.071	9.978	0.54	0.80	0.84	17.60	0.000	0.000	8.34	0.00	0.00
11	118.00	800 MHz	4	9.071	9.978	0.54	0.80	5.66	238.00	0.000	0.000	56.48	0.00	0.00
12	118.00	1900 MHz	2	9.071	9.978	0.54	0.80	2.97	120.00	0.000	0.000	29.63	0.00	0.00
13	118.00	APXVSPP18-C-A20	2	9.071	9.978	0.66	0.80	10.64	114.00	0.000	0.000	106.15	0.00	0.00
14	118.00	TD-RRH8x20-25	2	9.071	9.978	0.54	0.80	4.34	140.00	0.000	0.000	43.32	0.00	0.00
15	118.00	DT465B-2XR	2	9.071	9.978	0.66	0.80	12.06	116.00	0.000	0.000	120.29	0.00	0.00
16	118.00	T-Arm	3	9.071	9.978	0.56	0.75	19.41	1200.00	0.000	0.000	193.64	0.00	0.00
17	118.00	PRK-1245L (kicker kit)	1	9.071	9.978	0.56	0.75	5.34	464.91	0.000	0.000	53.32	0.00	0.00
18	118.00	(3) Pipe 2.0 STD	1	9.071	9.978	0.56	0.75	4.57	302.36	0.000	0.000	45.63	0.00	0.00
19	118.00	PRK-SFS-L	2	9.071	9.978	0.56	0.75	4.16	280.00	0.000	0.000	41.53	0.00	0.00
20	115.00	Tree Pole Branchs	1	9.005	9.905	1.00	1.00	76.00	100.00	0.000	0.000	752.79	0.00	0.00
21	105.00	Tree Pole Branchs	1	8.774	9.651	1.00	1.00	70.00	100.00	0.000	0.000	675.57	0.00	0.00
22	100.00	800 10764	1	8.652	9.517	0.63	0.80	3.71	40.80	0.000	0.000	35.32	0.00	0.00
23	100.00	T-Arm	3	8.652	9.517	0.56	0.75	16.88	1200.00	0.000	0.000	160.61	0.00	0.00
24	100.00	7770	6	8.652	9.517	0.61	0.80	20.22	210.00	0.000	0.000	192.46	0.00	0.00
25	100.00	AM-X-CD-16-65-00T-RET	2	8.652	9.517	0.61	0.80	9.71	97.00	0.000	0.000	92.45	0.00	0.00
26	100.00	ABT-DF-DMADBH	3	8.652	9.517	0.54	0.80	0.08	3.30	0.000	0.000	0.77	0.00	0.00
27	100.00	DC6-48-60-18-8F	1	8.652	9.517	0.54	0.80	0.49	31.80	0.000	0.000	4.69	0.00	0.00
28	100.00	LGP21401	12	8.652	9.517	0.54	0.80	8.30	169.20	0.000	0.000	78.97	0.00	0.00
29	100.00	LGP21901	6	8.652	9.517	0.54	0.80	0.74	33.00	0.000	0.000	7.04	0.00	0.00
30	100.00	RRUS11	6	8.652	9.517	0.54	0.80	8.10	306.00	0.000	0.000	77.13	0.00	0.00
31	95.00	Tree Pole Branchs	1	8.526	9.379	1.00	1.00	80.00	100.00	0.000	0.000	750.31	0.00	0.00
32	85.00	Tree Pole Branchs	1	8.260	9.086	1.00	1.00	80.00	100.00	0.000	0.000	726.84	0.00	0.00
33	77.50	Tree Pole Branchs	1	8.044	8.849	1.00	1.00	66.00	100.00	0.000	0.000	584.03	0.00	0.00
							Totals:		**7,249.57**			**6,357.66**		

Total Applied Force Summary

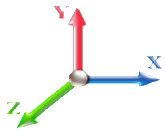
Structure:	CT02408-S-SBA		**Code:**	EIA/TIA-222-G	4/30/2018
Site Name:	Sharon 3 CT		**Exposure:**	B	
Height:	130.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 26

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 16

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		131.57	1806.94	0.00	0.00
10.00		127.74	1758.09	0.00	0.00
15.00		123.90	1709.24	0.00	0.00
20.00		120.07	1660.39	0.00	0.00
25.00		116.24	1611.54	0.00	0.00
25.50		11.41	158.47	0.00	0.00
30.00		102.54	2700.43	0.00	0.00
33.50		80.09	2045.62	0.00	0.00
35.00		34.15	455.23	0.00	0.00
40.00		115.57	1485.67	0.00	0.00
45.00		115.21	1436.82	0.00	0.00
50.00		114.30	1387.97	0.00	0.00
55.00		112.89	1339.12	0.00	0.00
60.00		111.05	1290.27	0.00	0.00
65.00		108.84	1241.42	0.00	0.00
70.00		106.28	1192.57	0.00	0.00
75.00		105.22	2019.90	0.00	0.00
75.50		10.27	197.00	0.00	0.00
77.50	(1) attachments	624.90	493.35	0.00	0.00
80.00		50.41	482.27	0.00	0.00
85.00	(1) attachments	825.56	1033.14	0.00	0.00
90.00		95.09	891.27	0.00	0.00
95.00	(1) attachments	841.55	949.40	0.00	0.00
100.00	(40) attachments	736.61	2788.54	0.00	0.00
105.00	(1) attachments	758.48	694.15	0.00	0.00
110.00		78.45	559.26	0.00	0.00
115.00	(1) attachments	826.61	624.37	0.00	0.00
118.00	(25) attachments	743.24	3294.74	0.00	0.00
120.00		26.93	187.64	0.00	0.00
125.00	(1) attachments	669.50	479.76	0.00	0.00
130.00	(22) attachments	970.26	1941.36	0.00	0.00
	Totals:	**8,994.92**	**39,915.97**	**0.00**	**0.00**

Calculated Forces

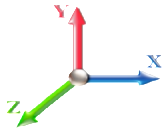
Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 16

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-39.91	-9.00	0.00	-844.80	0.00	844.80	6164.54	3082.27	18158.3	9092.69	0.00	0.000	0.000	0.099
5.00	-38.10	-8.88	0.00	-799.80	0.00	799.80	6071.55	3035.77	17364.5	8695.20	0.01	-0.018	0.000	0.098
10.00	-36.34	-8.76	0.00	-755.40	0.00	755.40	5973.49	2986.74	16572.6	8298.64	0.04	-0.037	0.000	0.097
15.00	-34.63	-8.65	0.00	-711.57	0.00	711.57	5870.37	2935.18	15783.8	7903.67	0.09	-0.056	0.000	0.096
20.00	-32.97	-8.54	0.00	-668.32	0.00	668.32	5762.18	2881.09	14999.6	7510.95	0.16	-0.076	0.000	0.095
25.00	-31.36	-8.43	0.00	-625.61	0.00	625.61	5648.92	2824.46	14221.0	7121.12	0.25	-0.097	0.000	0.093
25.50	-31.20	-8.42	0.00	-621.40	0.00	621.40	5637.32	2818.66	14143.6	7082.32	0.26	-0.099	0.000	0.093
30.00	-28.49	-8.32	0.00	-583.50	0.00	583.50	5530.60	2765.30	13449.6	6734.83	0.36	-0.119	0.000	0.092
33.50	-26.45	-8.24	0.00	-554.36	0.00	554.36	5496.96	2748.48	13237.5	6628.61	0.46	-0.134	0.000	0.088
35.00	-25.99	-8.22	0.00	-542.00	0.00	542.00	5460.05	2730.03	13008.4	6513.87	0.50	-0.141	0.000	0.088
40.00	-24.50	-8.11	0.00	-500.92	0.00	500.92	5333.74	2666.87	12250.7	6134.50	0.66	-0.163	0.000	0.086
45.00	-23.06	-8.00	0.00	-460.39	0.00	460.39	5202.37	2601.19	11503.5	5760.34	0.84	-0.185	0.000	0.084
50.00	-21.67	-7.88	0.00	-420.42	0.00	420.42	5065.93	2532.97	10768.1	5392.07	1.05	-0.208	0.000	0.082
55.00	-20.33	-7.78	0.00	-380.99	0.00	380.99	4924.43	2462.22	10045.7	5030.32	1.28	-0.232	0.000	0.080
60.00	-19.03	-7.67	0.00	-342.12	0.00	342.12	4777.86	2388.93	9337.60	4675.74	1.54	-0.255	0.000	0.077
65.00	-17.79	-7.56	0.00	-303.78	0.00	303.78	4626.23	2313.11	8645.15	4329.00	1.82	-0.280	0.000	0.074
70.00	-16.60	-7.45	0.00	-265.99	0.00	265.99	4469.53	2234.76	7969.63	3990.74	2.12	-0.304	0.000	0.070
75.00	-14.57	-7.34	0.00	-228.72	0.00	228.72	4273.25	2136.63	7253.77	3632.28	2.46	-0.329	0.000	0.066
75.50	-14.38	-7.33	0.00	-225.04	0.00	225.04	3583.96	1791.98	6182.69	3095.94	2.49	-0.331	0.000	0.077
77.50	-13.89	-6.71	0.00	-210.38	0.00	210.38	3533.61	1766.81	5974.82	2991.85	2.63	-0.341	0.000	0.074
80.00	-13.40	-6.66	0.00	-193.62	0.00	193.62	3469.54	1734.77	5717.95	2863.23	2.81	-0.355	0.000	0.071
85.00	-12.37	-5.83	0.00	-160.33	0.00	160.33	3337.60	1668.80	5214.74	2611.24	3.20	-0.381	0.000	0.065
90.00	-11.48	-5.74	0.00	-131.17	0.00	131.17	3186.12	1593.06	4705.25	2356.12	3.61	-0.406	0.000	0.059
95.00	-10.53	-4.89	0.00	-102.49	0.00	102.49	3003.28	1501.64	4178.09	2092.15	4.05	-0.429	0.000	0.053
95.00	-10.53	-4.89	0.00	-102.49	0.00	102.49	2438.11	1219.05	3404.33	1704.70	4.05	-0.429	0.000	0.064
100.00	-7.75	-4.14	0.00	-78.04	0.00	78.04	2329.09	1164.55	3052.69	1528.62	4.51	-0.451	0.000	0.054
105.00	-7.06	-3.37	0.00	-57.36	0.00	57.36	2202.60	1101.30	2698.31	1351.16	5.00	-0.475	0.000	0.046
110.00	-6.50	-3.29	0.00	-40.49	0.00	40.49	2050.23	1025.12	2336.11	1169.79	5.51	-0.495	0.000	0.038
115.00	-5.88	-2.46	0.00	-24.02	0.00	24.02	1897.87	948.93	2000.01	1001.49	6.04	-0.512	0.000	0.027
118.00	-2.59	-1.69	0.00	-16.63	0.00	16.63	1806.45	903.22	1810.87	906.78	6.36	-0.520	0.000	0.020
120.00	-2.41	-1.66	0.00	-13.25	0.00	13.25	1745.50	872.75	1690.00	846.25	6.58	-0.525	0.000	0.017
120.00	-2.41	-1.66	0.00	-13.25	0.00	13.25	583.92	291.96	571.48	339.36	6.58	-0.525	0.000	0.043
125.00	-1.93	-0.99	0.00	-4.94	0.00	4.94	583.92	291.96	571.48	339.36	7.13	-0.533	0.000	0.018
130.00	0.00	-0.97	0.00	0.00	0.00	0.00	583.92	291.96	571.48	339.36	7.69	-0.536	0.000	0.000

Final Analysis Summary

Structure:	CT02408-S-SBA	**Code:**	EIA/TIA-222-G	4/30/2018	
Site Name:	Sharon 3 CT	**Exposure:**	B		
Height:	130.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 89 mph Wind	31.7	0.00	47.88	0.00	0.00	2979.72
0.9D + 1.6W 89 mph Wind	31.7	0.00	35.91	0.00	0.00	2971.07
1.2D + 1.0Di + 1.0Wi 40 mph Wind	6.3	0.00	79.32	0.00	0.00	578.88
1.2D + 1.0E	1.7	0.00	47.90	0.00	0.00	168.02
0.9D + 1.0E	1.7	0.00	35.92	0.00	0.00	167.49
1.0D + 1.0W 60 mph Wind	9.0	0.00	39.91	0.00	0.00	844.80

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 89 mph Wind	-47.88	-31.69	0.00	-2979.7	0.00	-2979.7	6164.54	3082.2	18158.3	9092.69	0.00	0.336
0.9D + 1.6W 89 mph Wind	-35.91	-31.69	0.00	-2971.0	0.00	-2971.0	6164.54	3082.2	18158.3	9092.69	0.00	0.333
1.2D + 1.0Di + 1.0Wi 40 mph Wind	-79.32	-6.27	0.00	-578.88	0.00	-578.88	6164.54	3082.2	18158.3	9092.69	0.00	0.077
1.2D + 1.0E	-47.90	-1.72	0.00	-168.02	0.00	-168.02	6164.54	3082.2	18158.3	9092.69	0.00	0.026
0.9D + 1.0E	-35.92	-1.72	0.00	-167.49	0.00	-167.49	6164.54	3082.2	18158.3	9092.69	0.00	0.024
1.0D + 1.0W 60 mph Wind	-39.91	-9.00	0.00	-844.80	0.00	-844.80	6164.54	3082.2	18158.3	9092.69	0.00	0.099

Monopole Mat Foundation Design

				Date
				4/20/2018
	Customer Name:	Sprint Nextel	**EIA/TIA Standard:**	EIA-222-G
	Site Name:		**Structure Height (Ft.):**	130
	Site Number:	CT02408-S-SBA	**Engineer Name:**	D. Colahan
	Engr. Number:	51406	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

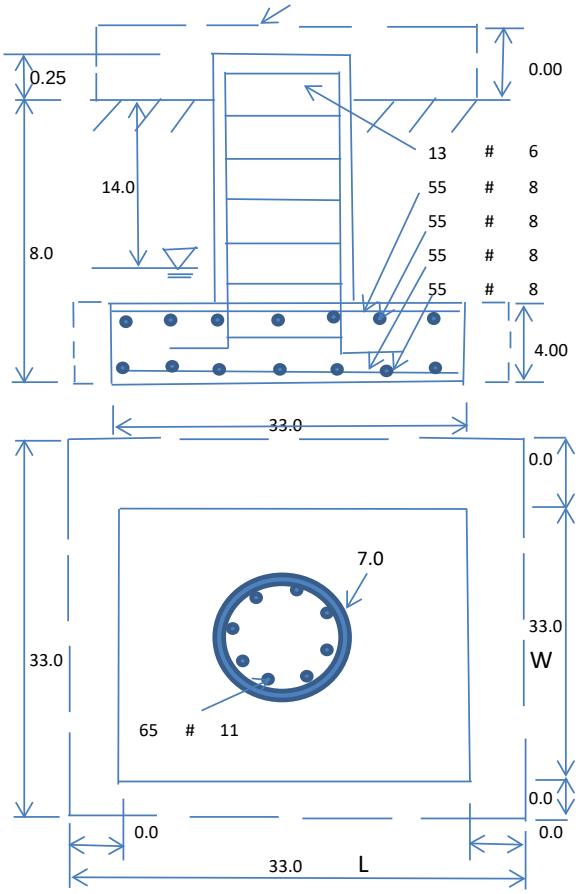
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	47.9	Shear Force (Kips):	31.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2979.7
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	8.0
Pier Height A. G. (ft.):	0.25	Thickness of Pad (ft):	4.00
Length of Pad (ft.):	33	Width of Pad (ft.):	33
Final Length of pad (ft)	33.0	Final width of pad (ft):	33.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	6	
Qty. of Vertical Rebars:	65	Tie Spacing (in):	8.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	55	Qty. of Rebar in Pad (W):	55	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	55	Qty. of Rebar in Pad (W):	55	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	14.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	7000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	4202.06	Total Dry Soil Weight (Kips):	525.26
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	525.26	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	4519.56	Total Dry Concrete Weight (Kips):	677.93
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	677.93	Total Vertical Load on Base (Kips):	1251.07

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1295	<	Allowable Factored Soil Bearing (psf): 5250	0.25	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	18657.4	>	Design Factored Momont (kips-ft): 3241	0.17	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	5.76	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00		

(1) Concrete Pier:

							Load/ Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.44				
Calculated Moment Capacity (Mn,Kips-Ft):	16125.6	>	Design Factored Moment (Mu, Kips-F	3114.4	0.19	OK!
Calculated Shear Capacity (Kips):	898.8	>	Design Factored Shear (Kips):	31.7	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	5475.6	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7213.9	>	Design Factored Axial Load (Pu Kips):	47.9	0.01	OK!
Moment & Axial Strength Combination:	0.19	OK!	Check Tie Spacing (Design/Required):		0.6667	OK!
Pier Reinforcement Ratio:	0.018	Reinforcement Ratio is satisfied per ACI				

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1447.8	>	One-Way Factored Shear (L-D. Kips):	236.8	0.16	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1447.8	>	One-Way Factored Shear (W-D., Kips)	236.8	0.16	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1415.0	>	One-Way Factored Shear (C-C, Kips):	199.4	0.14	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0025	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0025		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	8448.5	>	Moment at Bottom (L-Dir. K-Ft):	1830.4	0.22	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	8448.5	>	Moment at Bottom (W-Dir. K-Ft):	1830.4	0.22	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	11885.0	>	Moment at Bottom (C-C Dir. K-Ft):	2588.6	0.22	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0025	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0025		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	8448.5	>	Moment at the top (L-Dir K-Ft):	639.4	0.08	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	8448.5	>	Moment at the top (W-Dir K-Ft):	639.4	0.08	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	11885.0	>	Moment at the top (C-C Dir. K-Ft):	596.5	0.05	OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	1191.9	k-ft.	Max. factored shear stress v_{u_CD}:	2.3	Psi
Max. factored shear stress v_{u_AB}:	6.2	Psi	Factored shear Strength ϕv_n:	164.3	Psi
Max. factored shear stress v_u:	6.2	Psi	Check Usage of Punching Shear Capacity:	0.04	OK!

Antenna Mount Structural Analysis

Source: SBA Date: 11.13.2017

SBA Site:	**CT02408-S Sharon 3 CT**
Sprint Site Number:	**CT33XC104**
Project:	**Sprint DO Macro Upgrade**
Prepared For:	**Sprint**
Mount Description:	**(3) T-Arms**
Site Location:	**Sharon, CT** **Litchfield County** **41.909456°, -73.366031°**
Design Codes:	**ANSI/TIA-222-G** **IBC 2012 w/ 2016 CT Building Code**
Analysis Load Case:	**Sprint Final Configuration**
Analysis Result:	**Adequate @ 46% - Once Augmented** **See Conclusion**

Revision 0
March 9, 2018

GeoStructural • P.O. Box 2621, Boise, ID 83701 • Office: (530) 539-4787
Professional Engineers | Tower Technicians | Climbers | sUAS Mapping

1.0 Introduction

An antenna mount structural analysis has been performed on Sprint's existing mount assembly located at the CT02408-S Sharon 3 CT communications site in Litchfield County, CT considering the final equipment loading configuration listed in Section 3.0.

2.0 Analysis Criteria

An elastic three-dimensional model of the mount structure has been analyzed pursuant to the following criteria:

- IBC 2012 – International Building Code.
- ANSI/TIA-222-G – Structural Standard for Antenna Supporting Structures and Antennas.
- AISC – Steel Construction Manual.
- ANSI/AWS D1.1 – Structural Welding Code.

Wind w/o ice = 115 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 90 mph (3-sec gust Equivalent per TIA-222-G Tower Code)	
Wind with ice = 40 mph (3-sec gust, 1" Ice) Exposure Category B	Topographic Category 1 Structure Class II

The following documents were provided:

- Prelim Construction Drawings
  Infinigy, 1/18/18.
- Mount and Tower Record Documents
  SBA
- Mount Assessment
  Westchester, 12/21/17.
- RF Design
  Sprint DOMU Project

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

3.0 Appurtenance Information

Table 3.1 – Sprint Final Configuration[1]

COR	(Quantity) Appurtenance Make/Model	Mount Description
117.0'±	(3) RFS APXVSPP18-C-A20	*(3) T-Arms*
	(3) ANDREW DT465B-2XR	
	(6) ALU 800MHz RRH	
	(3) ALU 1900MHz RRH	
	(3) ALU 2500MHz RRH	

1. *Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.*
2. *Panel antennas to be installed in Positions 2 and 3 with a horizontal separation not to exceed 4.5'. RRH units to be installed on dual RRH swivel brackets behind antennas on antenna mount pipes.*

4.0 Analysis Results

Table 4.1 – Existing Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final Sprint Configuration	Collar Mount	106%	**Inadequate[3]**
	Face Boom (Rail)	98%	

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.3. 105% is an acceptable allowable stress percentage for mount components.*
3. *Structural augments to the existing mount structure are required to obtain a mount structure capable of supporting the currently proposed final loading configuration in Table 3.1.*

Table 4.2 – Augmented Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final Sprint Configuration	New SFS Kit Connection Capacity	46%	**Adequate Once Augmented[3]**

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.3. 105% is an acceptable allowable stress percentage for mount components.*
3. *Refer to GeoStructural Mount Augmentation Drawings and Section 5.0 for information regarding required mount augments.*

Table 4.3 – Structural Component Material Strengths

Structural Component	Nominal Strength/Material[1]
Pipe	F_y = 35 ksi (A53, Gr. B)
Tube	F_y = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate / Bar	F_y = 36 ksi (A36)
Uni-Strut	F_y = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
Stainless Steel Bolts	18-8 Stainless, Grade 316/304 F_y = 74 ksi (Yield) & F_u = 29 ksi (Tension)
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F_y = 57 ksi (Yield) & F_u = 74 ksi (Tension)
Welds	E70XX Electrodes

1. *Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.*

5.0 Conclusion & Recommendations

Based on Sprint's final equipment loading configuration, the existing mount assembly does not have sufficient capacity to support the loading considered in this analysis pursuant to the listed standards. Structural augments (reinforcements) will be required and are briefly summarized below:

- Install Platform Reinforcement Kit; located 4.0' below the existing standoff centerline and attaching to the existing standoff member 4.0' out from the standoff to collar interface.
  - Sitepro1 PRK-1245L, (1) total.
- Existing mount face pipe rails (booms) will need to be field-cut to a total length not to exceed 6.5'.
- Install V-Brace Kit; located 3.0' above the existing standoff centerline.
  - Sitepro1 PRK-SFS-L, (1) total. Attach kit ring mount in kit to monopole shaft.
    - If the PRK-SFS-L kit is not available, provide (6) total L2-1/2x2-1/2x3/16 x ~9' long replacement angles, field-cut and drill to suit.
  - Pipe2.0STD x 6.5' Horizontal Rail, (3) total. Attach SFS-L kit angles to new horizontal rail.
  - Sitepro1 SCXx, (12) total. Attach all mount pipes to new and existing rails. (6) new Pipe2.0STD mount pipes will be required to span between existing rail and new rail.
- Panel antennas to be installed in Positions 2 and 3 with a horizontal separation not to exceed 4.5'. RRH units to be installed on dual RRH swivel brackets behind antennas on antenna mount pipes.

Once the recommended augments are successfully implemented, the augmented mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Augmentation Requirements:

- **In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade augments must be installed in accordance with GeoStructural's *Mount Augmentation Drawings*.**
- **Antennas and equipment shall be installed centered vertically on the mount front face rails. If this assumption is incorrect, the results of this analysis will be affected.**
- **In order for the specified modifications to perform as designed and to "fit-up" the existing T-Arm mounts must be appropriately rotated on standoff member such that they are perpendicular to the face of the. Panel antenna azimuths will need to be adjusted to obtain desired azimuths.**

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:

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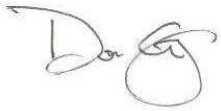
jesse.drennen@geostructural.com

Reviewed and Approved by:



Don George, PE, SE, MLSE
208.602.6569
don.george@geostructural.com

6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.

- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.

- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.

- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.

- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.

- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.

- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.

- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Calculations & Software Output

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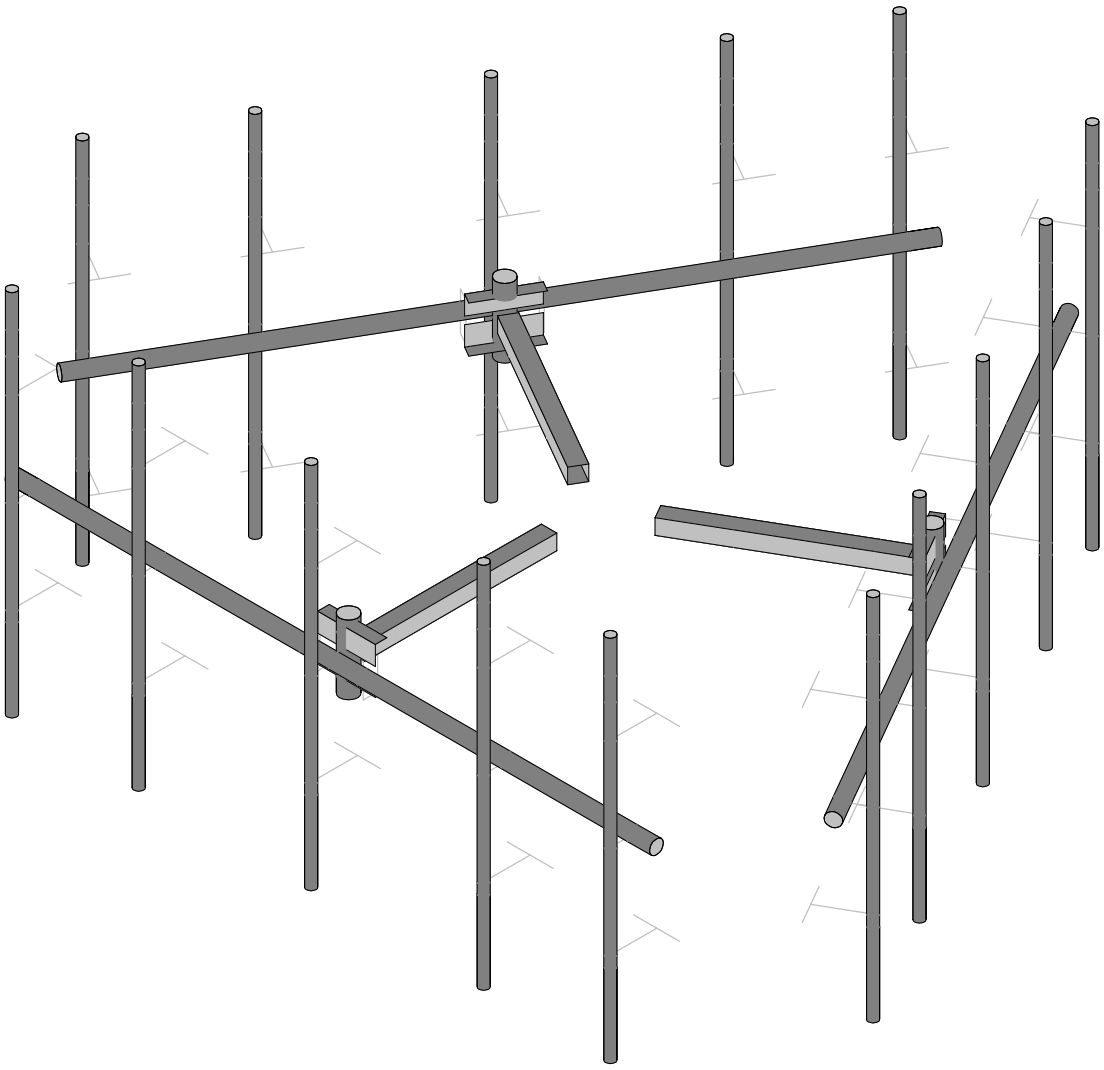

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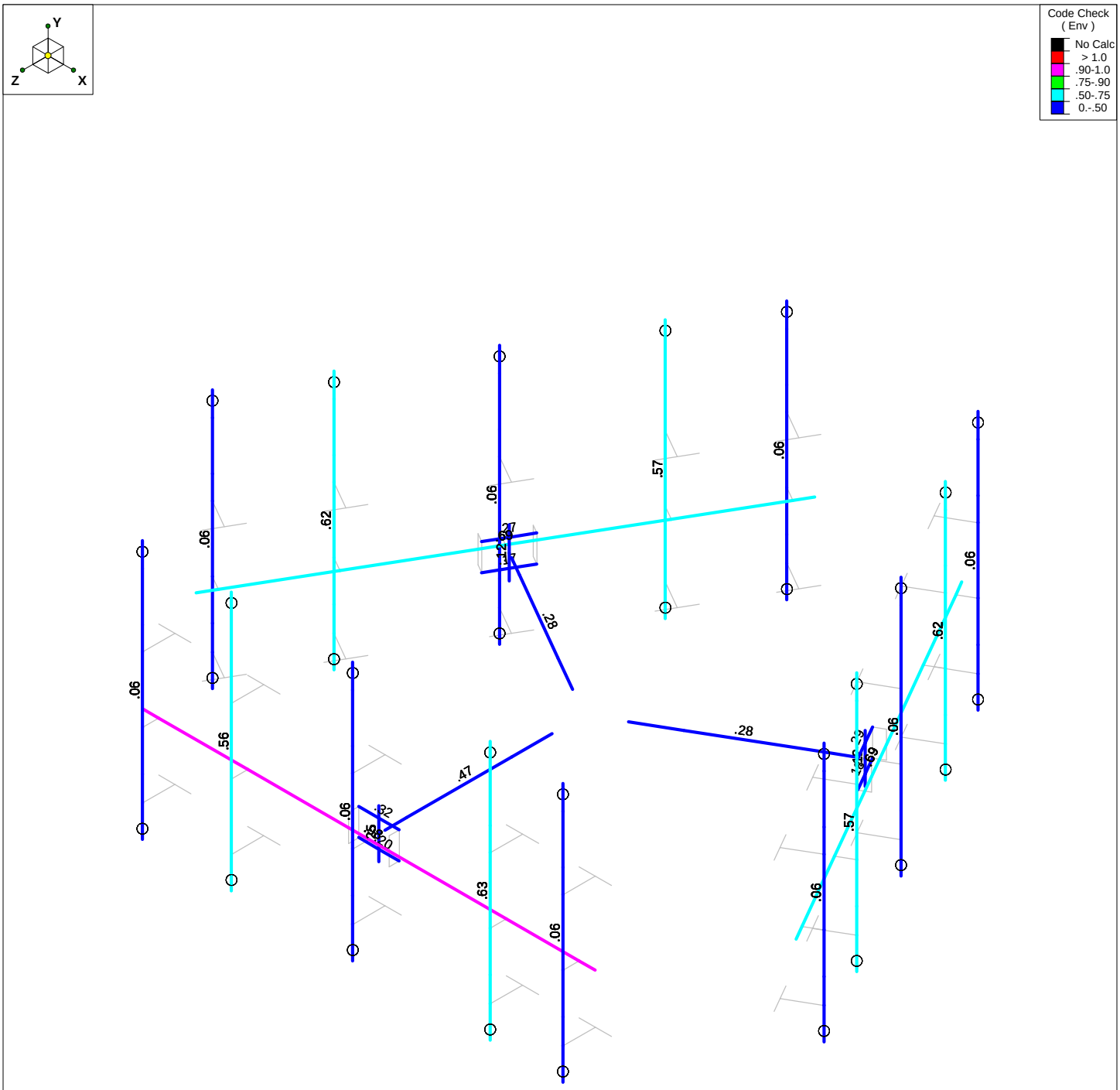

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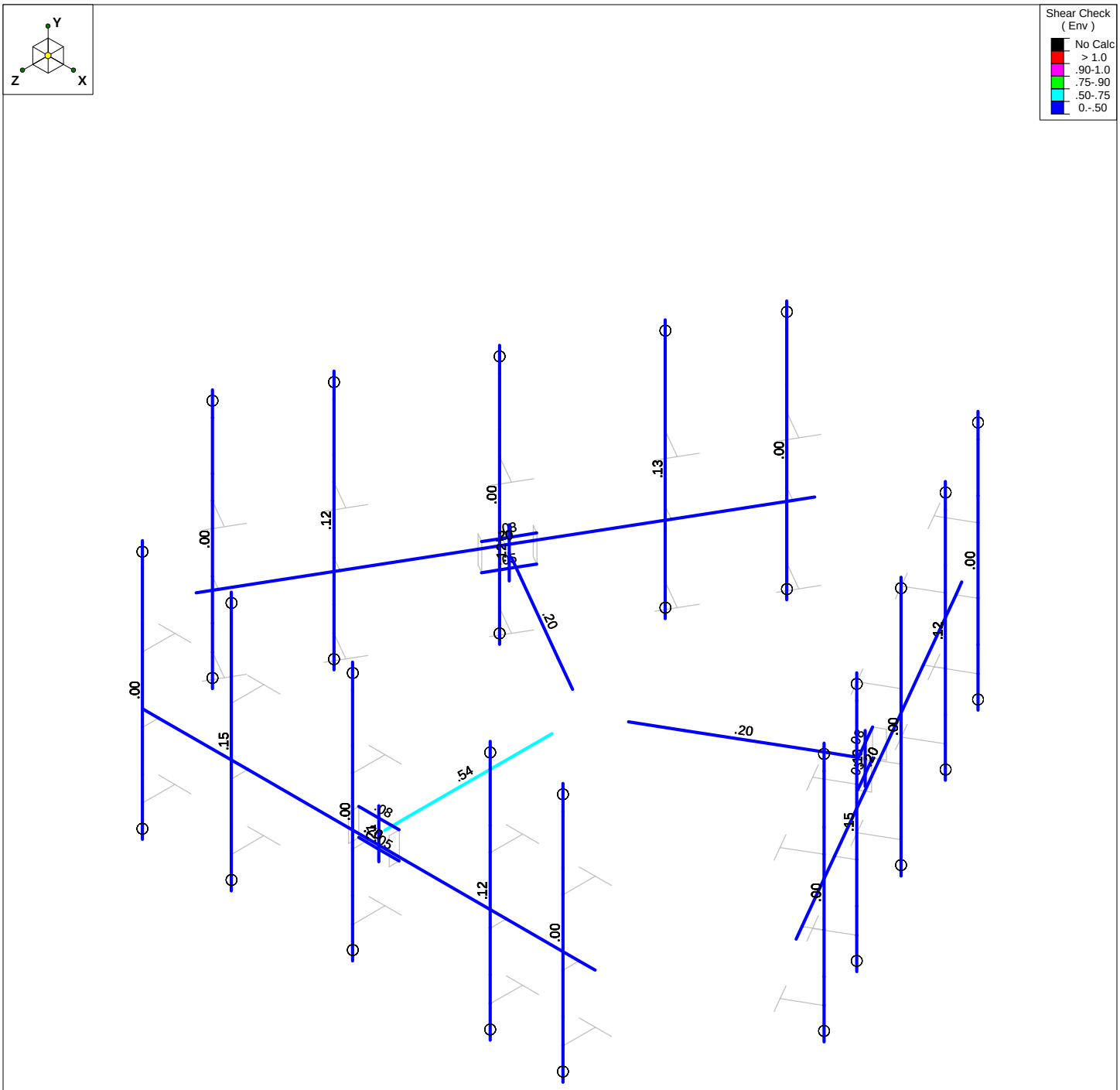

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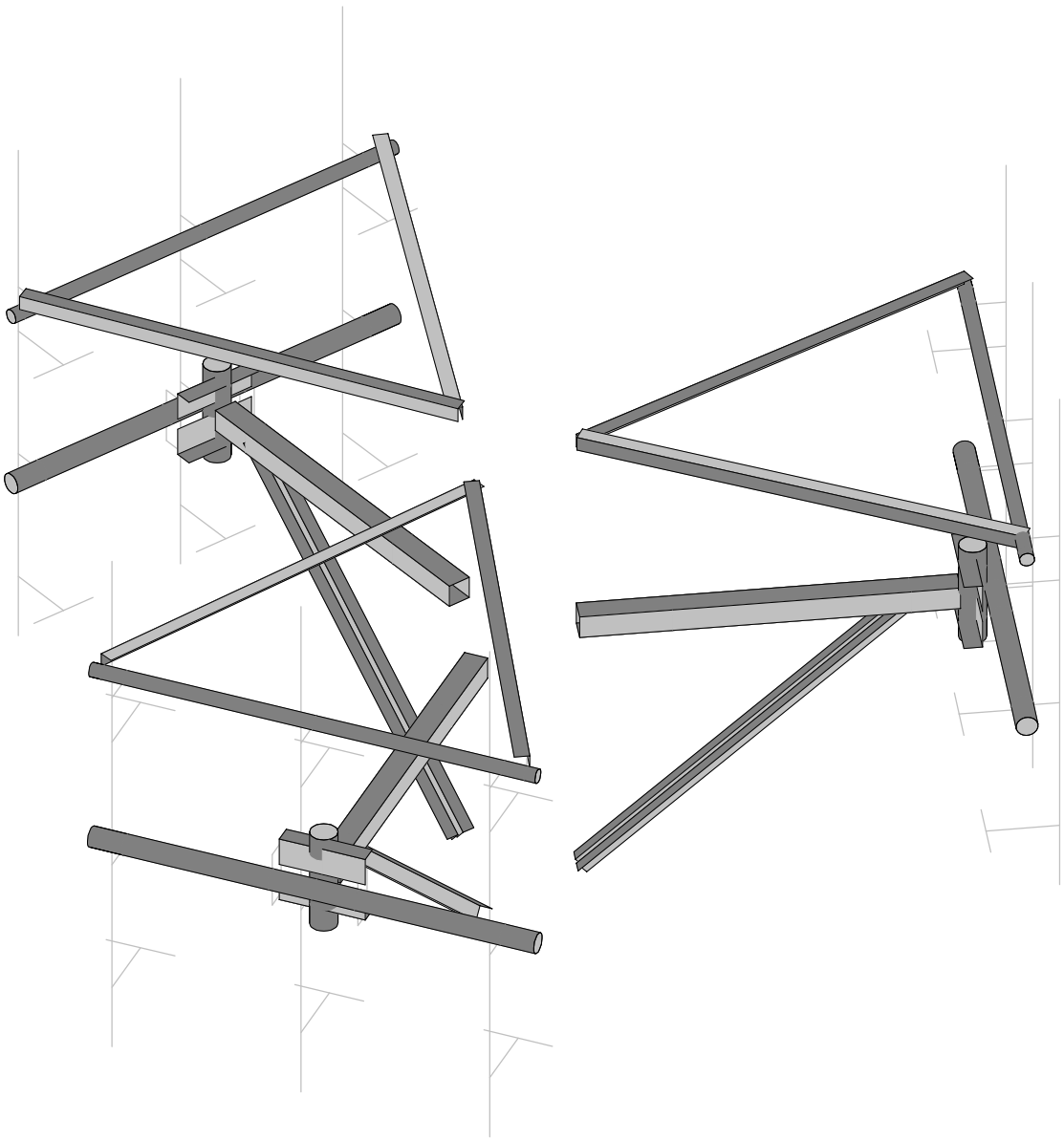

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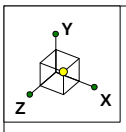

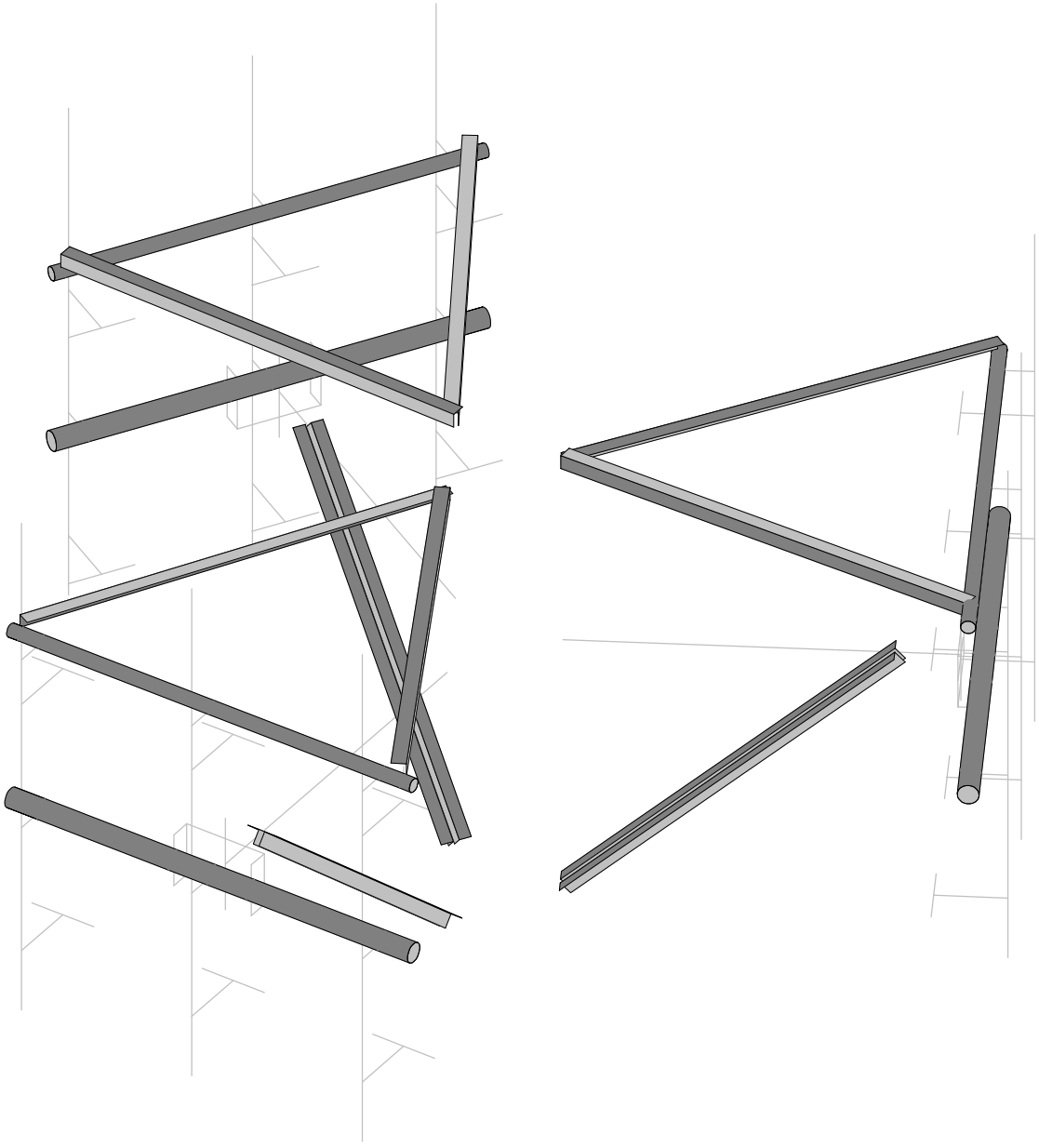

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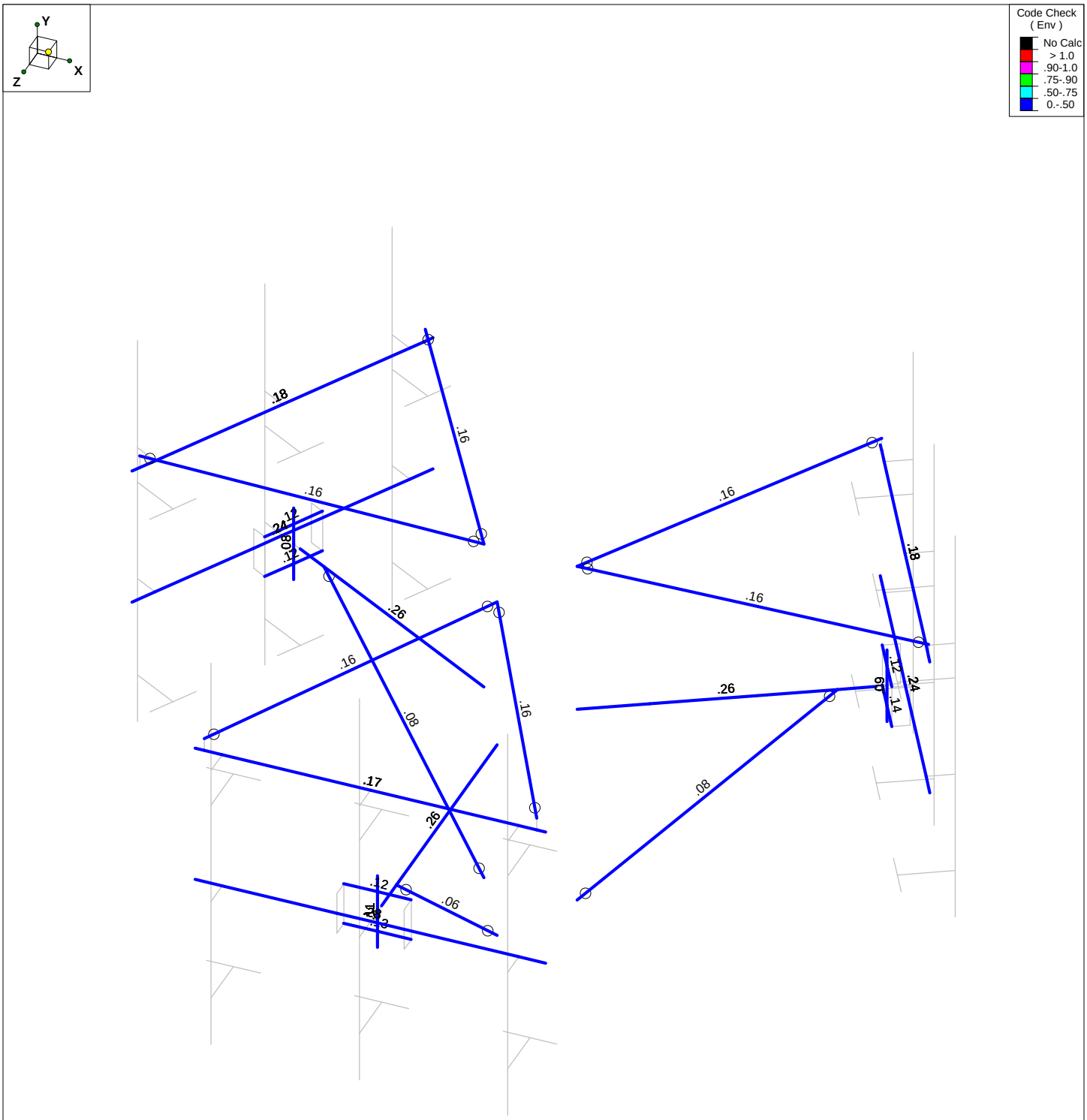

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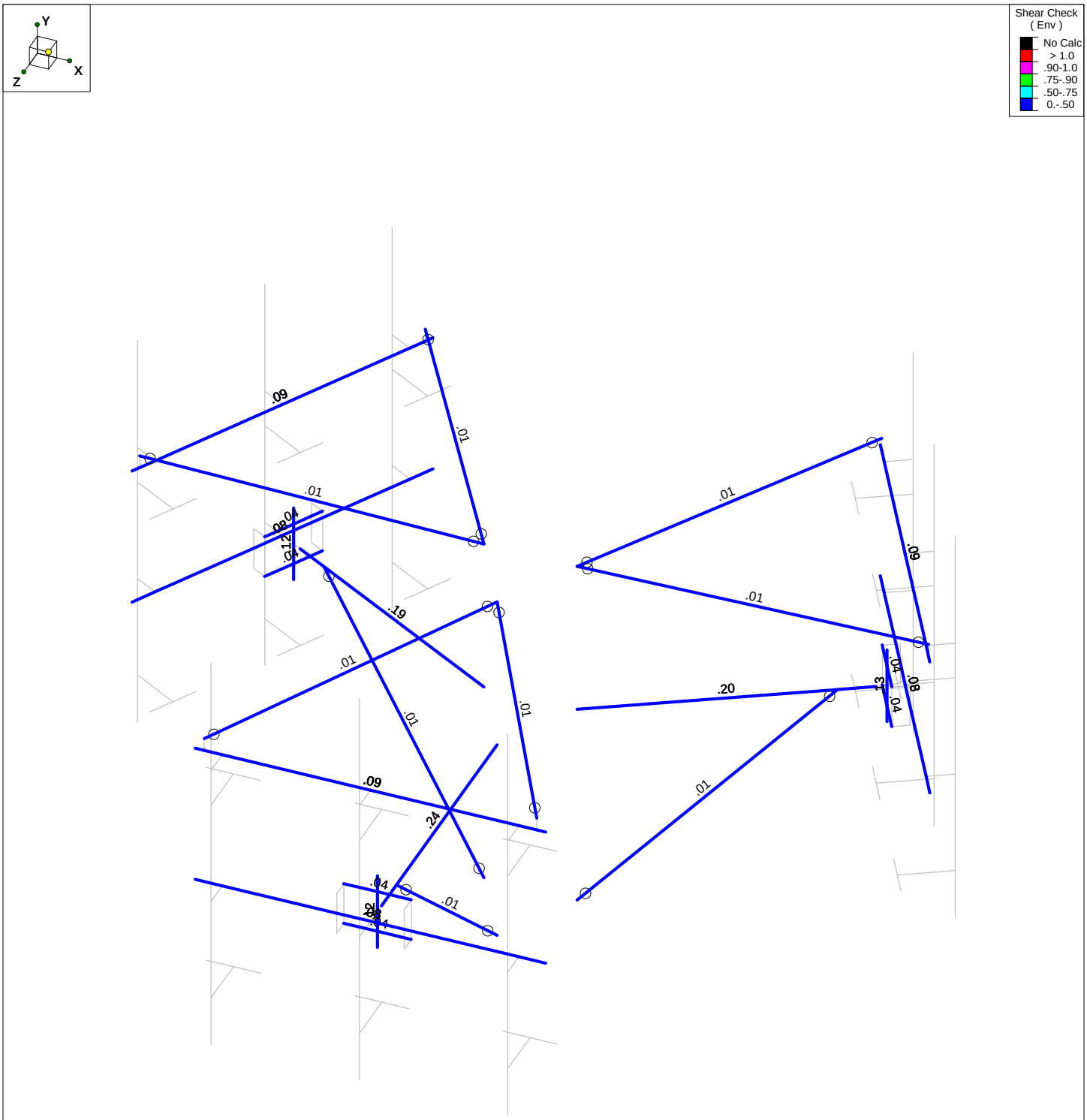

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Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	D	DL		-1		25				
2	Di	SL				25		30		
3	Lm [500]	LL				1				
4	Lv [250]	LL				2				
5	Woz	WL				25		36		
6	Wox	WL				25		36		
7	Wiz	WL				25		36		
8	Wix	WL				25		36		
9	Ez	EL				25				
10	Ex	EL				25				

Load Combination Design

	Description	ASIF	CD	ABIF	Service	Hot Rolled	Cold For...	Wood	Concrete	Masonry	Footings	Aluminum	Connecti...
1	1) 1.4D					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	2) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	3) 0.9D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	4) 1.2D+1.0...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	ASIF	CD	ABIF	Service	Hot Rolled	Cold For...	Wood	Concrete	Masonry	Footings	Aluminum	Connecti...
42	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	5) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	6) 1.2D+1.5...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	7) (1.2+0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	8) (0.9-0.2S...					Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N22	max	.051	17	.097	35	0	17	-.023	23	.038	17	-.003	17
2		min	-.051	11	.03	17	0	11	-.073	29	-.038	11	-.004	1
3	N46	max	.138	17	.14	32	.793	2	0	26	0	1	.001	11
4		min	-.145	11	.017	14	-.679	20	0	20	0	1	0	17
5	N60	max	.025	5	.097	37	.044	2	.033	31	.03	9	.065	30
6		min	-.026	23	.03	19	-.044	20	.009	25	-.03	15	.022	24
7	N68	max	.65	6	.14	36	.369	24	0	15	0	1	0	21
8		min	-.549	24	.017	18	-.421	6	0	9	0	1	0	3
9	N82	max	.026	17	.097	28	.044	14	.04	34	.03	13	-.019	15
10		min	-.025	11	.03	22	-.044	8	.014	16	-.03	19	-.062	33
11	N90	max	.566	16	.14	28	.345	15	0	25	0	1	0	13
12		min	-.661	10	.017	22	-.406	9	0	7	0	1	0	19
13	N135	max	.043	5	.131	26	.057	2	0	1	0	47	0	47
14		min	-.043	11	.017	19	-.057	8	0	1	0	66	0	66
15	N136	max	1.085	5	2.429	26	.607	14	-.413	20	1.549	17	2.036	47
16		min	-1.079	23	.541	22	-.72	8	-3.009	26	-1.578	11	-1.465	17
17	N137	max	.07	5	.131	26	.065	2	0	52	0	52	0	70
18		min	-.07	11	.017	17	-.065	8	0	70	0	70	0	52
19	N138	max	.82	16	2.429	30	1.093	3	1.946	3	1.79	21	2.657	33

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
20		min	-.92	10	.541	14	-1.042	21	-1.083	21	-1.819	3	-.222	15
21	N139	max	.07	5	.131	26	.065	2	0	74	0	56	0	74
22		min	-.07	11	.017	17	-.065	8	0	56	0	74	0	56
23	N140	max	.901	6	2.429	34	1.078	2	1.77	13	1.673	25	.149	25
24		min	-.807	24	.541	18	-1.017	20	-1.083	19	-1.701	7	-2.751	31
25	Totals:	max	4.3	5	8.386	37	4.29	14						
26		min	-4.3	23	1.818	19	-4.29	8						

Envelope Member Section Deflections

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1	M1	1	max	.009	47	.008	17	.012	12	-1.615e-04	20	NC	1	NC	1
2			min	0	17	-.023	47	-.007	18	-1.929e-03	26	483.173	47	1567.999	11
3		2	max	.009	47	.003	17	.01	36	-1.56e-04	20	NC	1	NC	1
4			min	0	17	-.015	47	-.003	18	-1.801e-03	26	651.474	47	2177.404	23
5		3	max	.008	47	-.002	20	.009	26	-1.504e-04	20	NC	1	NC	1
6			min	0	17	-.012	26	0	20	-1.672e-03	26	990.429	47	3218.997	17
7		4	max	.008	47	.003	23	.009	29	-1.607e-04	20	NC	1	NC	1
8			min	-.001	17	-.012	29	-.002	22	-1.797e-03	26	751.905	17	2170.98	17
9		5	max	.008	47	.009	23	.012	5	-1.71e-04	20	NC	1	NC	1
10			min	-.001	17	-.014	5	-.007	23	-1.921e-03	26	560.413	17	1568.21	5
11	M2	1	max	.014	5	.014	17	.006	17	1.247e-03	17	NC	1	NC	1
12			min	-.009	23	-.014	11	-.012	11	-1.311e-03	11	NC	1	NC	1
13		2	max	.014	5	.01	17	.008	17	1.247e-03	17	NC	1	NC	1
14			min	-.009	23	-.01	11	-.01	11	-1.311e-03	11	NC	1	NC	1
15		3	max	.014	5	.006	17	.009	17	1.247e-03	17	NC	1	NC	1
16			min	-.009	23	-.006	11	-.009	11	-1.311e-03	11	NC	1	NC	1
17		4	max	.014	5	.004	41	.01	5	1.247e-03	17	NC	1	NC	1
18			min	-.009	23	-.002	23	-.008	23	-1.311e-03	11	NC	1	NC	1
19		5	max	.014	5	.008	47	.012	5	1.247e-03	17	NC	1	NC	1
20			min	-.009	23	-.001	17	-.007	23	-1.311e-03	11	NC	1	NC	1
21	M3	1	max	.023	47	.013	17	.007	23	1.27e-03	17	NC	1	NC	1
22			min	-.008	17	-.014	11	-.011	5	-1.285e-03	11	NC	1	NC	1
23		2	max	.023	47	.01	17	.008	23	1.27e-03	17	NC	1	NC	1
24			min	-.008	17	-.01	11	-.01	5	-1.285e-03	11	NC	1	NC	1
25		3	max	.023	47	.006	17	.009	11	1.27e-03	17	NC	1	NC	1
26			min	-.008	17	-.006	11	-.009	17	-1.285e-03	11	NC	1	NC	1
27		4	max	.023	47	.004	41	.011	11	1.27e-03	17	NC	1	NC	1
28			min	-.008	17	-.002	23	-.008	17	-1.285e-03	11	NC	1	NC	1
29		5	max	.023	47	.009	47	.012	12	1.27e-03	17	NC	1	NC	1
30			min	-.008	17	0	17	-.007	18	-1.285e-03	11	NC	1	NC	1
31	M4	1	max	.02	29	.018	17	.006	17	1.247e-03	17	NC	1	NC	1
32			min	-.008	23	-.019	11	-.012	11	-1.311e-03	11	NC	1	NC	1
33		2	max	.02	29	.015	17	.008	17	1.247e-03	17	NC	1	NC	1
34			min	-.008	23	-.015	11	-.01	11	-1.311e-03	11	NC	1	NC	1
35		3	max	.02	29	.011	17	.009	17	1.247e-03	17	NC	1	NC	1
36			min	-.008	23	-.011	11	-.009	11	-1.311e-03	11	NC	1	NC	1
37		4	max	.02	29	.007	17	.01	5	1.247e-03	17	NC	1	NC	1
38			min	-.008	23	-.007	11	-.008	23	-1.311e-03	11	NC	1	NC	1
39		5	max	.02	29	.007	41	.012	5	1.247e-03	17	NC	1	NC	1
40			min	-.008	23	-.004	23	-.007	23	-1.311e-03	11	NC	1	NC	1
41	M5	1	max	.028	47	.018	17	.007	23	1.27e-03	17	NC	1	NC	1
42			min	-.007	17	-.019	11	-.011	5	-1.285e-03	11	NC	1	NC	1
43		2	max	.028	47	.015	17	.008	23	1.27e-03	17	NC	1	NC	1
44			min	-.007	17	-.015	11	-.01	5	-1.285e-03	11	NC	1	NC	1
45		3	max	.028	47	.011	17	.009	11	1.27e-03	17	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
46			min	-.007	17	-.011	11	-.009	17	-1.285e-03	11	NC	1	NC	1
47		4	max	.028	47	.007	5	.011	11	1.27e-03	17	NC	1	NC	1
48			min	-.007	17	-.007	23	-.008	17	-1.285e-03	11	NC	1	NC	1
49		5	max	.028	47	.007	41	.012	12	1.27e-03	17	NC	1	NC	1
50			min	-.007	17	-.003	23	-.007	18	-1.285e-03	11	NC	1	NC	1
51	M6	1	max	.007	23	.009	23	.008	47	1.461e-03	17	NC	1	NC	1
52			min	-.012	5	-.014	5	-.001	17	-2.e-03	47	NC	1	NC	1
53		2	max	.007	23	.009	23	.008	44	1.461e-03	17	NC	1	NC	1
54			min	-.012	5	-.015	5	0	66	-2.e-03	47	NC	1	NC	1
55		3	max	.007	23	.008	23	.008	41	1.461e-03	17	NC	1	NC	1
56			min	-.012	5	-.017	29	-.001	23	-2.e-03	47	NC	1	NC	1
57		4	max	.007	23	.008	23	.007	41	1.461e-03	17	NC	1	NC	1
58			min	-.012	5	-.018	29	-.002	23	-2.e-03	47	NC	1	NC	1
59		5	max	.007	23	.008	23	.007	41	1.461e-03	17	NC	1	NC	1
60			min	-.012	5	-.02	29	-.004	23	-2.e-03	47	NC	1	NC	1
61	M7	1	max	.007	18	.008	17	.009	47	1.445e-03	17	NC	1	NC	1
62			min	-.012	12	-.023	47	0	17	-2.052e-03	47	NC	1	NC	1
63		2	max	.007	18	.008	17	.008	44	1.445e-03	17	NC	1	NC	1
64			min	-.012	12	-.024	47	0	66	-2.052e-03	47	NC	1	NC	1
65		3	max	.007	18	.008	17	.008	41	1.445e-03	17	NC	1	NC	1
66			min	-.012	12	-.025	47	0	23	-2.052e-03	47	NC	1	NC	1
67		4	max	.007	18	.007	17	.008	41	1.445e-03	17	NC	1	NC	1
68			min	-.012	12	-.026	47	-.002	23	-2.052e-03	47	NC	1	NC	1
69		5	max	.007	18	.007	17	.007	41	1.445e-03	17	NC	1	NC	1
70			min	-.012	12	-.028	47	-.003	23	-2.052e-03	47	NC	1	NC	1
71	M8	1	max	.012	11	.009	23	.014	17	1.461e-03	17	NC	1	NC	1
72			min	-.006	17	-.014	5	-.014	11	-2.e-03	47	NC	1	NC	1
73		2	max	.012	11	.009	23	.015	17	1.461e-03	17	NC	1	NC	1
74			min	-.006	17	-.015	5	-.015	11	-2.e-03	47	NC	1	NC	1
75		3	max	.012	11	.008	23	.016	17	1.461e-03	17	NC	1	NC	1
76			min	-.006	17	-.017	29	-.017	11	-2.e-03	47	NC	1	NC	1
77		4	max	.012	11	.008	23	.017	17	1.461e-03	17	NC	1	NC	1
78			min	-.006	17	-.018	29	-.018	11	-2.e-03	47	NC	1	NC	1
79		5	max	.012	11	.008	23	.018	17	1.461e-03	17	NC	1	NC	1
80			min	-.006	17	-.02	29	-.019	11	-2.e-03	47	NC	1	NC	1
81	M9	1	max	.011	5	.008	17	.013	17	1.445e-03	17	NC	1	NC	1
82			min	-.007	23	-.023	47	-.014	11	-2.052e-03	47	NC	1	NC	1
83		2	max	.011	5	.008	17	.015	17	1.445e-03	17	NC	1	NC	1
84			min	-.007	23	-.024	47	-.015	11	-2.052e-03	47	NC	1	NC	1
85		3	max	.011	5	.008	17	.016	17	1.445e-03	17	NC	1	NC	1
86			min	-.007	23	-.025	47	-.017	11	-2.052e-03	47	NC	1	NC	1
87		4	max	.011	5	.007	17	.017	17	1.445e-03	17	NC	1	NC	1
88			min	-.007	23	-.026	47	-.018	11	-2.052e-03	47	NC	1	NC	1
89		5	max	.011	5	.007	17	.018	17	1.445e-03	17	NC	1	NC	1
90			min	-.007	23	-.028	47	-.019	11	-2.052e-03	47	NC	1	NC	1
91	M10	1	max	.014	11	.014	5	.006	17	1.921e-03	26	NC	1	NC	1
92			min	-.014	17	-.009	23	-.012	11	1.71e-04	20	1018.937	17	611.001	11
93		2	max	.014	11	.012	29	.002	17	1.798e-03	26	NC	1	NC	1
94			min	-.013	17	-.003	23	-.01	35	1.859e-04	20	1362.546	17	836.119	11
95		3	max	.014	11	.012	26	-.001	20	1.674e-03	26	NC	1	NC	1
96			min	-.013	17	.002	20	-.009	26	2.008e-04	20	1173.449	47	1255.609	23
97		4	max	.014	11	.015	47	.002	23	1.802e-03	26	NC	1	NC	1
98			min	-.013	17	-.003	17	-.01	29	1.812e-04	20	767.355	47	869.727	17
99		5	max	.014	11	.023	47	.007	23	1.929e-03	26	NC	1	NC	1
100			min	-.013	17	-.008	17	-.011	5	1.615e-04	20	569.373	47	637.134	17
101	M11	1	max	0	14	-.002	20	.006	11	1.753e-03	47	NC	1	NC	1
102			min	0	8	-.012	26	-.006	17	-1.259e-03	17	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
103		2	max	0	14	-.001	20	.006	11	1.753e-03	47	NC	1	NC	1
104			min	0	8	-.011	26	-.006	17	-1.259e-03	17	NC	1	NC	1
105		3	max	0	14	-.001	20	.005	11	1.753e-03	47	NC	1	NC	1
106			min	0	8	-.01	26	-.005	17	-1.259e-03	17	NC	1	NC	1
107		4	max	0	14	-.001	20	.005	11	1.753e-03	47	NC	1	NC	1
108			min	0	8	-.009	26	-.005	17	-1.259e-03	17	NC	1	NC	1
109		5	max	0	14	-.001	20	.004	11	1.753e-03	47	NC	1	NC	1
110			min	0	8	-.008	26	-.004	17	-1.259e-03	17	NC	1	NC	1
111	M12	1	max	-.002	20	.016	47	-.001	20	1.046e-03	11	NC	1	NC	1
112			min	-.012	26	-.007	17	-.015	26	-1.017e-03	17	NC	1	1443.6	2
113		2	max	-.002	20	.007	47	0	20	1.027e-03	11	NC	1	NC	1
114			min	-.012	26	0	66	-.008	26	-9.994e-04	17	6079.121	15	1939.516	2
115		3	max	-.002	20	.006	17	0	8	8.588e-04	11	NC	1	NC	1
116			min	-.012	26	-.006	11	0	14	-8.386e-04	17	3100.93	15	1227.019	33
117		4	max	-.002	20	.013	17	.008	26	9.69e-04	11	NC	1	NC	1
118			min	-.012	26	-.013	11	.001	20	-9.446e-04	17	2056.79	15	812.571	33
119		5	max	-.002	20	.019	17	.015	26	9.813e-04	11	NC	1	NC	1
120			min	-.012	26	-.02	11	.002	20	-9.564e-04	17	1548.316	15	610.065	33
121	M17	1	max	.106	17	.083	17	.067	23	2.14e-03	35	NC	1	NC	1
122			min	-.11	11	-.192	47	-.076	5	-4.841e-04	17	NC	1	NC	1
123		2	max	.106	17	.069	17	.062	23	2.14e-03	35	NC	1	NC	1
124			min	-.11	11	-.184	47	-.072	5	-4.841e-04	17	NC	1	NC	1
125		3	max	.106	17	.056	17	.058	23	2.14e-03	35	NC	1	NC	1
126			min	-.11	11	-.177	47	-.068	5	-4.841e-04	17	NC	1	NC	1
127		4	max	.106	17	.042	17	.054	23	2.14e-03	35	NC	1	NC	1
128			min	-.11	11	-.169	47	-.064	5	-4.841e-04	17	NC	1	NC	1
129		5	max	.106	17	.029	17	.049	23	2.14e-03	35	NC	1	NC	1
130			min	-.11	11	-.161	47	-.06	5	-4.841e-04	17	NC	1	NC	1
131	M18	1	max	.068	5	.056	17	.106	17	4.512e-03	5	NC	1	NC	1
132			min	-.058	23	-.177	47	-.11	11	-4.485e-03	23	NC	1	NC	1
133		2	max	.068	5	.054	17	.11	17	4.512e-03	5	NC	1	NC	1
134			min	-.058	23	-.171	47	-.114	11	-4.485e-03	23	NC	1	NC	1
135		3	max	.068	5	.053	17	.114	17	4.512e-03	5	NC	1	NC	1
136			min	-.058	23	-.164	47	-.119	11	-4.485e-03	23	NC	1	NC	1
137		4	max	.068	5	.051	17	.118	17	4.512e-03	5	NC	1	NC	1
138			min	-.058	23	-.158	47	-.123	11	-4.485e-03	23	NC	1	NC	1
139		5	max	.068	5	.05	17	.123	17	4.512e-03	5	NC	1	NC	1
140			min	-.058	23	-.152	47	-.127	11	-4.485e-03	23	NC	1	NC	1
141	M25	1	max	.152	47	.284	17	.148	12	2.362e-03	16	NC	1	NC	1
142			min	-.05	17	-.306	11	-.121	18	-2.57e-03	10	255.313	11	1404.622	5
143		2	max	.152	47	.17	17	.079	11	2.362e-03	16	NC	1	NC	6
144			min	-.05	17	-.178	11	-.076	17	-2.57e-03	10	385.871	11	1155.973	13
145		3	max	.152	47	.065	17	.045	23	1.743e-03	5	NC	2	NC	9
146			min	-.05	17	-.071	11	-.061	5	-1.59e-03	23	679.619	11	867.21	13
147		4	max	.152	47	.053	45	.072	12	2.231e-03	6	NC	2	NC	3
148			min	-.05	17	0	15	-.059	18	-1.877e-03	24	1034.541	33	1440.87	13
149		5	max	.152	47	.173	47	.143	13	2.231e-03	6	NC	2	NC	4
150			min	-.05	17	-.021	17	-.096	19	-1.877e-03	24	626.225	33	1456.974	3
151	M26	1	max	.055	6	.053	17	.011	17	2.185e-03	17	NC	1	NC	1
152			min	-.05	24	-.14	47	-.011	11	-5.091e-03	47	NC	1	NC	1
153		2	max	.055	6	.052	17	.014	5	2.185e-03	17	NC	1	NC	1
154			min	-.05	24	-.143	47	-.014	23	-5.091e-03	47	NC	1	NC	1
155		3	max	.055	6	.051	17	.017	5	2.185e-03	17	NC	1	NC	1
156			min	-.05	24	-.146	47	-.017	23	-5.091e-03	47	NC	1	NC	1
157		4	max	.055	6	.051	17	.021	5	2.185e-03	17	NC	1	NC	1
158			min	-.05	24	-.149	47	-.019	23	-5.091e-03	47	NC	1	NC	1
159		5	max	.055	6	.05	17	.024	5	2.185e-03	17	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
160			min	-.05	24	-.152	47	-.022	23	-5.091e-03	47	NC	1	NC	1
161	M31	1	max	.011	11	.071	23	.066	11	2.805e-03	26	NC	1	NC	1
162			min	-.011	17	-.106	5	-.054	17	-3.594e-04	20	468.038	17	633.754	11
163		2	max	.011	11	.028	23	.028	11	2.337e-03	26	NC	2	NC	1
164			min	-.011	17	-.043	5	-.025	17	-7.862e-05	20	728.572	17	917.833	23
165		3	max	.011	11	-.002	20	0	8	2.035e-03	26	NC	2	NC	1
166			min	-.011	17	-.019	26	0	14	2.357e-04	20	1032.195	23	1347.928	23
167		4	max	.011	11	.026	17	.027	5	2.357e-03	26	NC	2	NC	1
168			min	-.011	17	-.07	47	-.026	23	-1.321e-04	20	587.992	47	962.164	17
169		5	max	.011	11	.066	17	.068	6	2.839e-03	26	NC	3	NC	1
170			min	-.011	17	-.17	47	-.061	24	-4.623e-04	20	335.66	47	657.224	17
171	M32	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
172			min	0	1	0	1	0	1	0	1	NC	1	NC	1
173		2	max	0	1	0	23	0	17	6.989e-06	1	NC	1	NC	1
174			min	0	1	0	29	0	11	4.493e-06	17	NC	1	NC	1
175		3	max	0	1	0	23	0	17	4.175e-06	1	NC	1	NC	1
176			min	0	1	0	29	0	11	2.684e-06	17	NC	1	NC	1
177		4	max	0	1	0	23	0	17	1.362e-06	1	NC	1	NC	1
178			min	0	1	0	29	0	11	8.755e-07	17	NC	1	NC	1
179		5	max	0	8	-.001	20	.004	17	1.259e-03	17	NC	1	NC	1
180			min	0	14	-.008	26	-.004	11	-1.753e-03	47	7557.821	26	NC	1
181	M19	1	max	.115	11	.088	23	.076	11	5.476e-04	23	NC	1	NC	1
182			min	-.113	17	-.14	5	-.061	17	-2.164e-03	29	NC	1	NC	1
183		2	max	.115	11	.074	23	.073	11	5.476e-04	23	NC	1	NC	1
184			min	-.113	17	-.127	5	-.059	17	-2.164e-03	29	NC	1	NC	1
185		3	max	.115	11	.061	23	.07	11	5.476e-04	23	NC	1	NC	1
186			min	-.113	17	-.115	29	-.056	17	-2.164e-03	29	NC	1	NC	1
187		4	max	.115	11	.047	23	.068	11	5.476e-04	23	NC	1	NC	1
188			min	-.113	17	-.114	29	-.054	17	-2.164e-03	29	NC	1	NC	1
189		5	max	.115	11	.033	23	.065	11	5.476e-04	23	NC	1	NC	1
190			min	-.113	17	-.113	29	-.051	17	-2.164e-03	29	NC	1	NC	1
191	M20	1	max	.07	11	.061	23	.113	17	4.257e-03	17	NC	1	NC	1
192			min	-.056	17	-.115	29	-.115	11	-4.564e-03	11	NC	1	NC	1
193		2	max	.07	11	.059	23	.115	17	4.257e-03	17	NC	1	NC	1
194			min	-.056	17	-.109	5	-.118	11	-4.564e-03	11	NC	1	NC	1
195		3	max	.07	11	.057	23	.118	17	4.257e-03	17	NC	1	NC	1
196			min	-.056	17	-.103	5	-.121	11	-4.564e-03	11	NC	1	NC	1
197		4	max	.07	11	.056	23	.12	17	4.257e-03	17	NC	1	NC	1
198			min	-.056	17	-.097	5	-.124	11	-4.564e-03	11	NC	1	NC	1
199		5	max	.07	11	.054	23	.123	17	4.257e-03	17	NC	1	NC	1
200			min	-.056	17	-.091	5	-.127	11	-4.564e-03	11	NC	1	NC	1
201	M21	1	max	.091	5	.289	5	.14	4	2.301e-03	6	NC	1	NC	1
202			min	-.054	23	-.286	23	-.119	22	-2.289e-03	24	270.745	5	1296.652	11
203		2	max	.091	5	.17	17	.078	17	2.301e-03	6	NC	1	NC	5
204			min	-.054	23	-.174	11	-.079	11	-2.289e-03	24	407.973	5	1236.631	3
205		3	max	.091	5	.068	5	.043	17	1.209e-03	17	NC	1	NC	6
206			min	-.054	23	-.068	23	-.063	11	-1.519e-03	11	718.419	5	912.695	3
207		4	max	.091	5	.014	49	.063	4	1.607e-03	17	NC	2	NC	1
208			min	-.054	23	-.03	31	-.055	22	-2.101e-03	11	1340.266	31	1484.638	3
209		5	max	.091	5	.059	48	.124	3	1.607e-03	17	NC	2	NC	3
210			min	-.054	23	-.085	30	-.082	21	-2.101e-03	11	769.321	31	1444.091	13
211	M22	1	max	.054	11	.057	23	.011	17	3.308e-03	5	NC	1	NC	1
212			min	-.045	17	-.086	5	-.011	11	-2.357e-03	23	NC	1	NC	1
213		2	max	.054	11	.056	23	.013	17	3.308e-03	5	NC	1	NC	1
214			min	-.045	17	-.087	5	-.015	11	-2.357e-03	23	NC	1	NC	1
215		3	max	.054	11	.056	23	.016	17	3.308e-03	5	NC	1	NC	1
216			min	-.045	17	-.088	5	-.018	11	-2.357e-03	23	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
217		4	max	.054	11	.055	23	.018	17	3.308e-03	5	NC	1	NC	1
218			min	-.045	17	-.09	5	-.021	11	-2.357e-03	23	NC	1	NC	1
219		5	max	.054	11	.054	23	.021	17	3.308e-03	5	NC	1	NC	1
220			min	-.045	17	-.091	5	-.024	11	-2.357e-03	23	NC	1	NC	1
221	M41	1	max	.073	17	.056	17	.146	17	3.671e-03	17	NC	1	NC	1
222			min	-.073	11	-.163	47	-.151	11	-4.221e-03	11	NC	1	NC	1
223		2	max	.073	17	.055	17	.149	17	3.671e-03	17	NC	1	NC	1
224			min	-.073	11	-.16	47	-.154	11	-4.221e-03	11	NC	1	NC	1
225		3	max	.073	17	.053	17	.152	17	3.671e-03	17	NC	1	NC	1
226			min	-.073	11	-.157	47	-.158	11	-4.221e-03	11	NC	1	NC	1
227		4	max	.073	17	.052	17	.155	17	3.671e-03	17	NC	1	NC	1
228			min	-.073	11	-.155	47	-.161	11	-4.221e-03	11	NC	1	NC	1
229		5	max	.073	17	.05	17	.159	17	3.671e-03	17	NC	1	NC	1
230			min	-.073	11	-.152	47	-.165	11	-4.221e-03	11	NC	1	NC	1
231	M42	1	max	.151	11	.082	23	.088	11	1.231e-03	22	NC	1	NC	1
232			min	-.146	17	-.127	5	-.084	17	-2.131e-03	4	392.762	17	NC	1
233		2	max	.151	11	.028	23	.048	10	8.875e-04	21	NC	1	NC	1
234			min	-.146	17	-.074	29	-.044	16	-1.874e-03	3	578.752	17	1886.114	5
235		3	max	.15	11	0	20	.026	8	7.368e-04	20	NC	14	NC	1
236			min	-.146	17	-.044	26	-.023	14	-1.911e-03	26	852.003	23	948.045	5
237		4	max	.151	11	.025	18	.046	6	8.597e-04	19	NC	1	NC	1
238			min	-.146	17	-.108	48	-.044	24	-1.875e-03	13	468.864	47	625.326	5
239		5	max	.151	11	.078	17	.086	17	1.172e-03	18	NC	3	NC	1
240			min	-.146	17	-.183	47	-.088	11	-2.129e-03	12	322.715	47	460.834	5
241	M43	1	max	.076	11	.06	23	.146	17	3.918e-03	5	NC	1	NC	1
242			min	-.072	17	-.103	5	-.151	11	-3.645e-03	23	NC	1	NC	1
243		2	max	.076	11	.059	23	.149	17	3.918e-03	5	NC	1	NC	1
244			min	-.072	17	-.1	5	-.154	11	-3.645e-03	23	NC	1	NC	1
245		3	max	.076	11	.057	23	.152	17	3.918e-03	5	NC	1	NC	1
246			min	-.072	17	-.097	5	-.156	11	-3.645e-03	23	NC	1	NC	1
247		4	max	.076	11	.056	23	.155	17	3.918e-03	5	NC	1	NC	1
248			min	-.072	17	-.094	5	-.159	11	-3.645e-03	23	NC	1	NC	1
249		5	max	.076	11	.054	23	.158	17	3.918e-03	5	NC	1	NC	1
250			min	-.072	17	-.091	5	-.162	11	-3.645e-03	23	NC	1	NC	1
251	M46	1	max	.119	5	.158	17	.086	17	2.391e-03	18	NC	1	NC	1
252			min	-.075	23	-.161	11	-.087	11	-2.416e-03	12	NC	1	NC	1
253		2	max	.119	5	.155	17	.084	17	2.391e-03	18	NC	1	NC	1
254			min	-.075	23	-.159	11	-.087	11	-2.416e-03	12	NC	1	NC	1
255		3	max	.119	5	.152	17	.083	17	2.391e-03	18	NC	1	NC	1
256			min	-.075	23	-.156	11	-.086	11	-2.416e-03	12	NC	1	NC	1
257		4	max	.119	5	.149	17	.081	17	2.391e-03	18	NC	1	NC	1
258			min	-.075	23	-.153	11	-.085	11	-2.416e-03	12	NC	1	NC	1
259		5	max	.119	5	.146	17	.08	17	2.391e-03	18	NC	1	NC	1
260			min	-.075	23	-.151	11	-.084	11	-2.416e-03	12	NC	1	NC	1
261	M47	1	max	.176	47	.157	17	.089	11	2.492e-03	16	NC	1	NC	1
262			min	-.071	17	-.164	11	-.085	17	-2.672e-03	10	NC	1	NC	1
263		2	max	.176	47	.154	17	.087	11	2.492e-03	16	NC	1	NC	1
264			min	-.071	17	-.16	11	-.084	17	-2.672e-03	10	NC	1	NC	1
265		3	max	.176	47	.151	17	.086	11	2.492e-03	16	NC	1	NC	1
266			min	-.071	17	-.157	11	-.083	17	-2.672e-03	10	NC	1	NC	1
267		4	max	.176	47	.148	17	.084	11	2.492e-03	16	NC	1	NC	1
268			min	-.071	17	-.154	11	-.083	17	-2.672e-03	10	NC	1	NC	1
269		5	max	.176	47	.146	17	.083	11	2.492e-03	16	NC	1	NC	1
270			min	-.071	17	-.151	11	-.082	17	-2.672e-03	10	NC	1	NC	1
271	M48	1	max	.002	2	.183	11	.119	5	3.737e-03	23	NC	1	NC	1
272			min	-.001	20	-.179	17	-.075	23	-4.44e-03	5	632.835	47	2673.79	2
273		2	max	.001	2	.201	11	.152	29	2.803e-03	23	NC	1	NC	7

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
274			min	0	20	-.183	17	-.025	47	-3.33e-03	5	868.231	47	814.098	34
275		3	max	0	2	.18	11	.155	30	1.868e-03	23	NC	1	NC	7
276			min	0	20	-.158	17	-.006	38	-2.22e-03	5	1345.439	47	580.045	34
277		4	max	0	2	.109	11	.1	32	9.342e-04	23	NC	1	NC	2
278			min	0	20	-.094	17	0	40	-1.11e-03	5	2764.938	47	814.098	34
279		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
280			min	0	1	0	1	0	1	0	1	NC	1	NC	1
281	M49	1	max	.002	2	.176	47	.178	17	4.686e-03	11	NC	1	NC	1
282			min	-.001	20	-.071	17	-.186	11	-3.717e-03	17	1073.219	66	3314.042	2
283		2	max	.001	2	.16	35	.196	5	3.515e-03	11	NC	1	NC	9
284			min	-.001	20	-.01	17	-.188	23	-2.788e-03	17	1506.504	66	814.096	30
285		3	max	0	2	.161	35	.177	5	2.343e-03	11	NC	1	NC	2
286			min	0	20	.003	66	-.161	23	-1.859e-03	17	2384.967	36	580.043	30
287		4	max	0	2	.103	33	.107	5	1.172e-03	11	NC	1	NC	2
288			min	0	20	.004	24	-.095	23	-9.293e-04	17	3347.323	36	814.096	30
289		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
290			min	0	1	0	1	0	1	0	1	NC	1	NC	1
291	M50	1	max	.001	3	.01	21	.014	3	-1.594e-04	23	NC	1	NC	1
292			min	0	21	-.017	3	-.009	21	-1.93e-03	29	480.151	3	1325.173	3
293		2	max	.001	3	.004	21	.01	28	-1.686e-04	23	NC	1	NC	1
294			min	0	21	-.013	27	-.003	22	-1.799e-03	29	644.806	3	1844.485	15
295		3	max	.001	52	-.002	24	.009	30	-1.743e-04	24	NC	1	NC	1
296			min	0	70	-.012	30	0	24	-1.669e-03	30	970.249	3	2673.904	21
297		4	max	.001	3	.003	15	.009	33	-1.898e-04	24	NC	1	NC	1
298			min	0	70	-.012	33	-.003	15	-1.793e-03	30	680.292	21	1822.315	21
299		5	max	.001	3	.01	15	.013	9	-2.052e-04	24	NC	1	NC	1
300			min	0	21	-.015	9	-.008	15	-1.917e-03	30	507.286	21	1325.419	9
301	M51	1	max	.015	9	0	22	.02	3	1.425e-03	21	NC	1	NC	1
302			min	-.01	15	-.009	28	-.017	21	-1.49e-03	3	NC	1	NC	1
303		2	max	.015	9	.002	21	.016	3	1.425e-03	21	NC	1	NC	1
304			min	-.01	15	-.005	27	-.014	21	-1.49e-03	3	NC	1	NC	1
305		3	max	.015	9	.005	21	.011	3	1.425e-03	21	NC	1	NC	1
306			min	-.01	15	-.005	3	-.011	21	-1.49e-03	3	NC	1	NC	1
307		4	max	.015	9	.008	9	.007	15	1.425e-03	21	NC	1	NC	1
308			min	-.01	15	-.007	15	-.008	9	-1.49e-03	3	NC	1	NC	1
309		5	max	.015	9	.011	9	.003	15	1.425e-03	21	NC	1	NC	1
310			min	-.01	15	-.008	15	-.006	9	-1.49e-03	3	NC	1	NC	1
311	M52	1	max	.017	3	.014	15	.01	3	1.454e-03	21	NC	1	NC	1
312			min	-.01	21	-.018	9	-.007	21	-1.469e-03	3	NC	1	NC	1
313		2	max	.017	3	.013	15	.006	3	1.454e-03	21	NC	1	NC	1
314			min	-.01	21	-.015	9	-.004	21	-1.469e-03	3	NC	1	NC	1
315		3	max	.017	3	.013	3	.001	3	1.454e-03	21	NC	1	NC	1
316			min	-.01	21	-.012	21	-.001	21	-1.469e-03	3	NC	1	NC	1
317		4	max	.017	3	.012	3	.002	22	1.454e-03	21	NC	1	NC	1
318			min	-.01	21	-.01	21	-.003	4	-1.469e-03	3	NC	1	NC	1
319		5	max	.017	3	.011	4	.005	21	1.454e-03	21	NC	1	NC	1
320			min	-.01	21	-.007	22	-.008	3	-1.469e-03	3	NC	1	NC	1
321	M53	1	max	.02	33	0	14	.025	3	1.425e-03	21	NC	1	NC	1
322			min	-.008	15	-.009	33	-.022	21	-1.49e-03	3	NC	1	NC	1
323		2	max	.02	33	0	22	.021	3	1.425e-03	21	NC	1	NC	1
324			min	-.008	15	-.004	28	-.019	21	-1.49e-03	3	NC	1	NC	1
325		3	max	.02	33	.002	21	.016	3	1.425e-03	21	NC	1	NC	1
326			min	-.008	15	-.003	3	-.016	21	-1.49e-03	3	NC	1	NC	1
327		4	max	.02	33	.006	9	.012	15	1.425e-03	21	NC	1	NC	1
328			min	-.008	15	-.004	15	-.013	9	-1.49e-03	3	NC	1	NC	1
329		5	max	.02	33	.009	33	.008	15	1.425e-03	21	NC	1	NC	1
330			min	-.008	15	-.005	15	-.01	9	-1.49e-03	3	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
331	M54	1	max	.022	27	.017	15	.015	3	1.454e-03	21	NC	1	NC	1
332			min	-.008	21	-.021	9	-.012	21	-1.469e-03	3	NC	1	NC	1
333		2	max	.022	27	.016	15	.01	3	1.454e-03	21	NC	1	NC	1
334			min	-.008	21	-.018	9	-.009	21	-1.469e-03	3	NC	1	NC	1
335		3	max	.022	27	.015	3	.006	3	1.454e-03	21	NC	1	NC	1
336			min	-.008	21	-.015	21	-.006	21	-1.469e-03	3	NC	1	NC	1
337		4	max	.022	27	.015	3	.002	15	1.454e-03	21	NC	1	NC	1
338			min	-.008	21	-.012	21	-.003	9	-1.469e-03	3	NC	1	NC	1
339		5	max	.022	27	.014	3	0	22	1.454e-03	21	NC	1	NC	1
340			min	-.008	21	-.01	21	-.005	28	-1.469e-03	3	NC	1	NC	1
341	M55	1	max	.008	15	.01	15	.001	3	1.597e-03	21	NC	1	NC	1
342			min	-.013	9	-.015	9	0	21	-1.683e-03	3	NC	1	NC	1
343		2	max	.008	15	.009	15	0	10	1.597e-03	21	NC	1	NC	1
344			min	-.013	9	-.016	9	0	16	-1.683e-03	3	NC	1	NC	1
345		3	max	.008	15	.009	15	.002	9	1.597e-03	21	NC	1	NC	1
346			min	-.013	9	-.017	33	-.002	15	-1.683e-03	3	NC	1	NC	1
347		4	max	.008	15	.009	15	.003	9	1.597e-03	21	NC	1	NC	1
348			min	-.013	9	-.019	33	-.003	15	-1.683e-03	3	NC	1	NC	1
349		5	max	.008	15	.008	15	.005	9	1.597e-03	21	NC	1	NC	1
350			min	-.013	9	-.02	33	-.004	15	-1.683e-03	3	NC	1	NC	1
351	M56	1	max	.009	21	.01	21	.001	3	1.58e-03	21	NC	1	NC	1
352			min	-.014	3	-.017	3	0	21	-1.704e-03	3	NC	1	NC	1
353		2	max	.009	21	.009	21	0	10	1.58e-03	21	NC	1	NC	1
354			min	-.014	3	-.017	3	0	16	-1.704e-03	3	NC	1	NC	1
355		3	max	.009	21	.009	21	.002	9	1.58e-03	21	NC	1	NC	1
356			min	-.014	3	-.018	27	-.002	15	-1.704e-03	3	NC	1	NC	1
357		4	max	.009	21	.009	21	.003	9	1.58e-03	21	NC	1	NC	1
358			min	-.014	3	-.02	27	-.003	15	-1.704e-03	3	NC	1	NC	1
359		5	max	.009	21	.008	21	.005	9	1.58e-03	21	NC	1	NC	1
360			min	-.014	3	-.022	27	-.004	15	-1.704e-03	3	NC	1	NC	1
361	M57	1	max	.013	3	.01	15	.015	21	1.597e-03	21	NC	1	NC	1
362			min	-.008	21	-.015	9	-.016	3	-1.683e-03	3	NC	1	NC	1
363		2	max	.013	3	.009	15	.016	21	1.597e-03	21	NC	1	NC	1
364			min	-.008	21	-.016	9	-.017	3	-1.683e-03	3	NC	1	NC	1
365		3	max	.013	3	.009	15	.018	21	1.597e-03	21	NC	1	NC	1
366			min	-.008	21	-.017	33	-.018	3	-1.683e-03	3	NC	1	NC	1
367		4	max	.013	3	.009	15	.019	21	1.597e-03	21	NC	1	NC	1
368			min	-.008	21	-.019	33	-.02	3	-1.683e-03	3	NC	1	NC	1
369		5	max	.013	3	.008	15	.02	21	1.597e-03	21	NC	1	NC	1
370			min	-.008	21	-.02	33	-.021	3	-1.683e-03	3	NC	1	NC	1
371	M58	1	max	.012	9	.01	21	.015	21	1.58e-03	21	NC	1	NC	1
372			min	-.008	15	-.017	3	-.016	3	-1.704e-03	3	NC	1	NC	1
373		2	max	.012	9	.009	21	.016	21	1.58e-03	21	NC	1	NC	1
374			min	-.008	15	-.017	3	-.017	3	-1.704e-03	3	NC	1	NC	1
375		3	max	.012	9	.009	21	.018	21	1.58e-03	21	NC	1	NC	1
376			min	-.008	15	-.018	27	-.019	3	-1.704e-03	3	NC	1	NC	1
377		4	max	.012	9	.009	21	.019	21	1.58e-03	21	NC	1	NC	1
378			min	-.008	15	-.02	27	-.02	3	-1.704e-03	3	NC	1	NC	1
379		5	max	.012	9	.008	21	.02	21	1.58e-03	21	NC	1	NC	1
380			min	-.008	15	-.022	27	-.021	3	-1.704e-03	3	NC	1	NC	1
381	M59	1	max	.016	3	.015	9	.008	21	1.917e-03	30	NC	1	NC	1
382			min	-.015	21	-.01	15	-.013	3	2.052e-04	24	949.804	21	544.248	3
383		2	max	.016	3	.012	33	.003	21	1.794e-03	30	NC	1	NC	1
384			min	-.015	21	-.003	15	-.01	27	2.134e-04	24	1269.198	21	744.591	3
385		3	max	.016	3	.012	30	-.001	23	1.671e-03	30	NC	1	NC	1
386			min	-.015	21	.002	24	-.009	30	2.206e-04	23	1796.034	3	1117.789	15
387		4	max	.016	3	.013	27	.002	15	1.8e-03	29	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
388			min	-.015	21	-.004	21	-.01	33	1.9e-04	23	1174.338	3	770.163	21
389		5	max	.016	3	.017	3	.008	15	1.93e-03	29	NC	1	NC	1
390			min	-.015	21	-.01	21	-.012	9	1.594e-04	23	877.428	3	564.953	21
391	M60	1	max	0	18	-.002	24	.007	3	1.468e-03	3	NC	1	NC	1
392			min	0	12	-.012	30	-.007	21	-1.377e-03	21	NC	1	NC	1
393		2	max	0	18	-.002	24	.007	3	1.468e-03	3	NC	1	NC	1
394			min	0	12	-.011	30	-.006	21	-1.377e-03	21	NC	1	NC	1
395		3	max	0	18	-.001	24	.006	3	1.468e-03	3	NC	1	NC	1
396			min	0	12	-.01	30	-.006	21	-1.377e-03	21	NC	1	NC	1
397		4	max	0	18	-.001	24	.005	3	1.468e-03	3	NC	1	NC	1
398			min	0	12	-.009	30	-.005	21	-1.377e-03	21	NC	1	NC	1
399		5	max	0	18	-.001	24	.005	3	1.468e-03	3	NC	1	NC	1
400			min	0	12	-.008	30	-.005	21	-1.377e-03	21	NC	1	NC	1
401	M61	1	max	-.002	24	.013	32	.009	3	1.192e-03	3	NC	1	NC	1
402			min	-.012	30	0	14	-.005	21	-1.163e-03	21	2010.771	6	NC	1
403		2	max	-.002	24	.007	30	.004	29	1.171e-03	3	NC	1	NC	1
404			min	-.012	30	0	24	0	70	-1.143e-03	21	2645.791	33	2748.517	2
405		3	max	-.002	24	.004	3	.006	21	9.807e-04	3	NC	1	NC	1
406			min	-.012	30	-.004	21	-.006	3	-9.604e-04	21	1315.204	33	1396.176	2
407		4	max	-.002	24	.006	15	.012	21	1.106e-03	3	NC	1	NC	1
408			min	-.012	30	-.009	9	-.014	3	-1.082e-03	21	872.049	33	924.883	2
409		5	max	-.002	24	.008	15	.017	21	1.12e-03	3	NC	1	NC	1
410			min	-.012	30	-.014	33	-.022	3	-1.095e-03	21	655.258	33	695.78	2
411	M67	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
412			min	0	1	0	1	0	1	0	1	NC	1	NC	1
413		2	max	0	24	0	25	0	9	6.989e-06	1	NC	1	NC	1
414			min	0	6	0	31	0	15	4.493e-06	21	NC	1	NC	1
415		3	max	0	24	0	25	0	9	4.175e-06	1	NC	1	NC	1
416			min	0	6	0	31	0	15	2.684e-06	21	NC	1	NC	1
417		4	max	0	24	0	25	0	9	1.362e-06	1	NC	1	NC	1
418			min	0	6	0	31	0	15	8.755e-07	21	NC	1	NC	1
419		5	max	0	12	-.001	24	.005	21	1.377e-03	21	NC	1	NC	1
420			min	0	18	-.008	30	-.005	3	-1.468e-03	3	7566.727	30	NC	1
421	M95	1	max	.125	9	.005	4	.2	3	2.733e-03	22	NC	1	NC	1
422			min	-.081	15	-.005	22	-.196	21	-2.76e-03	4	NC	1	NC	1
423		2	max	.125	9	.004	16	.197	3	2.733e-03	22	NC	1	NC	1
424			min	-.081	15	-.005	9	-.193	21	-2.76e-03	4	NC	1	NC	1
425		3	max	.125	9	.004	15	.195	3	2.733e-03	22	NC	1	NC	1
426			min	-.081	15	-.004	9	-.189	21	-2.76e-03	4	NC	1	NC	1
427		4	max	.125	9	.003	15	.192	3	2.733e-03	22	NC	1	NC	1
428			min	-.081	15	-.004	9	-.186	21	-2.76e-03	4	NC	1	NC	1
429		5	max	.125	9	.003	65	.189	3	2.733e-03	22	NC	1	NC	1
430			min	-.081	15	-.004	59	-.182	21	-2.76e-03	4	NC	1	NC	1
431	M96	1	max	.137	3	.173	3	.106	3	2.502e-03	20	NC	1	NC	1
432			min	-.081	21	-.166	21	-.102	21	-2.683e-03	2	NC	1	NC	1
433		2	max	.137	3	.17	3	.104	3	2.502e-03	20	NC	1	NC	1
434			min	-.081	21	-.164	21	-.1	21	-2.683e-03	2	NC	1	NC	1
435		3	max	.137	3	.167	3	.102	3	2.502e-03	20	NC	1	NC	1
436			min	-.081	21	-.162	21	-.098	21	-2.683e-03	2	NC	1	NC	1
437		4	max	.137	3	.164	3	.099	3	2.502e-03	20	NC	1	NC	1
438			min	-.081	21	-.159	21	-.096	21	-2.683e-03	2	NC	1	NC	1
439		5	max	.137	3	.161	3	.097	3	2.502e-03	20	NC	1	NC	1
440			min	-.081	21	-.157	21	-.093	21	-2.683e-03	2	NC	1	NC	1
441	M97	1	max	.001	6	.2	3	.125	9	3.975e-03	15	NC	1	NC	1
442			min	-.001	24	-.196	21	-.081	15	-4.679e-03	9	779.789	17	2651.737	23
443		2	max	.001	6	.22	3	.152	33	2.982e-03	15	NC	1	NC	11
444			min	0	24	-.203	21	-.018	16	-3.509e-03	9	1078.842	17	796.785	26

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
445		3	max	0	6	.198	3	.156	35	1.988e-03	15	NC	1	NC	23
446			min	0	24	-.176	21	-.006	18	-2.34e-03	9	1688.486	17	567.709	26
447		4	max	0	6	.121	2	.102	36	9.939e-04	15	NC	1	NC	23
448			min	0	24	-.106	20	-.01	19	-1.17e-03	9	3276.126	32	796.785	26
449		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
450			min	0	1	0	1	0	1	0	1	NC	1	NC	1
451	M98	1	max	.002	6	.137	3	.195	21	5.156e-03	3	NC	1	NC	1
452			min	-.001	24	-.081	21	-.203	3	-4.185e-03	21	1073.275	70	NC	1
453		2	max	.001	6	.162	27	.196	9	3.867e-03	3	NC	1	NC	2
454			min	-.001	24	-.025	21	-.188	15	-3.138e-03	21	1506.586	70	815.408	34
455		3	max	0	6	.163	26	.175	10	2.578e-03	3	NC	1	NC	7
456			min	0	24	0	19	-.16	16	-2.092e-03	21	2388.813	28	580.978	34
457		4	max	0	6	.104	37	.106	10	1.289e-03	3	NC	1	NC	2
458			min	0	24	-.001	18	-.094	16	-1.046e-03	21	3352.72	28	815.408	34
459		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
460			min	0	1	0	1	0	1	0	1	NC	1	NC	1
461	M99	1	max	.001	7	.009	25	.012	7	-1.915e-04	16	NC	1	NC	1
462			min	0	25	-.016	7	-.007	25	-1.926e-03	34	508.461	7	1490.178	7
463		2	max	.001	7	.003	25	.01	32	-1.805e-04	16	NC	1	NC	1
464			min	0	25	-.013	31	-.002	14	-1.798e-03	34	682.449	7	2053.705	19
465		3	max	.001	7	-.002	16	.009	34	-1.696e-04	16	NC	1	NC	1
466			min	0	25	-.012	34	0	16	-1.67e-03	34	1026.3	7	3020.676	19
467		4	max	.001	7	.004	19	.009	36	-1.731e-04	17	NC	1	NC	1
468			min	0	25	-.012	37	-.003	18	-1.795e-03	35	722.874	25	2071.406	25
469		5	max	.001	7	.01	19	.012	13	-1.679e-04	17	NC	1	NC	1
470			min	0	25	-.015	13	-.008	19	-1.922e-03	35	538.658	25	1490.196	13
471	M100	1	max	.015	13	.018	7	.009	13	1.306e-03	25	NC	1	NC	1
472			min	-.01	19	-.013	25	-.007	19	-1.37e-03	7	NC	1	NC	1
473		2	max	.015	13	.015	7	.005	13	1.306e-03	25	NC	1	NC	1
474			min	-.01	19	-.012	25	-.004	19	-1.37e-03	7	NC	1	NC	1
475		3	max	.015	13	.012	7	.001	13	1.306e-03	25	NC	1	NC	1
476			min	-.01	19	-.011	25	-.001	19	-1.37e-03	7	NC	1	NC	1
477		4	max	.015	13	.009	19	.002	19	1.306e-03	25	NC	1	NC	1
478			min	-.01	19	-.011	13	-.003	12	-1.37e-03	7	NC	1	NC	1
479		5	max	.015	13	.006	19	.005	19	1.306e-03	25	NC	1	NC	1
480			min	-.01	19	-.01	13	-.007	13	-1.37e-03	7	NC	1	NC	1
481	M101	1	max	.016	7	.009	36	.018	13	1.323e-03	25	NC	1	NC	1
482			min	-.009	25	.001	18	-.016	19	-1.338e-03	7	NC	1	NC	1
483		2	max	.016	7	.005	37	.014	13	1.323e-03	25	NC	1	NC	1
484			min	-.009	25	-.002	19	-.013	19	-1.338e-03	7	NC	1	NC	1
485		3	max	.016	7	.005	13	.01	25	1.323e-03	25	NC	1	NC	1
486			min	-.009	25	-.005	7	-.011	7	-1.338e-03	7	NC	1	NC	1
487		4	max	.016	7	.006	25	.007	25	1.323e-03	25	NC	1	NC	1
488			min	-.009	25	-.008	7	-.008	7	-1.338e-03	7	NC	1	NC	1
489		5	max	.016	7	.007	25	.003	25	1.323e-03	25	NC	1	NC	1
490			min	-.009	25	-.011	7	-.005	7	-1.338e-03	7	NC	1	NC	1
491	M102	1	max	.02	37	.02	7	.014	13	1.306e-03	25	NC	1	NC	1
492			min	-.008	19	-.015	25	-.012	19	-1.37e-03	7	NC	1	NC	1
493		2	max	.02	37	.017	7	.01	13	1.306e-03	25	NC	1	NC	1
494			min	-.008	19	-.015	25	-.009	19	-1.37e-03	7	NC	1	NC	1
495		3	max	.02	37	.014	7	.005	25	1.306e-03	25	NC	1	NC	1
496			min	-.008	19	-.014	25	-.006	7	-1.37e-03	7	NC	1	NC	1
497		4	max	.02	37	.012	19	.002	25	1.306e-03	25	NC	1	NC	1
498			min	-.008	19	-.013	13	-.003	31	-1.37e-03	7	NC	1	NC	1
499		5	max	.02	37	.009	19	0	18	1.306e-03	25	NC	1	NC	1
500			min	-.008	19	-.013	13	-.005	36	-1.37e-03	7	NC	1	NC	1
501	M103	1	max	.022	31	.009	31	.022	13	1.323e-03	25	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
502			min	-.007	25	0	25	-.021	19	-1.338e-03	7	NC	1	NC	1
503		2	max	.022	31	.004	37	.019	13	1.323e-03	25	NC	1	NC	1
504			min	-.007	25	0	71	-.018	19	-1.338e-03	7	NC	1	NC	1
505		3	max	.022	31	.002	13	.015	25	1.323e-03	25	NC	1	NC	1
506			min	-.007	25	-.002	19	-.015	7	-1.338e-03	7	NC	1	NC	1
507		4	max	.022	31	.003	25	.011	25	1.323e-03	25	NC	1	NC	1
508			min	-.007	25	-.005	7	-.012	7	-1.338e-03	7	NC	1	NC	1
509		5	max	.022	31	.004	25	.007	25	1.323e-03	25	NC	1	NC	1
510			min	-.007	25	-.01	31	-.009	7	-1.338e-03	7	NC	1	NC	1
511	M104	1	max	.008	19	.01	19	.001	7	1.517e-03	25	NC	1	NC	1
512			min	-.012	13	-.015	13	0	25	-1.602e-03	7	NC	1	NC	1
513		2	max	.008	19	.009	19	0	56	1.517e-03	25	NC	1	NC	1
514			min	-.012	13	-.016	13	0	74	-1.602e-03	7	NC	1	NC	1
515		3	max	.008	19	.009	19	.002	13	1.517e-03	25	NC	1	NC	1
516			min	-.012	13	-.017	37	-.001	19	-1.602e-03	7	NC	1	NC	1
517		4	max	.008	19	.009	19	.003	13	1.517e-03	25	NC	1	NC	1
518			min	-.012	13	-.019	37	-.003	19	-1.602e-03	7	NC	1	NC	1
519		5	max	.008	19	.008	19	.004	13	1.517e-03	25	NC	1	NC	1
520			min	-.012	13	-.02	37	-.004	19	-1.602e-03	7	NC	1	NC	1
521	M105	1	max	.007	25	.009	25	.001	7	1.501e-03	25	NC	1	NC	1
522			min	-.012	7	-.016	7	0	25	-1.624e-03	7	NC	1	NC	1
523		2	max	.007	25	.008	25	0	56	1.501e-03	25	NC	1	NC	1
524			min	-.012	7	-.016	31	0	74	-1.624e-03	7	NC	1	NC	1
525		3	max	.007	25	.008	25	.002	13	1.501e-03	25	NC	1	NC	1
526			min	-.012	7	-.018	31	-.001	19	-1.624e-03	7	NC	1	NC	1
527		4	max	.007	25	.007	25	.003	13	1.501e-03	25	NC	1	NC	1
528			min	-.012	7	-.02	31	-.003	19	-1.624e-03	7	NC	1	NC	1
529		5	max	.007	25	.007	25	.004	13	1.501e-03	25	NC	1	NC	1
530			min	-.012	7	-.022	31	-.004	19	-1.624e-03	7	NC	1	NC	1
531	M106	1	max	.012	7	.01	19	.014	25	1.517e-03	25	NC	1	NC	1
532			min	-.007	25	-.015	13	-.015	7	-1.602e-03	7	NC	1	NC	1
533		2	max	.012	7	.009	19	.016	25	1.517e-03	25	NC	1	NC	1
534			min	-.007	25	-.016	13	-.016	7	-1.602e-03	7	NC	1	NC	1
535		3	max	.012	7	.009	19	.017	25	1.517e-03	25	NC	1	NC	1
536			min	-.007	25	-.017	37	-.017	7	-1.602e-03	7	NC	1	NC	1
537		4	max	.012	7	.009	19	.018	25	1.517e-03	25	NC	1	NC	1
538			min	-.007	25	-.019	37	-.019	7	-1.602e-03	7	NC	1	NC	1
539		5	max	.012	7	.008	19	.019	25	1.517e-03	25	NC	1	NC	1
540			min	-.007	25	-.02	37	-.02	7	-1.602e-03	7	NC	1	NC	1
541	M107	1	max	.012	13	.009	25	.014	25	1.501e-03	25	NC	1	NC	1
542			min	-.007	19	-.016	7	-.015	7	-1.624e-03	7	NC	1	NC	1
543		2	max	.012	13	.008	25	.015	25	1.501e-03	25	NC	1	NC	1
544			min	-.007	19	-.016	31	-.016	7	-1.624e-03	7	NC	1	NC	1
545		3	max	.012	13	.008	25	.017	25	1.501e-03	25	NC	1	NC	1
546			min	-.007	19	-.018	31	-.017	7	-1.624e-03	7	NC	1	NC	1
547		4	max	.012	13	.007	25	.018	25	1.501e-03	25	NC	1	NC	1
548			min	-.007	19	-.02	31	-.019	7	-1.624e-03	7	NC	1	NC	1
549		5	max	.012	13	.007	25	.019	25	1.501e-03	25	NC	1	NC	1
550			min	-.007	19	-.022	31	-.02	7	-1.624e-03	7	NC	1	NC	1
551	M108	1	max	.015	7	.015	13	.007	25	1.922e-03	35	NC	1	NC	1
552			min	-.014	25	-.01	19	-.012	7	1.679e-04	17	983.565	25	586.946	7
553		2	max	.015	7	.012	37	.002	25	1.796e-03	35	NC	1	NC	1
554			min	-.014	25	-.004	19	-.01	31	1.945e-04	17	1314.671	25	801.944	7
555		3	max	.015	7	.012	34	-.001	16	1.672e-03	34	NC	1	NC	1
556			min	-.014	25	.002	16	-.009	34	2.167e-04	16	1858.477	7	1201.51	19
557		4	max	.015	7	.013	31	.002	19	1.799e-03	34	NC	1	NC	1
558			min	-.014	25	-.003	25	-.01	37	2.041e-04	16	1214.853	7	833.884	25

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
559		5	max	.015	7	.016	7	.007	19	1.926e-03	34	NC	1	NC	1
560			min	-.014	25	-.009	25	-.012	13	1.915e-04	16	906.815	7	610.789	25
561	M109	1	max	0	22	-.002	16	.007	7	1.398e-03	7	NC	1	NC	1
562			min	0	4	-.012	34	-.007	25	-1.308e-03	25	NC	1	NC	1
563		2	max	0	22	-.002	16	.006	7	1.398e-03	7	NC	1	NC	1
564			min	0	4	-.011	34	-.006	25	-1.308e-03	25	NC	1	NC	1
565		3	max	0	22	-.001	16	.006	7	1.398e-03	7	NC	1	NC	1
566			min	0	4	-.01	34	-.006	25	-1.308e-03	25	NC	1	NC	1
567		4	max	0	22	-.001	16	.005	7	1.398e-03	7	NC	1	NC	1
568			min	0	4	-.009	34	-.005	25	-1.308e-03	25	NC	1	NC	1
569		5	max	0	22	-.001	16	.005	7	1.398e-03	7	NC	1	NC	1
570			min	0	4	-.008	34	-.005	25	-1.308e-03	25	NC	1	NC	1
571	M110	1	max	-.002	16	0	14	.008	13	1.099e-03	7	NC	1	NC	1
572			min	-.012	34	-.014	32	-.005	19	-1.071e-03	25	1674.253	10	NC	1
573		2	max	-.002	16	0	16	.004	35	1.08e-03	7	NC	1	NC	1
574			min	-.012	34	-.007	34	0	17	-1.053e-03	25	2248.774	10	2551.915	13
575		3	max	-.002	16	.003	7	.006	7	9.084e-04	7	NC	1	NC	1
576			min	-.012	34	-.003	25	-.006	25	-8.884e-04	25	1237.551	31	1295.995	13
577		4	max	-.002	16	.009	7	.011	19	1.019e-03	7	NC	1	NC	1
578			min	-.012	34	-.005	25	-.013	13	-9.949e-04	25	821.311	31	859.937	13
579		5	max	-.002	16	.015	31	.017	19	1.031e-03	7	NC	1	NC	1
580			min	-.012	34	-.007	25	-.02	13	-1.007e-03	25	617.298	31	647.553	13
581	M116	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
582			min	0	1	0	1	0	1	0	1	NC	1	NC	1
583		2	max	0	16	0	16	0	13	6.989e-06	1	NC	1	NC	1
584			min	0	10	0	34	0	19	4.493e-06	19	NC	1	NC	1
585		3	max	0	16	0	16	0	13	4.175e-06	1	NC	1	NC	1
586			min	0	10	0	34	0	19	2.684e-06	19	NC	1	NC	1
587		4	max	0	16	0	16	0	13	1.362e-06	1	NC	1	NC	1
588			min	0	10	0	34	0	19	8.755e-07	19	NC	1	NC	1
589		5	max	0	4	-.001	16	.005	25	1.308e-03	25	NC	1	NC	1
590			min	0	22	-.008	34	-.005	7	-1.398e-03	7	7564.5	34	NC	1
591	M144	1	max	.126	13	.163	7	.097	25	2.408e-03	14	NC	1	NC	1
592			min	-.081	19	-.159	25	-.1	7	-2.431e-03	8	NC	1	NC	1
593		2	max	.126	13	.16	7	.096	25	2.408e-03	14	NC	1	NC	1
594			min	-.081	19	-.156	25	-.098	7	-2.431e-03	8	NC	1	NC	1
595		3	max	.126	13	.158	7	.094	25	2.408e-03	14	NC	1	NC	1
596			min	-.081	19	-.153	25	-.096	7	-2.431e-03	8	NC	1	NC	1
597		4	max	.126	13	.156	7	.092	25	2.408e-03	14	NC	1	NC	1
598			min	-.081	19	-.15	25	-.094	7	-2.431e-03	8	NC	1	NC	1
599		5	max	.126	13	.153	7	.09	25	2.408e-03	14	NC	1	NC	1
600			min	-.081	19	-.147	25	-.092	7	-2.431e-03	8	NC	1	NC	1
601	M145	1	max	.127	7	.005	6	.185	25	2.735e-03	24	NC	1	NC	1
602			min	-.072	25	-.005	12	-.193	7	-2.914e-03	6	NC	1	NC	1
603		2	max	.127	7	.005	7	.182	25	2.735e-03	24	NC	1	NC	1
604			min	-.072	25	-.004	25	-.189	7	-2.914e-03	6	NC	1	NC	1
605		3	max	.127	7	.004	7	.179	25	2.735e-03	24	NC	1	NC	1
606			min	-.072	25	-.003	25	-.186	7	-2.914e-03	6	NC	1	NC	1
607		4	max	.127	7	.004	7	.177	25	2.735e-03	24	NC	1	NC	1
608			min	-.072	25	-.003	25	-.182	7	-2.914e-03	6	NC	1	NC	1
609		5	max	.127	7	.004	55	.174	25	2.735e-03	24	NC	1	NC	1
610			min	-.072	25	-.002	73	-.179	7	-2.914e-03	6	NC	1	NC	1
611	M146	1	max	.002	10	.191	7	.126	13	4.085e-03	19	NC	1	NC	1
612			min	-.001	16	-.187	25	-.081	19	-4.791e-03	13	974.085	21	NC	1
613		2	max	.001	10	.194	7	.153	37	3.064e-03	19	NC	1	NC	2
614			min	0	16	-.177	25	-.025	19	-3.593e-03	13	1378.53	68	815.411	30
615		3	max	0	10	.172	6	.157	26	2.042e-03	19	NC	1	NC	9

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
616			min	0	16	-.15	24	-.005	21	-2.395e-03	13	2184.429	68	580.98	30
617		4	max	0	10	.105	6	.102	27	1.021e-03	19	NC	1	NC	2
618			min	0	16	-.09	24	-.004	22	-1.198e-03	13	3352.709	36	815.411	30
619		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
620			min	0	1	0	1	0	1	0	1	NC	1	NC	1
621	M147	1	max	.002	10	.127	7	.185	25	4.794e-03	7	NC	1	NC	1
622			min	-.001	16	-.072	25	-.193	7	-3.826e-03	25	996.915	23	3108.386	17
623		2	max	.001	10	.16	31	.208	13	3.595e-03	7	NC	1	NC	17
624			min	0	16	-.01	24	-.2	19	-2.87e-03	25	1393.839	23	796.782	26
625		3	max	0	10	.161	29	.19	2	2.397e-03	7	NC	1	NC	17
626			min	0	16	0	22	-.174	20	-1.913e-03	25	2209.478	23	567.707	26
627		4	max	0	10	.104	28	.118	2	1.198e-03	7	NC	1	NC	17
628			min	0	16	-.008	21	-.107	20	-9.566e-04	25	3276.135	32	796.782	26
629		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
630			min	0	1	0	1	0	1	0	1	NC	1	NC	1
631	M160	1	max	.123	47	.063	16	.114	13	1.982e-03	20	NC	1	NC	1
632			min	-.034	17	-.157	46	-.087	19	-3.428e-03	2	NC	1	NC	1
633		2	max	.123	47	.061	16	.11	13	1.982e-03	20	NC	1	NC	1
634			min	-.034	17	-.142	46	-.081	19	-3.428e-03	2	NC	1	NC	1
635		3	max	.123	47	.058	16	.106	13	1.982e-03	20	NC	1	NC	1
636			min	-.034	17	-.127	46	-.076	19	-3.428e-03	2	NC	1	NC	1
637		4	max	.123	47	.055	16	.102	13	1.982e-03	20	NC	1	NC	1
638			min	-.034	17	-.112	46	-.071	19	-3.428e-03	2	NC	1	NC	1
639		5	max	.123	47	.053	16	.097	13	1.982e-03	20	NC	1	NC	1
640			min	-.034	17	-.097	46	-.065	19	-3.428e-03	2	NC	1	NC	1
641	M161	1	max	.076	19	.058	16	.123	47	1.071e-03	17	NC	1	NC	1
642			min	-.106	13	-.127	46	-.034	17	-5.013e-03	47	NC	1	NC	1
643		2	max	.076	19	.054	17	.121	47	1.071e-03	17	NC	1	NC	1
644			min	-.106	13	-.133	47	-.027	17	-5.013e-03	47	NC	1	NC	1
645		3	max	.076	19	.053	17	.119	47	1.071e-03	17	NC	1	NC	1
646			min	-.106	13	-.14	47	-.021	17	-5.013e-03	47	NC	1	NC	1
647		4	max	.076	19	.051	17	.116	47	1.071e-03	17	NC	1	NC	1
648			min	-.106	13	-.146	47	-.015	17	-5.013e-03	47	NC	1	NC	1
649		5	max	.076	19	.05	17	.114	46	1.071e-03	17	NC	1	NC	1
650			min	-.106	13	-.152	47	-.009	16	-5.013e-03	47	NC	1	NC	1
651	M162	1	max	.058	5	.071	24	.074	22	3.148e-03	2	NC	1	NC	1
652			min	-.049	47	-.097	6	-.097	3	-1.734e-03	20	NC	1	NC	1
653		2	max	.058	5	.068	24	.07	21	3.148e-03	2	NC	1	NC	1
654			min	-.049	47	-.09	6	-.094	3	-1.734e-03	20	NC	1	NC	1
655		3	max	.058	5	.064	24	.065	21	3.148e-03	2	NC	1	NC	1
656			min	-.049	47	-.084	6	-.091	3	-1.734e-03	20	NC	1	NC	1
657		4	max	.058	5	.06	24	.061	21	3.148e-03	2	NC	1	NC	1
658			min	-.049	47	-.078	6	-.088	3	-1.734e-03	20	NC	1	NC	1
659		5	max	.058	5	.057	24	.056	21	3.148e-03	2	NC	1	NC	1
660			min	-.049	47	-.071	6	-.084	3	-1.734e-03	20	NC	1	NC	1
661	M163	1	max	.065	21	.064	24	.049	47	2.319e-03	29	NC	1	NC	1
662			min	-.091	3	-.084	6	-.058	5	-1.896e-03	47	NC	1	NC	1
663		2	max	.065	21	.059	24	.046	47	2.319e-03	29	NC	1	NC	1
664			min	-.091	3	-.083	6	-.055	29	-1.896e-03	47	NC	1	NC	1
665		3	max	.065	21	.057	23	.043	47	2.319e-03	29	NC	1	NC	1
666			min	-.091	3	-.086	5	-.056	29	-1.896e-03	47	NC	1	NC	1
667		4	max	.065	21	.056	23	.04	48	2.319e-03	29	NC	1	NC	1
668			min	-.091	3	-.088	5	-.057	29	-1.896e-03	47	NC	1	NC	1
669		5	max	.065	21	.054	23	.037	48	2.319e-03	29	NC	1	NC	1
670			min	-.091	3	-.091	5	-.058	30	-1.896e-03	47	NC	1	NC	1
671	M151	1	max	0	11	0	17	0	11	2.766e-05	29	NC	1	NC	1
672			min	0	17	0	35	0	17	8.054e-06	23	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
673		2	max	0	11	0	17	0	11	2.766e-05	29	NC	1	NC	1
674			min	0	17	0	35	0	17	8.054e-06	23	NC	1	NC	1
675		3	max	0	11	0	17	0	11	2.766e-05	29	NC	1	NC	1
676			min	0	17	0	35	0	17	8.054e-06	23	NC	1	NC	1
677		4	max	0	11	0	17	0	11	2.766e-05	29	NC	1	NC	1
678			min	0	17	0	35	0	17	8.054e-06	23	NC	1	NC	1
679		5	max	0	11	0	23	0	1	2.766e-05	29	NC	1	NC	1
680			min	0	17	0	29	0	1	8.054e-06	23	NC	1	NC	1
681	M152	1	max	0	35	0	5	0	17	1.534e-05	17	NC	1	NC	1
682			min	0	17	0	23	0	35	-1.534e-05	11	NC	1	NC	1
683		2	max	0	35	0	5	0	17	1.534e-05	17	NC	1	NC	1
684			min	0	17	0	23	0	35	-1.534e-05	11	NC	1	NC	1
685		3	max	0	35	0	17	0	17	1.534e-05	17	NC	1	NC	1
686			min	0	17	0	11	0	11	-1.534e-05	11	NC	1	NC	1
687		4	max	0	35	0	17	0	29	1.534e-05	17	NC	1	NC	1
688			min	0	17	0	11	0	23	-1.534e-05	11	NC	1	NC	1
689		5	max	0	35	0	17	0	29	1.534e-05	17	NC	1	NC	1
690			min	0	17	0	11	0	23	-1.534e-05	11	NC	1	NC	1
691	M153	1	max	0	23	0	17	0	35	2.766e-05	35	NC	1	NC	1
692			min	0	5	0	35	0	17	8.055e-06	17	NC	1	NC	1
693		2	max	0	23	0	17	0	35	2.766e-05	35	NC	1	NC	1
694			min	0	5	0	35	0	17	8.055e-06	17	NC	1	NC	1
695		3	max	0	23	0	17	0	35	2.766e-05	35	NC	1	NC	1
696			min	0	5	0	35	0	17	8.055e-06	17	NC	1	NC	1
697		4	max	0	23	0	23	0	29	2.766e-05	35	NC	1	NC	1
698			min	0	5	0	29	0	23	8.055e-06	17	NC	1	NC	1
699		5	max	0	23	0	23	0	29	2.766e-05	35	NC	1	NC	1
700			min	0	5	0	29	0	23	8.055e-06	17	NC	1	NC	1
701	M154A	1	max	0	11	0	23	0	23	2.765e-05	29	NC	1	NC	1
702			min	0	17	0	29	0	29	8.053e-06	23	NC	1	NC	1
703		2	max	0	11	0	23	0	23	2.765e-05	29	NC	1	NC	1
704			min	0	17	0	29	0	29	8.053e-06	23	NC	1	NC	1
705		3	max	0	11	0	17	0	23	2.765e-05	29	NC	1	NC	1
706			min	0	17	0	35	0	29	8.053e-06	23	NC	1	NC	1
707		4	max	0	11	0	17	0	17	2.765e-05	29	NC	1	NC	1
708			min	0	17	0	35	0	35	8.053e-06	23	NC	1	NC	1
709		5	max	0	11	0	17	0	17	2.765e-05	29	NC	1	NC	1
710			min	0	17	0	35	0	35	8.053e-06	23	NC	1	NC	1
711	M155A	1	max	0	15	0	24	0	14	2.766e-05	31	NC	1	NC	1
712			min	0	9	0	30	0	8	8.054e-06	25	NC	1	NC	1
713		2	max	0	15	0	24	0	14	2.766e-05	31	NC	1	NC	1
714			min	0	9	0	30	0	8	8.054e-06	25	NC	1	NC	1
715		3	max	0	15	0	24	0	14	2.766e-05	31	NC	1	NC	1
716			min	0	9	0	30	0	8	8.054e-06	25	NC	1	NC	1
717		4	max	0	15	0	25	0	14	2.766e-05	31	NC	1	NC	1
718			min	0	9	0	31	0	8	8.054e-06	25	NC	1	NC	1
719		5	max	0	15	0	25	0	24	2.766e-05	31	NC	1	NC	1
720			min	0	9	0	31	0	6	8.054e-06	25	NC	1	NC	1
721	M156A	1	max	0	30	0	15	0	27	1.188e-05	9	NC	1	NC	1
722			min	0	24	0	33	0	21	-1.188e-05	15	NC	1	NC	1
723		2	max	0	30	0	15	0	3	1.188e-05	9	NC	1	NC	1
724			min	0	24	0	33	0	21	-1.188e-05	15	NC	1	NC	1
725		3	max	0	30	0	15	0	15	1.188e-05	9	NC	1	NC	1
726			min	0	24	0	9	0	9	-1.188e-05	15	NC	1	NC	1
727		4	max	0	30	0	27	0	15	1.188e-05	21	NC	1	NC	1
728			min	0	24	0	21	0	9	-1.188e-05	3	NC	1	NC	1
729		5	max	0	30	0	27	0	15	1.188e-05	21	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
730			min	0	24	0	21	0	33	-1.188e-05	3	NC	1	NC	1
731	M157A	1	max	0	15	0	24	0	27	2.766e-05	31	NC	1	NC	1
732			min	0	9	0	30	0	21	8.054e-06	25	NC	1	NC	1
733		2	max	0	15	0	24	0	26	2.766e-05	31	NC	1	NC	1
734			min	0	9	0	30	0	20	8.054e-06	25	NC	1	NC	1
735		3	max	0	15	0	24	0	26	2.766e-05	31	NC	1	NC	1
736			min	0	9	0	30	0	20	8.054e-06	25	NC	1	NC	1
737		4	max	0	15	0	25	0	36	2.766e-05	31	NC	1	NC	1
738			min	0	9	0	31	0	18	8.054e-06	25	NC	1	NC	1
739		5	max	0	15	0	25	0	33	2.766e-05	31	NC	1	NC	1
740			min	0	9	0	31	0	15	8.054e-06	25	NC	1	NC	1
741	M158A	1	max	0	3	0	25	0	15	2.765e-05	30	NC	1	NC	1
742			min	0	21	0	31	0	33	8.053e-06	23	NC	1	NC	1
743		2	max	0	3	0	25	0	14	2.765e-05	30	NC	1	NC	1
744			min	0	21	0	31	0	32	8.053e-06	23	NC	1	NC	1
745		3	max	0	3	0	24	0	14	2.765e-05	30	NC	1	NC	1
746			min	0	21	0	30	0	32	8.053e-06	23	NC	1	NC	1
747		4	max	0	3	0	24	0	24	2.765e-05	30	NC	1	NC	1
748			min	0	21	0	30	0	30	8.053e-06	23	NC	1	NC	1
749		5	max	0	3	0	24	0	21	2.765e-05	30	NC	1	NC	1
750			min	0	21	0	30	0	27	8.053e-06	23	NC	1	NC	1
751	M159A	1	max	0	19	0	16	0	19	2.766e-05	34	NC	1	NC	1
752			min	0	13	0	34	0	13	8.054e-06	16	NC	1	NC	1
753		2	max	0	19	0	16	0	19	2.766e-05	34	NC	1	NC	1
754			min	0	13	0	34	0	13	8.054e-06	16	NC	1	NC	1
755		3	max	0	19	0	16	0	19	2.766e-05	34	NC	1	NC	1
756			min	0	13	0	34	0	13	8.054e-06	16	NC	1	NC	1
757		4	max	0	19	0	16	0	18	2.766e-05	34	NC	1	NC	1
758			min	0	13	0	34	0	12	8.054e-06	16	NC	1	NC	1
759		5	max	0	19	0	16	0	16	2.766e-05	34	NC	1	NC	1
760			min	0	13	0	34	0	10	8.054e-06	16	NC	1	NC	1
761	M160A	1	max	0	34	0	31	0	37	1.188e-05	13	NC	1	NC	1
762			min	0	16	0	25	0	19	-1.188e-05	19	NC	1	NC	1
763		2	max	0	34	0	31	0	37	1.188e-05	13	NC	1	NC	1
764			min	0	16	0	25	0	19	-1.188e-05	19	NC	1	NC	1
765		3	max	0	34	0	19	0	13	1.188e-05	13	NC	1	NC	1
766			min	0	16	0	13	0	19	-1.188e-05	19	NC	1	NC	1
767		4	max	0	34	0	19	0	25	1.188e-05	25	NC	1	NC	1
768			min	0	16	0	37	0	31	-1.188e-05	7	NC	1	NC	1
769		5	max	0	34	0	19	0	25	1.188e-05	25	NC	1	NC	1
770			min	0	16	0	37	0	31	-1.188e-05	7	NC	1	NC	1
771	M161A	1	max	0	19	0	17	0	31	2.766e-05	34	NC	1	NC	1
772			min	0	13	0	34	0	25	8.054e-06	16	NC	1	NC	1
773		2	max	0	19	0	16	0	31	2.766e-05	34	NC	1	NC	1
774			min	0	13	0	34	0	25	8.054e-06	16	NC	1	NC	1
775		3	max	0	19	0	16	0	31	2.766e-05	34	NC	1	NC	1
776			min	0	13	0	34	0	25	8.054e-06	16	NC	1	NC	1
777		4	max	0	19	0	15	0	28	2.766e-05	34	NC	1	NC	1
778			min	0	13	0	33	0	22	8.054e-06	16	NC	1	NC	1
779		5	max	0	19	0	15	0	26	2.766e-05	34	NC	1	NC	1
780			min	0	13	0	33	0	20	8.054e-06	16	NC	1	NC	1
781	M162A	1	max	0	7	0	15	0	19	2.765e-05	33	NC	1	NC	1
782			min	0	25	0	33	0	37	8.053e-06	15	NC	1	NC	1
783		2	max	0	7	0	15	0	19	2.765e-05	33	NC	1	NC	1
784			min	0	25	0	33	0	37	8.053e-06	15	NC	1	NC	1
785		3	max	0	7	0	16	0	19	2.765e-05	33	NC	1	NC	1
786			min	0	25	0	34	0	37	8.053e-06	15	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
787		4	max	0	7	0	16	0	16	2.765e-05	33	NC	1	NC	1
788			min	0	25	0	34	0	34	8.053e-06	15	NC	1	NC	1
789		5	max	0	7	0	17	0	14	2.765e-05	33	NC	1	NC	1
790			min	0	25	0	34	0	32	8.053e-06	15	NC	1	NC	1
791	M109A	1	max	.164	3	.089	15	.098	3	9.98e-04	14	NC	1	NC	1
792			min	-.16	21	-.134	9	-.093	21	-1.897e-03	8	360.674	21	5191.806	40
793		2	max	.164	3	.029	15	.051	2	7.001e-04	25	NC	1	NC	1
794			min	-.159	21	-.074	33	-.047	20	-1.804e-03	32	530.026	21	1663.375	21
795		3	max	.164	3	0	24	.026	12	6.722e-04	24	NC	6	NC	1
796			min	-.159	21	-.044	30	-.023	18	-1.905e-03	30	784.161	15	840.304	21
797		4	max	.164	3	.029	21	.05	10	9.242e-04	22	NC	1	NC	1
798			min	-.159	21	-.08	27	-.048	16	-1.945e-03	4	512.575	15	561.32	21
799		5	max	.164	3	.089	21	.094	21	1.36e-03	22	NC	7	NC	1
800			min	-.159	21	-.146	3	-.095	3	-2.319e-03	4	341.707	3	417.057	21
801	M111A	1	max	.156	7	.089	19	.091	7	1.418e-03	19	NC	1	NC	1
802			min	-.151	25	-.134	13	-.087	25	-2.318e-03	12	376.748	25	8457.021	45
803		2	max	.156	7	.031	19	.049	6	9.819e-04	18	NC	1	NC	1
804			min	-.151	25	-.074	37	-.045	24	-1.974e-03	12	559.83	25	1763.469	25
805		3	max	.156	7	0	16	.024	4	6.107e-04	16	NC	16	NC	1
806			min	-.151	25	-.044	34	-.021	22	-1.896e-03	34	804.5	19	913.268	25
807		4	max	.156	7	.023	25	.045	2	6.645e-04	15	NC	1	NC	1
808			min	-.151	25	-.079	31	-.043	20	-1.825e-03	33	532.329	19	605.118	25
809		5	max	.156	7	.08	25	.09	25	9.975e-04	14	NC	2	NC	1
810			min	-.151	25	-.136	7	-.092	7	-1.952e-03	8	356.347	7	440.192	25
811	M112A	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
812			min	0	1	0	1	0	1	0	1	NC	1	NC	1
813		2	max	0	1	.007	14	.005	11	0	1	NC	1	NC	1
814			min	0	1	-.029	32	-.005	5	0	1	2513.563	32	NC	1
815		3	max	0	1	.01	14	.007	11	0	1	NC	3	NC	1
816			min	0	1	-.04	32	-.007	5	0	1	1790.913	32	9844.465	5
817		4	max	0	1	.007	14	.005	11	0	1	NC	1	NC	1
818			min	0	1	-.029	32	-.005	5	0	1	2513.563	32	NC	1
819		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
820			min	0	1	0	1	0	1	0	1	NC	1	NC	1
821	M113A	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
822			min	0	1	0	1	0	1	0	1	NC	1	NC	1
823		2	max	0	1	.016	18	.01	4	0	1	NC	1	NC	1
824			min	0	1	-.03	36	-.01	10	0	1	2422.14	36	7366.251	4
825		3	max	0	1	.023	18	.014	4	0	1	NC	3	NC	1
826			min	0	1	-.042	36	-.014	10	0	1	1725.775	36	5248.454	4
827		4	max	0	1	.016	18	.01	4	0	1	NC	1	NC	1
828			min	0	1	-.03	36	-.01	10	0	1	2422.14	36	7366.251	4
829		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
830			min	0	1	0	1	0	1	0	1	NC	1	NC	1
831	M114A	1	max	0	1	0	1	0	1	0	1	NC	1	NC	1
832			min	0	1	0	1	0	1	0	1	NC	1	NC	1
833		2	max	0	1	.016	22	.01	6	0	1	NC	1	NC	1
834			min	0	1	-.03	28	-.01	12	0	1	2422.14	28	7366.251	6
835		3	max	0	1	.023	22	.014	6	0	1	NC	8	NC	1
836			min	0	1	-.042	28	-.014	12	0	1	1725.775	28	5248.454	6
837		4	max	0	1	.016	22	.01	6	0	1	NC	1	NC	1
838			min	0	1	-.03	28	-.01	12	0	1	2422.14	28	7366.251	6
839		5	max	0	1	0	1	0	1	0	1	NC	1	NC	1
840			min	0	1	0	1	0	1	0	1	NC	1	NC	1
841	M115	1	max	.102	17	.023	18	.014	25	1.305e-03	2	NC	1	NC	1
842			min	-.105	11	-.045	12	-.023	31	-9.078e-04	20	NC	1	NC	1
843		2	max	.102	17	.012	19	.011	14	1.305e-03	2	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
844			min	-.105	11	-.042	37	-.023	31	-9.078e-04	20	NC	1	NC	1
845		3	max	.102	17	.007	20	.011	14	1.305e-03	2	NC	1	NC	1
846			min	-.105	11	-.04	26	-.023	32	-9.078e-04	20	NC	1	NC	1
847		4	max	.102	17	.012	21	.012	15	1.305e-03	2	NC	1	NC	1
848			min	-.105	11	-.041	28	-.023	33	-9.078e-04	20	NC	1	NC	1
849		5	max	.102	17	.025	22	.014	15	1.305e-03	2	NC	1	NC	1
850			min	-.105	11	-.045	4	-.024	33	-9.078e-04	20	NC	1	NC	1
851	M116A	1	max	.023	32	.007	20	.102	17	4.729e-03	17	NC	1	NC	1
852			min	-.011	14	-.04	26	-.105	11	-4.888e-03	11	NC	1	NC	1
853		2	max	.023	32	.004	20	.107	17	4.729e-03	17	NC	1	NC	1
854			min	-.011	14	-.038	26	-.11	11	-4.888e-03	11	NC	1	NC	1
855		3	max	.023	32	.002	20	.111	17	4.729e-03	17	NC	1	NC	1
856			min	-.011	14	-.036	26	-.115	11	-4.888e-03	11	NC	1	NC	1
857		4	max	.023	32	-.001	20	.116	17	4.729e-03	17	NC	1	NC	1
858			min	-.011	14	-.034	26	-.12	11	-4.888e-03	11	NC	1	NC	1
859		5	max	.023	32	-.004	20	.121	17	4.729e-03	17	NC	1	NC	1
860			min	-.011	14	-.032	26	-.125	11	-4.888e-03	11	NC	1	NC	1
861	M117A	1	max	.032	26	.238	17	.074	2	1.727e-03	17	NC	1	NC	1
862			min	.004	20	-.248	11	-.049	20	-1.782e-03	11	341.884	11	1977.556	8
863		2	max	.032	26	.165	17	.028	2	1.727e-03	17	NC	1	NC	6
864			min	.004	20	-.17	11	-.028	20	-1.782e-03	11	471.103	11	2075.288	26
865		3	max	.032	26	.06	17	0	14	1.4e-03	17	NC	1	NC	6
866			min	.004	20	-.062	11	-.019	32	-1.442e-03	11	914.842	47	1546.41	26
867		4	max	.032	26	.019	43	.025	26	1.213e-03	17	NC	1	NC	1
868			min	.004	20	-.001	66	0	20	-1.248e-03	11	1938.281	47	3534.989	2
869		5	max	.032	26	.068	47	.074	26	1.213e-03	17	NC	1	NC	1
870			min	.004	20	-.03	17	-.002	20	-1.248e-03	11	NC	1	2262.426	32
871	M118A	1	max	0	8	-.002	20	.011	17	1.611e-03	17	NC	1	NC	1
872			min	0	14	-.019	26	-.011	11	-2.087e-03	47	NC	1	NC	1
873		2	max	0	8	-.003	20	.013	17	1.611e-03	17	NC	1	NC	1
874			min	0	14	-.022	26	-.013	11	-2.087e-03	47	NC	1	NC	1
875		3	max	0	8	-.003	20	.015	17	1.611e-03	17	NC	1	NC	1
876			min	0	14	-.026	26	-.015	11	-2.087e-03	47	NC	1	NC	1
877		4	max	0	8	-.003	20	.016	17	1.611e-03	17	NC	1	NC	1
878			min	0	14	-.029	26	-.017	11	-2.087e-03	47	NC	1	NC	1
879		5	max	0	8	-.004	20	.018	17	1.611e-03	17	NC	1	NC	1
880			min	0	14	-.032	26	-.019	11	-2.087e-03	47	NC	1	NC	1
881	M119A	1	max	.05	47	.006	16	.051	37	1.14e-04	20	NC	1	NC	1
882			min	-.03	17	-.017	46	-.003	19	-2.076e-03	26	NC	1	NC	1
883		2	max	.05	47	.003	16	.05	37	1.14e-04	20	NC	1	NC	1
884			min	-.03	17	-.011	46	-.001	19	-2.076e-03	26	NC	1	NC	1
885		3	max	.05	47	.002	14	.05	26	1.14e-04	20	NC	1	NC	1
886			min	-.03	17	-.008	32	0	20	-2.076e-03	26	NC	1	NC	1
887		4	max	.05	47	.004	24	.05	27	1.14e-04	20	NC	1	NC	1
888			min	-.03	17	-.008	30	0	21	-2.076e-03	26	NC	1	NC	1
889		5	max	.05	47	.008	48	.05	27	1.14e-04	20	NC	1	NC	1
890			min	-.03	17	-.011	6	-.002	21	-2.076e-03	26	NC	1	NC	1
891	M120A	1	max	0	20	.002	14	.05	47	1.261e-03	17	NC	1	NC	1
892			min	-.05	26	-.008	32	-.03	17	-2.063e-03	47	NC	1	NC	1
893		2	max	0	20	-.001	14	.048	47	1.261e-03	17	NC	1	NC	1
894			min	-.05	26	-.013	32	-.026	17	-2.063e-03	47	NC	1	NC	1
895		3	max	0	20	-.004	63	.047	47	1.261e-03	17	NC	1	NC	1
896			min	-.05	26	-.019	26	-.022	17	-2.063e-03	47	NC	1	NC	1
897		4	max	0	20	-.004	20	.045	47	1.261e-03	17	NC	1	NC	1
898			min	-.05	26	-.025	26	-.019	17	-2.063e-03	47	NC	1	NC	1
899		5	max	0	20	-.004	20	.044	47	1.261e-03	17	NC	1	NC	1
900			min	-.05	26	-.032	26	-.015	17	-2.063e-03	47	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
901	M153A	1	max	.112	21	.027	22	.014	17	1.273e-03	6	NC	1	NC	1
902			min	-.115	3	-.049	4	-.023	35	-8.769e-04	24	NC	1	NC	1
903		2	max	.112	21	.013	23	.011	17	1.273e-03	6	NC	1	NC	1
904			min	-.115	3	-.042	28	-.023	35	-8.769e-04	24	NC	1	NC	1
905		3	max	.112	21	.006	24	.011	18	1.273e-03	6	NC	1	NC	1
906			min	-.115	3	-.04	30	-.023	36	-8.769e-04	24	NC	1	NC	1
907		4	max	.112	21	.011	14	.012	19	1.273e-03	6	NC	1	NC	1
908			min	-.115	3	-.041	32	-.023	37	-8.769e-04	24	NC	1	NC	1
909		5	max	.112	21	.025	14	.014	19	1.273e-03	6	NC	1	NC	1
910			min	-.115	3	-.045	8	-.024	37	-8.769e-04	24	NC	1	NC	1
911	M154	1	max	.023	36	.006	24	.112	21	5.138e-03	21	NC	1	NC	1
912			min	-.011	18	-.04	30	-.115	3	-5.298e-03	3	NC	1	NC	1
913		2	max	.023	36	.004	24	.117	21	5.138e-03	21	NC	1	NC	1
914			min	-.011	18	-.038	30	-.12	3	-5.298e-03	3	NC	1	NC	1
915		3	max	.023	36	.001	24	.122	21	5.138e-03	21	NC	1	NC	1
916			min	-.011	18	-.036	30	-.126	3	-5.298e-03	3	NC	1	NC	1
917		4	max	.023	36	-.002	24	.128	21	5.138e-03	21	NC	1	NC	1
918			min	-.011	18	-.034	30	-.131	3	-5.298e-03	3	NC	1	NC	1
919		5	max	.023	36	-.004	23	.133	21	5.138e-03	21	NC	1	NC	1
920			min	-.011	18	-.032	30	-.137	3	-5.298e-03	3	NC	1	NC	1
921	M155	1	max	.032	30	.158	4	.226	15	1.904e-03	21	NC	1	NC	1
922			min	.004	23	-.131	22	-.231	9	-1.958e-03	3	636.075	10	358.17	3
923		2	max	.032	30	.095	4	.161	3	1.904e-03	21	NC	6	NC	1
924			min	.004	23	-.092	22	-.157	21	-1.958e-03	3	793.316	9	470.025	3
925		3	max	.032	30	.03	15	.062	3	1.573e-03	21	NC	5	NC	1
926			min	.004	23	-.037	9	-.056	21	-1.615e-03	3	1389.368	9	917.864	3
927		4	max	.032	30	.021	30	-.001	25	1.383e-03	21	NC	2	NC	1
928			min	.004	23	0	23	-.013	30	-1.419e-03	3	2502.99	28	2410.56	4
929		5	max	.032	30	.064	32	.023	22	1.383e-03	21	NC	1	NC	2
930			min	.004	23	-.007	14	-.044	27	-1.419e-03	3	1928.33	33	1915.176	29
931	M156	1	max	0	12	-.003	24	.013	21	1.763e-03	21	NC	1	NC	1
932			min	0	18	-.019	30	-.013	3	-1.871e-03	3	NC	1	NC	1
933		2	max	0	12	-.003	24	.015	21	1.763e-03	21	NC	1	NC	1
934			min	0	18	-.022	30	-.015	3	-1.871e-03	3	NC	1	NC	1
935		3	max	0	12	-.003	23	.017	21	1.763e-03	21	NC	1	NC	1
936			min	0	18	-.025	30	-.017	3	-1.871e-03	3	NC	1	NC	1
937		4	max	0	12	-.004	23	.019	21	1.763e-03	21	NC	1	NC	1
938			min	0	18	-.029	30	-.019	3	-1.871e-03	3	NC	1	NC	1
939		5	max	0	12	-.004	23	.021	21	1.763e-03	21	NC	1	NC	1
940			min	0	18	-.032	30	-.021	3	-1.871e-03	3	NC	1	NC	1
941	M157	1	max	.035	3	.007	20	.051	28	8.425e-05	24	NC	1	NC	1
942			min	-.033	21	-.012	2	-.004	23	-2.072e-03	30	NC	1	NC	1
943		2	max	.035	3	.004	20	.05	29	8.425e-05	24	NC	1	NC	1
944			min	-.033	21	-.008	26	-.001	23	-2.072e-03	30	NC	1	NC	1
945		3	max	.035	3	.002	18	.05	30	8.425e-05	24	NC	1	NC	1
946			min	-.033	21	-.008	36	0	24	-2.072e-03	30	NC	1	NC	1
947		4	max	.035	3	.004	16	.05	31	8.425e-05	24	NC	1	NC	1
948			min	-.033	21	-.008	34	0	25	-2.072e-03	30	NC	1	NC	1
949		5	max	.035	3	.008	16	.05	31	8.425e-05	24	NC	1	NC	1
950			min	-.033	21	-.011	10	-.001	25	-2.072e-03	30	NC	1	NC	1
951	M158	1	max	0	24	.002	18	.035	3	1.413e-03	21	NC	1	NC	1
952			min	-.05	30	-.008	36	-.033	21	-1.521e-03	3	NC	1	NC	1
953		2	max	0	24	0	18	.031	3	1.413e-03	21	NC	1	NC	1
954			min	-.05	30	-.013	36	-.029	21	-1.521e-03	3	NC	1	NC	1
955		3	max	0	24	-.004	20	.027	3	1.413e-03	21	NC	1	NC	1
956			min	-.05	30	-.019	28	-.025	21	-1.521e-03	3	NC	1	NC	1
957		4	max	0	24	-.004	23	.023	3	1.413e-03	21	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
958			min	-.05	30	-.025	29	-.02	21	-1.521e-03	3	NC	1	NC	1
959		5	max	0	24	-.004	23	.018	3	1.413e-03	21	NC	1	NC	1
960			min	-.05	30	-.032	30	-.016	21	-1.521e-03	3	NC	1	NC	1
961	M159	1	max	.106	25	.021	14	.012	21	1.207e-03	10	NC	1	NC	1
962			min	-.11	7	-.044	32	-.023	27	-8.1e-04	16	NC	1	NC	1
963		2	max	.106	25	.01	15	.01	21	1.207e-03	10	NC	1	NC	1
964			min	-.11	7	-.042	32	-.023	27	-8.1e-04	16	NC	1	NC	1
965		3	max	.106	25	.006	16	.01	22	1.207e-03	10	NC	1	NC	1
966			min	-.11	7	-.04	34	-.023	28	-8.1e-04	16	NC	1	NC	1
967		4	max	.106	25	.013	18	.011	23	1.207e-03	10	NC	1	NC	1
968			min	-.11	7	-.041	36	-.023	29	-8.1e-04	16	NC	1	NC	1
969		5	max	.106	25	.026	18	.013	23	1.207e-03	10	NC	1	NC	1
970			min	-.11	7	-.047	12	-.024	29	-8.1e-04	16	NC	1	NC	1
971	M160B	1	max	.023	28	.006	16	.106	25	4.881e-03	25	NC	1	NC	1
972			min	-.01	22	-.04	34	-.11	7	-5.037e-03	7	NC	1	NC	1
973		2	max	.023	28	.003	16	.111	25	4.881e-03	25	NC	1	NC	1
974			min	-.01	22	-.038	34	-.115	7	-5.037e-03	7	NC	1	NC	1
975		3	max	.023	28	0	16	.116	25	4.881e-03	25	NC	1	NC	1
976			min	-.01	22	-.036	34	-.119	7	-5.037e-03	7	NC	1	NC	1
977		4	max	.023	28	-.002	16	.121	25	4.881e-03	25	NC	1	NC	1
978			min	-.01	22	-.034	34	-.124	7	-5.037e-03	7	NC	1	NC	1
979		5	max	.023	28	-.004	16	.126	25	4.881e-03	25	NC	1	NC	1
980			min	-.01	22	-.032	34	-.129	7	-5.037e-03	7	NC	1	NC	1
981	M161B	1	max	.032	34	.13	18	.203	25	1.721e-03	25	NC	1	NC	1
982			min	.004	16	-.148	12	-.224	7	-1.774e-03	7	616.03	7	392.932	7
983		2	max	.032	34	.091	7	.146	25	1.721e-03	25	NC	22	NC	1
984			min	.004	16	-.088	25	-.151	7	-1.774e-03	7	769.91	7	523.866	13
985		3	max	.032	34	.036	7	.056	13	1.432e-03	25	NC	3	NC	4
986			min	.004	16	-.028	25	-.053	19	-1.474e-03	7	1361.32	7	1021.882	13
987		4	max	.032	34	0	16	0	16	1.267e-03	25	NC	1	NC	1
988			min	.004	16	-.022	34	-.012	35	-1.302e-03	7	3350.625	7	2738.365	13
989		5	max	.032	34	.006	14	.023	18	1.267e-03	25	NC	2	NC	1
990			min	.004	16	-.067	32	-.039	37	-1.302e-03	7	1526.663	31	2308.462	36
991	M162B	1	max	0	4	-.003	16	.012	25	1.674e-03	25	NC	1	NC	1
992			min	0	22	-.019	34	-.012	7	-1.781e-03	7	NC	1	NC	1
993		2	max	0	4	-.003	16	.014	25	1.674e-03	25	NC	1	NC	1
994			min	0	22	-.022	34	-.014	7	-1.781e-03	7	NC	1	NC	1
995		3	max	0	4	-.003	16	.015	25	1.674e-03	25	NC	1	NC	1
996			min	0	22	-.026	34	-.016	7	-1.781e-03	7	NC	1	NC	1
997		4	max	0	4	-.004	16	.017	25	1.674e-03	25	NC	1	NC	1
998			min	0	22	-.029	34	-.018	7	-1.781e-03	7	NC	1	NC	1
999		5	max	0	4	-.004	16	.019	25	1.674e-03	25	NC	1	NC	1
1000			min	0	22	-.032	34	-.02	7	-1.781e-03	7	NC	1	NC	1
1001	M163A	1	max	.033	7	.007	24	.051	33	9.427e-05	16	NC	1	NC	1
1002			min	-.031	25	-.011	6	-.002	15	-2.074e-03	34	NC	1	NC	1
1003		2	max	.033	7	.004	24	.05	33	9.427e-05	16	NC	1	NC	1
1004			min	-.031	25	-.008	30	0	16	-2.074e-03	34	NC	1	NC	1
1005		3	max	.033	7	.002	22	.05	34	9.427e-05	16	NC	1	NC	1
1006			min	-.031	25	-.008	28	0	16	-2.074e-03	34	NC	1	NC	1
1007		4	max	.033	7	.004	20	.05	35	9.427e-05	16	NC	1	NC	1
1008			min	-.031	25	-.008	26	-.001	17	-2.074e-03	34	NC	1	NC	1
1009		5	max	.033	7	.008	20	.05	35	9.427e-05	16	NC	1	NC	1
1010			min	-.031	25	-.011	2	-.003	17	-2.074e-03	34	NC	1	NC	1
1011	M164	1	max	0	16	.002	22	.033	7	1.324e-03	25	NC	1	NC	1
1012			min	-.05	34	-.008	28	-.031	25	-1.431e-03	7	NC	1	NC	1
1013		2	max	0	16	-.001	22	.03	7	1.324e-03	25	NC	1	NC	1
1014			min	-.05	34	-.013	28	-.027	25	-1.431e-03	7	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1015		3	max	0	16	-.004	20	.026	7	1.324e-03	25	NC	1	NC	1
1016			min	-.05	34	-.019	36	-.023	25	-1.431e-03	7	NC	1	NC	1
1017		4	max	0	16	-.004	17	.022	7	1.324e-03	25	NC	1	NC	1
1018			min	-.05	34	-.025	34	-.02	25	-1.431e-03	7	NC	1	NC	1
1019		5	max	0	16	-.004	16	.018	7	1.324e-03	25	NC	1	NC	1
1020			min	-.05	34	-.032	34	-.016	25	-1.431e-03	7	NC	1	NC	1
1021	M127	1	max	.013	3	.079	15	.074	3	2.789e-03	30	NC	1	NC	1
1022			min	-.013	21	-.113	9	-.062	21	-2.264e-04	24	429.903	21	556.505	3
1023		2	max	.013	3	.031	15	.031	3	2.328e-03	30	NC	6	NC	1
1024			min	-.013	21	-.046	9	-.028	21	2.092e-06	24	665.881	21	796.742	15
1025		3	max	.013	3	-.003	24	0	12	2.031e-03	30	NC	6	NC	1
1026			min	-.013	21	-.019	30	0	18	2.599e-04	23	934.132	15	1159.373	15
1027		4	max	.013	3	.03	21	.031	9	2.354e-03	29	NC	6	NC	1
1028			min	-.013	21	-.049	3	-.03	15	-1.13e-04	23	622.072	15	841.828	21
1029		5	max	.013	3	.073	21	.077	10	2.831e-03	30	NC	7	NC	1
1030			min	-.013	21	-.119	3	-.07	16	-4.194e-04	23	403.274	3	574.592	21
1031	M128	1	max	.012	7	.074	19	.07	6	2.8e-03	34	NC	1	NC	1
1032			min	-.012	25	-.108	13	-.059	24	-3.241e-04	17	452.777	25	609.218	7
1033		2	max	.012	7	.03	19	.029	7	2.334e-03	35	NC	22	NC	1
1034			min	-.012	25	-.045	13	-.026	25	-6.363e-05	17	699.989	25	890.264	19
1035		3	max	.012	7	-.003	16	0	4	2.032e-03	34	NC	52	NC	1
1036			min	-.012	25	-.019	34	0	22	2.554e-04	16	1000.56	19	1318.295	19
1037		4	max	.012	7	.027	25	.028	13	2.348e-03	34	NC	10	NC	1
1038			min	-.012	25	-.047	7	-.026	19	-5.332e-05	16	660.034	19	912.148	25
1039		5	max	.012	7	.069	25	.067	13	2.823e-03	34	NC	2	NC	1
1040			min	-.012	25	-.115	7	-.059	19	-3.287e-04	16	423.616	7	630.657	25
1041	M105A	1	max	.115	21	.093	21	.073	15	2.149e-03	27	NC	1	NC	1
1042			min	-.119	3	-.157	3	-.083	9	-5.667e-04	21	NC	1	NC	1
1043		2	max	.115	21	.079	21	.068	15	2.149e-03	27	NC	1	NC	1
1044			min	-.119	3	-.143	3	-.078	9	-5.667e-04	21	NC	1	NC	1
1045		3	max	.115	21	.064	21	.063	15	2.149e-03	27	NC	1	NC	1
1046			min	-.119	3	-.128	3	-.073	9	-5.667e-04	21	NC	1	NC	1
1047		4	max	.115	21	.049	21	.059	15	2.149e-03	27	NC	1	NC	1
1048			min	-.119	3	-.123	27	-.069	9	-5.667e-04	21	NC	1	NC	1
1049		5	max	.115	21	.035	21	.054	15	2.149e-03	27	NC	1	NC	1
1050			min	-.119	3	-.121	27	-.064	9	-5.667e-04	21	NC	1	NC	1
1051	M106A	1	max	.073	9	.064	21	.115	21	4.906e-03	9	NC	1	NC	1
1052			min	-.063	15	-.128	3	-.119	3	-4.88e-03	15	NC	1	NC	1
1053		2	max	.073	9	.062	21	.12	21	4.906e-03	9	NC	1	NC	1
1054			min	-.063	15	-.122	3	-.124	3	-4.88e-03	15	NC	1	NC	1
1055		3	max	.073	9	.061	21	.124	21	4.906e-03	9	NC	1	NC	1
1056			min	-.063	15	-.116	3	-.129	3	-4.88e-03	15	NC	1	NC	1
1057		4	max	.073	9	.059	21	.129	21	4.906e-03	9	NC	1	NC	1
1058			min	-.063	15	-.11	3	-.133	3	-4.88e-03	15	NC	1	NC	1
1059		5	max	.073	9	.057	21	.134	21	4.906e-03	9	NC	1	NC	1
1060			min	-.063	15	-.105	3	-.138	3	-4.88e-03	15	NC	1	NC	1
1061	M107A	1	max	.105	3	.294	3	.216	3	2.39e-03	20	NC	6	NC	1
1062			min	-.057	21	-.259	21	-.211	21	-2.599e-03	2	396.826	3	292.522	3
1063		2	max	.105	3	.173	3	.125	3	2.39e-03	20	NC	1	NC	1
1064			min	-.057	21	-.166	21	-.119	21	-2.599e-03	2	630.893	8	405.357	3
1065		3	max	.104	3	.082	15	.043	3	1.989e-03	9	NC	13	NC	1
1066			min	-.057	21	-.094	9	-.03	21	-1.835e-03	15	1014.106	8	619.896	3
1067		4	max	.104	3	.067	4	.026	22	2.514e-03	10	NC	1	NC	4
1068			min	-.057	21	-.065	22	-.047	4	-2.159e-03	16	1855.134	6	1041.437	27
1069		5	max	.104	3	.11	5	.055	22	2.514e-03	10	NC	1	NC	2
1070			min	-.057	21	-.094	23	-.135	28	-2.159e-03	16	3198.89	12	532.547	27
1071	M108A	1	max	.062	10	.059	21	.013	21	2.387e-03	21	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1072			min	-.057	16	-.097	3	-.013	3	-3.695e-03	3	NC	1	NC	1
1073		2	max	.062	10	.059	21	.016	9	2.387e-03	21	NC	1	NC	1
1074			min	-.057	16	-.099	3	-.016	15	-3.695e-03	3	NC	1	NC	1
1075		3	max	.062	10	.058	21	.02	9	2.387e-03	21	NC	1	NC	1
1076			min	-.057	16	-.101	3	-.019	15	-3.695e-03	3	NC	1	NC	1
1077		4	max	.062	10	.058	21	.024	9	2.387e-03	21	NC	1	NC	1
1078			min	-.057	16	-.102	3	-.022	15	-3.695e-03	3	NC	1	NC	1
1079		5	max	.062	10	.057	21	.027	9	2.387e-03	21	NC	1	NC	1
1080			min	-.057	16	-.104	3	-.025	15	-3.695e-03	3	NC	1	NC	1
1081	M109B	1	max	.124	3	.095	15	.086	3	4.962e-04	15	NC	1	NC	1
1082			min	-.121	21	-.147	9	-.071	21	-2.157e-03	33	NC	1	NC	1
1083		2	max	.124	3	.08	15	.083	3	4.962e-04	15	NC	1	NC	1
1084			min	-.121	21	-.133	9	-.068	21	-2.157e-03	33	NC	1	NC	1
1085		3	max	.124	3	.065	15	.079	3	4.962e-04	15	NC	1	NC	1
1086			min	-.121	21	-.119	9	-.065	21	-2.157e-03	33	NC	1	NC	1
1087		4	max	.124	3	.05	15	.076	3	4.962e-04	15	NC	1	NC	1
1088			min	-.121	21	-.114	33	-.062	21	-2.157e-03	33	NC	1	NC	1
1089		5	max	.124	3	.036	15	.072	3	4.962e-04	15	NC	1	NC	1
1090			min	-.121	21	-.113	33	-.058	21	-2.157e-03	33	NC	1	NC	1
1091	M110A	1	max	.079	3	.065	15	.121	21	4.682e-03	21	NC	1	NC	1
1092			min	-.065	21	-.119	9	-.124	3	-4.99e-03	3	NC	1	NC	1
1093		2	max	.079	3	.064	15	.125	21	4.682e-03	21	NC	1	NC	1
1094			min	-.065	21	-.113	9	-.127	3	-4.99e-03	3	NC	1	NC	1
1095		3	max	.079	3	.062	15	.128	21	4.682e-03	21	NC	1	NC	1
1096			min	-.065	21	-.108	9	-.131	3	-4.99e-03	3	NC	1	NC	1
1097		4	max	.079	3	.061	15	.131	21	4.682e-03	21	NC	1	NC	1
1098			min	-.065	21	-.102	9	-.135	3	-4.99e-03	3	NC	1	NC	1
1099		5	max	.079	3	.059	15	.134	21	4.682e-03	21	NC	1	NC	1
1100			min	-.065	21	-.097	9	-.138	3	-4.99e-03	3	NC	1	NC	1
1101	M111	1	max	.097	9	.093	5	.323	15	2.644e-03	10	NC	1	NC	1
1102			min	-.059	15	-.076	23	-.336	9	-2.633e-03	16	731.424	10	266.759	9
1103		2	max	.097	9	.024	4	.208	3	2.644e-03	10	NC	2	NC	1
1104			min	-.059	15	-.024	22	-.204	21	-2.633e-03	16	1171.018	10	421.415	10
1105		3	max	.096	9	.007	21	.1	3	1.46e-03	22	NC	13	NC	1
1106			min	-.059	15	-.031	27	-.09	21	-1.774e-03	4	1217.057	6	782.518	10
1107		4	max	.096	9	.06	8	.034	2	1.827e-03	21	NC	1	NC	1
1108			min	-.059	15	-.045	14	-.025	20	-2.324e-03	3	900.621	21	1854.161	10
1109		5	max	.096	9	.128	32	.055	11	1.827e-03	21	NC	2	NC	1
1110			min	-.059	15	-.065	14	-.043	17	-2.324e-03	3	647.251	9	1499.108	12
1111	M112	1	max	.06	3	.063	15	.013	21	3.558e-03	9	NC	1	NC	1
1112			min	-.051	21	-.092	9	-.013	3	-2.607e-03	15	NC	1	NC	1
1113		2	max	.06	3	.062	15	.015	21	3.558e-03	9	NC	1	NC	1
1114			min	-.051	21	-.093	9	-.017	3	-2.607e-03	15	NC	1	NC	1
1115		3	max	.06	3	.061	15	.018	21	3.558e-03	9	NC	1	NC	1
1116			min	-.051	21	-.094	9	-.02	3	-2.607e-03	15	NC	1	NC	1
1117		4	max	.06	3	.06	15	.021	21	3.558e-03	9	NC	1	NC	1
1118			min	-.051	21	-.095	9	-.024	3	-2.607e-03	15	NC	1	NC	1
1119		5	max	.06	3	.059	15	.024	21	3.558e-03	9	NC	1	NC	1
1120			min	-.051	21	-.096	9	-.027	3	-2.607e-03	15	NC	1	NC	1
1121	M113	1	max	.08	21	.065	21	.159	21	4.064e-03	21	NC	1	NC	1
1122			min	-.08	3	-.118	3	-.164	3	-4.615e-03	3	NC	1	NC	1
1123		2	max	.08	21	.063	21	.163	21	4.064e-03	21	NC	1	NC	1
1124			min	-.08	3	-.115	3	-.168	3	-4.615e-03	3	NC	1	NC	1
1125		3	max	.08	21	.061	21	.166	21	4.064e-03	21	NC	1	NC	1
1126			min	-.08	3	-.111	3	-.172	3	-4.615e-03	3	NC	1	NC	1
1127		4	max	.08	21	.059	21	.17	21	4.064e-03	21	NC	1	NC	1
1128			min	-.08	3	-.108	3	-.176	3	-4.615e-03	3	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1129		5	max	.08	21	.057	21	.173	21	4.064e-03	21	NC	1	NC	1
1130			min	-.08	3	-.105	3	-.18	3	-4.615e-03	3	NC	1	NC	1
1131	M114	1	max	.084	3	.065	15	.16	21	4.287e-03	9	NC	1	NC	1
1132			min	-.079	21	-.108	9	-.164	3	-4.014e-03	15	NC	1	NC	1
1133		2	max	.084	3	.063	15	.163	21	4.287e-03	9	NC	1	NC	1
1134			min	-.079	21	-.105	9	-.168	3	-4.014e-03	15	NC	1	NC	1
1135		3	max	.084	3	.062	15	.166	21	4.287e-03	9	NC	1	NC	1
1136			min	-.079	21	-.102	9	-.171	3	-4.014e-03	15	NC	1	NC	1
1137		4	max	.084	3	.061	15	.17	21	4.287e-03	9	NC	1	NC	1
1138			min	-.079	21	-.099	9	-.174	3	-4.014e-03	15	NC	1	NC	1
1139		5	max	.084	3	.059	15	.173	21	4.287e-03	9	NC	1	NC	1
1140			min	-.079	21	-.097	9	-.178	3	-4.014e-03	15	NC	1	NC	1
1141	M115A	1	max	.066	3	.066	21	.124	4	1.812e-03	24	NC	1	NC	1
1142			min	-.037	21	-.103	3	-.096	22	-3.258e-03	6	NC	1	NC	1
1143		2	max	.066	3	.062	21	.118	4	1.812e-03	24	NC	1	NC	1
1144			min	-.037	21	-.096	3	-.089	22	-3.258e-03	6	NC	1	NC	1
1145		3	max	.066	3	.059	20	.112	5	1.812e-03	24	NC	1	NC	1
1146			min	-.037	21	-.088	2	-.082	23	-3.258e-03	6	NC	1	NC	1
1147		4	max	.066	3	.056	20	.107	5	1.812e-03	24	NC	1	NC	1
1148			min	-.037	21	-.081	2	-.076	23	-3.258e-03	6	NC	1	NC	1
1149		5	max	.066	3	.053	20	.102	5	1.812e-03	24	NC	1	NC	1
1150			min	-.037	21	-.074	2	-.07	23	-3.258e-03	6	NC	1	NC	1
1151	M116B	1	max	.082	23	.059	20	.066	3	1.172e-03	21	NC	1	NC	1
1152			min	-.112	5	-.088	2	-.037	21	-2.662e-03	27	NC	1	NC	1
1153		2	max	.082	23	.058	21	.063	27	1.172e-03	21	NC	1	NC	1
1154			min	-.112	5	-.092	3	-.03	21	-2.662e-03	27	NC	1	NC	1
1155		3	max	.082	23	.058	21	.063	27	1.172e-03	21	NC	1	NC	1
1156			min	-.112	5	-.096	3	-.023	21	-2.662e-03	27	NC	1	NC	1
1157		4	max	.082	23	.058	21	.064	27	1.172e-03	21	NC	1	NC	1
1158			min	-.112	5	-.1	3	-.016	20	-2.662e-03	27	NC	1	NC	1
1159		5	max	.082	23	.057	21	.064	26	1.172e-03	21	NC	1	NC	1
1160			min	-.112	5	-.104	3	-.011	20	-2.662e-03	27	NC	1	NC	1
1161	M117	1	max	.063	9	.079	16	.072	14	2.998e-03	30	NC	1	NC	1
1162			min	-.042	15	-.105	10	-.094	8	-1.53e-03	24	NC	1	NC	1
1163		2	max	.063	9	.075	16	.065	14	2.998e-03	30	NC	1	NC	1
1164			min	-.042	15	-.098	10	-.089	8	-1.53e-03	24	NC	1	NC	1
1165		3	max	.063	9	.071	16	.059	14	2.998e-03	30	NC	1	NC	1
1166			min	-.042	15	-.091	10	-.084	8	-1.53e-03	24	NC	1	NC	1
1167		4	max	.063	9	.067	16	.054	25	2.998e-03	30	NC	1	NC	1
1168			min	-.042	15	-.084	10	-.081	7	-1.53e-03	24	NC	1	NC	1
1169		5	max	.063	9	.063	16	.05	25	2.998e-03	30	NC	1	NC	1
1170			min	-.042	15	-.078	10	-.078	7	-1.53e-03	24	NC	1	NC	1
1171	M118	1	max	.059	14	.071	16	.042	15	2.395e-03	9	NC	1	NC	1
1172			min	-.084	8	-.091	10	-.063	9	-1.444e-03	15	NC	1	NC	1
1173		2	max	.059	14	.066	15	.035	15	2.395e-03	9	NC	1	NC	1
1174			min	-.084	8	-.091	9	-.057	9	-1.444e-03	15	NC	1	NC	1
1175		3	max	.059	14	.064	15	.029	15	2.395e-03	9	NC	1	NC	1
1176			min	-.084	8	-.092	9	-.056	33	-1.444e-03	15	NC	1	NC	1
1177		4	max	.059	14	.062	15	.022	15	2.395e-03	9	NC	1	NC	1
1178			min	-.084	8	-.094	9	-.057	33	-1.444e-03	15	NC	1	NC	1
1179		5	max	.059	14	.059	15	.015	15	2.395e-03	9	NC	1	NC	1
1180			min	-.084	8	-.096	9	-.058	33	-1.444e-03	15	NC	1	NC	1
1181	M119	1	max	.109	25	.085	25	.071	19	2.138e-03	31	NC	1	NC	1
1182			min	-.113	7	-.149	7	-.08	13	-4.714e-04	25	NC	1	NC	1
1183		2	max	.109	25	.071	25	.066	19	2.138e-03	31	NC	1	NC	1
1184			min	-.113	7	-.135	7	-.076	13	-4.714e-04	25	NC	1	NC	1
1185		3	max	.109	25	.057	25	.061	19	2.138e-03	31	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1186			min	-.113	7	-.124	31	-.071	13	-4.714e-04	25	NC	1	NC	1
1187		4	max	.109	25	.043	25	.057	19	2.138e-03	31	NC	1	NC	1
1188			min	-.113	7	-.122	31	-.067	13	-4.714e-04	25	NC	1	NC	1
1189		5	max	.109	25	.029	25	.052	19	2.138e-03	31	NC	1	NC	1
1190			min	-.113	7	-.12	31	-.062	13	-4.714e-04	25	NC	1	NC	1
1191	M120	1	max	.071	13	.057	25	.109	25	4.722e-03	13	NC	1	NC	1
1192			min	-.061	19	-.124	31	-.113	7	-4.693e-03	19	NC	1	NC	1
1193		2	max	.071	13	.056	25	.114	25	4.722e-03	13	NC	1	NC	1
1194			min	-.061	19	-.118	31	-.118	7	-4.693e-03	19	NC	1	NC	1
1195		3	max	.071	13	.054	25	.118	25	4.722e-03	13	NC	1	NC	1
1196			min	-.061	19	-.111	31	-.123	7	-4.693e-03	19	NC	1	NC	1
1197		4	max	.071	13	.053	25	.123	25	4.722e-03	13	NC	1	NC	1
1198			min	-.061	19	-.105	31	-.127	7	-4.693e-03	19	NC	1	NC	1
1199		5	max	.071	13	.051	25	.128	25	4.722e-03	13	NC	1	NC	1
1200			min	-.061	19	-.099	7	-.132	7	-4.693e-03	19	NC	1	NC	1
1201	M121	1	max	.099	7	.081	18	.306	25	2.598e-03	24	NC	1	NC	4
1202			min	-.051	25	-.094	12	-.338	7	-2.805e-03	6	744.428	6	264.528	7
1203		2	max	.099	7	.025	6	.193	25	2.598e-03	24	NC	1	NC	4
1204			min	-.051	25	-.024	24	-.202	7	-2.805e-03	6	1278.945	6	423.554	7
1205		3	max	.098	7	.029	26	.09	13	1.843e-03	13	NC	3	NC	3
1206			min	-.051	25	-.005	20	-.087	19	-1.688e-03	19	1118.624	11	794.468	6
1207		4	max	.098	7	.043	14	.035	2	2.152e-03	2	NC	1	NC	1
1208			min	-.051	25	-.062	8	-.025	20	-1.798e-03	20	866.061	7	1877.597	6
1209		5	max	.098	7	.067	15	.059	5	2.152e-03	2	NC	2	NC	1
1210			min	-.051	25	-.138	33	-.04	23	-1.798e-03	20	631.01	7	1502.261	4
1211	M122	1	max	.054	13	.055	25	.012	25	2.278e-03	25	NC	1	NC	1
1212			min	-.048	19	-.093	7	-.012	7	-3.584e-03	7	NC	1	NC	1
1213		2	max	.054	13	.054	25	.015	13	2.278e-03	25	NC	1	NC	1
1214			min	-.048	19	-.095	7	-.015	19	-3.584e-03	7	NC	1	NC	1
1215		3	max	.054	13	.053	25	.018	13	2.278e-03	25	NC	1	NC	1
1216			min	-.048	19	-.096	7	-.017	19	-3.584e-03	7	NC	1	NC	1
1217		4	max	.054	13	.052	25	.021	13	2.278e-03	25	NC	1	NC	1
1218			min	-.048	19	-.097	7	-.02	19	-3.584e-03	7	NC	1	NC	1
1219		5	max	.054	13	.051	25	.025	13	2.278e-03	25	NC	1	NC	1
1220			min	-.048	19	-.098	7	-.023	19	-3.584e-03	7	NC	1	NC	1
1221	M123	1	max	.115	7	.094	19	.079	7	6.414e-04	19	NC	1	NC	1
1222			min	-.113	25	-.146	13	-.064	25	-2.175e-03	37	NC	1	NC	1
1223		2	max	.115	7	.079	19	.075	7	6.414e-04	19	NC	1	NC	1
1224			min	-.113	25	-.132	13	-.06	25	-2.175e-03	37	NC	1	NC	1
1225		3	max	.115	7	.065	19	.071	7	6.414e-04	19	NC	1	NC	1
1226			min	-.113	25	-.119	13	-.056	25	-2.175e-03	37	NC	1	NC	1
1227		4	max	.115	7	.051	19	.067	7	6.414e-04	19	NC	1	NC	1
1228			min	-.113	25	-.114	37	-.053	25	-2.175e-03	37	NC	1	NC	1
1229		5	max	.115	7	.037	19	.063	7	6.414e-04	19	NC	1	NC	1
1230			min	-.113	25	-.114	37	-.049	25	-2.175e-03	37	NC	1	NC	1
1231	M124	1	max	.071	7	.065	19	.113	25	4.481e-03	25	NC	1	NC	1
1232			min	-.056	25	-.119	13	-.115	7	-4.786e-03	7	NC	1	NC	1
1233		2	max	.071	7	.063	19	.116	25	4.481e-03	25	NC	1	NC	1
1234			min	-.056	25	-.113	13	-.119	7	-4.786e-03	7	NC	1	NC	1
1235		3	max	.071	7	.061	19	.12	25	4.481e-03	25	NC	1	NC	1
1236			min	-.056	25	-.107	13	-.123	7	-4.786e-03	7	NC	1	NC	1
1237		4	max	.071	7	.059	19	.124	25	4.481e-03	25	NC	1	NC	1
1238			min	-.056	25	-.101	13	-.127	7	-4.786e-03	7	NC	1	NC	1
1239		5	max	.071	7	.058	19	.127	25	4.481e-03	25	NC	1	NC	1
1240			min	-.056	25	-.095	13	-.131	7	-4.786e-03	7	NC	1	NC	1
1241	M125	1	max	.095	13	.253	19	.195	25	2.32e-03	2	NC	1	NC	1
1242			min	-.058	19	-.273	13	-.204	7	-2.307e-03	20	421.207	13	326.091	13

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1243		2	max	.095	13	.162	7	.114	25	2.32e-03	2	NC	5	NC	1
1244			min	-.058	19	-.158	25	-.116	7	-2.307e-03	20	608.987	8	449.596	13
1245		3	max	.095	13	.09	7	.041	13	1.479e-03	25	NC	3	NC	4
1246			min	-.058	19	-.073	25	-.03	19	-1.788e-03	7	981.661	8	682.508	13
1247		4	max	.095	13	.057	6	.024	18	1.809e-03	24	NC	3	NC	1
1248			min	-.058	19	-.057	24	-.041	12	-2.298e-03	6	2036.98	11	1353.513	37
1249		5	max	.095	13	.082	17	.053	18	1.809e-03	24	NC	1	NC	2
1250			min	-.058	19	-.099	11	-.122	36	-2.298e-03	6	3327.909	4	633.888	37
1251	M126	1	max	.057	6	.06	19	.012	25	3.369e-03	13	NC	1	NC	1
1252			min	-.048	24	-.088	13	-.012	7	-2.416e-03	19	NC	1	NC	1
1253		2	max	.057	6	.059	19	.014	25	3.369e-03	13	NC	1	NC	1
1254			min	-.048	24	-.09	13	-.015	7	-2.416e-03	19	NC	1	NC	1
1255		3	max	.057	6	.059	19	.017	25	3.369e-03	13	NC	1	NC	1
1256			min	-.048	24	-.091	13	-.019	7	-2.416e-03	19	NC	1	NC	1
1257		4	max	.057	6	.058	19	.02	25	3.369e-03	13	NC	1	NC	1
1258			min	-.048	24	-.093	13	-.022	7	-2.416e-03	19	NC	1	NC	1
1259		5	max	.057	6	.058	19	.022	25	3.369e-03	13	NC	1	NC	1
1260			min	-.048	24	-.095	13	-.026	7	-2.416e-03	19	NC	1	NC	1
1261	M127A	1	max	.076	25	.056	25	.151	25	3.867e-03	25	NC	1	NC	1
1262			min	-.076	7	-.11	7	-.156	7	-4.416e-03	7	NC	1	NC	1
1263		2	max	.076	25	.055	25	.155	25	3.867e-03	25	NC	1	NC	1
1264			min	-.076	7	-.107	7	-.16	7	-4.416e-03	7	NC	1	NC	1
1265		3	max	.076	25	.054	25	.158	25	3.867e-03	25	NC	1	NC	1
1266			min	-.076	7	-.104	7	-.164	7	-4.416e-03	7	NC	1	NC	1
1267		4	max	.076	25	.053	25	.162	25	3.867e-03	25	NC	1	NC	1
1268			min	-.076	7	-.101	7	-.168	7	-4.416e-03	7	NC	1	NC	1
1269		5	max	.076	25	.051	25	.165	25	3.867e-03	25	NC	1	NC	1
1270			min	-.076	7	-.099	7	-.172	7	-4.416e-03	7	NC	1	NC	1
1271	M128A	1	max	.078	7	.066	19	.151	25	4.17e-03	13	NC	1	NC	1
1272			min	-.074	25	-.109	13	-.156	7	-3.894e-03	19	NC	1	NC	1
1273		2	max	.078	7	.064	19	.155	25	4.17e-03	13	NC	1	NC	1
1274			min	-.074	25	-.105	13	-.159	7	-3.894e-03	19	NC	1	NC	1
1275		3	max	.078	7	.062	19	.158	25	4.17e-03	13	NC	1	NC	1
1276			min	-.074	25	-.102	13	-.163	7	-3.894e-03	19	NC	1	NC	1
1277		4	max	.078	7	.06	19	.161	25	4.17e-03	13	NC	1	NC	1
1278			min	-.074	25	-.098	13	-.166	7	-3.894e-03	19	NC	1	NC	1
1279		5	max	.078	7	.058	19	.165	25	4.17e-03	13	NC	1	NC	1
1280			min	-.074	25	-.095	13	-.169	7	-3.894e-03	19	NC	1	NC	1
1281	M129	1	max	.063	7	.068	24	.101	9	1.746e-03	16	NC	1	NC	1
1282			min	-.033	25	-.106	6	-.073	15	-3.192e-03	10	NC	1	NC	1
1283		2	max	.063	7	.066	24	.097	9	1.746e-03	16	NC	1	NC	1
1284			min	-.033	25	-.099	6	-.068	15	-3.192e-03	10	NC	1	NC	1
1285		3	max	.063	7	.063	24	.094	9	1.746e-03	16	NC	1	NC	1
1286			min	-.033	25	-.093	6	-.064	15	-3.192e-03	10	NC	1	NC	1
1287		4	max	.063	7	.061	24	.09	9	1.746e-03	16	NC	1	NC	1
1288			min	-.033	25	-.086	6	-.059	15	-3.192e-03	10	NC	1	NC	1
1289		5	max	.063	7	.058	24	.086	9	1.746e-03	16	NC	1	NC	1
1290			min	-.033	25	-.08	6	-.054	15	-3.192e-03	10	NC	1	NC	1
1291	M130	1	max	.064	15	.063	24	.063	7	1.063e-03	25	NC	1	NC	1
1292			min	-.094	9	-.093	6	-.033	25	-2.646e-03	31	NC	1	NC	1
1293		2	max	.064	15	.059	25	.063	31	1.063e-03	25	NC	1	NC	1
1294			min	-.094	9	-.093	7	-.027	25	-2.646e-03	31	NC	1	NC	1
1295		3	max	.064	15	.056	25	.063	31	1.063e-03	25	NC	1	NC	1
1296			min	-.094	9	-.095	7	-.021	25	-2.646e-03	31	NC	1	NC	1
1297		4	max	.064	15	.054	25	.064	31	1.063e-03	25	NC	1	NC	1
1298			min	-.094	9	-.096	7	-.015	25	-2.646e-03	31	NC	1	NC	1
1299		5	max	.064	15	.051	25	.064	31	1.063e-03	25	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ratio	LC	(n) L/z Ratio	LC
1300			min	-.094	9	-.098	7	-.008	25	-2.646e-03	31	NC	1	NC	1
1301	M131	1	max	.059	13	.068	20	.085	18	3.029e-03	10	NC	1	NC	1
1302			min	-.038	19	-.094	2	-.108	12	-1.615e-03	16	NC	1	NC	1
1303		2	max	.059	13	.065	20	.078	18	3.029e-03	10	NC	1	NC	1
1304			min	-.038	19	-.088	2	-.103	12	-1.615e-03	16	NC	1	NC	1
1305		3	max	.059	13	.061	20	.072	17	3.029e-03	10	NC	1	NC	1
1306			min	-.038	19	-.081	2	-.097	11	-1.615e-03	16	NC	1	NC	1
1307		4	max	.059	13	.058	20	.067	17	3.029e-03	10	NC	1	NC	1
1308			min	-.038	19	-.075	2	-.094	11	-1.615e-03	16	NC	1	NC	1
1309		5	max	.059	13	.054	20	.061	17	3.029e-03	10	NC	1	NC	1
1310			min	-.038	19	-.069	2	-.09	11	-1.615e-03	16	NC	1	NC	1
1311	M132	1	max	.072	17	.061	20	.038	19	2.316e-03	37	NC	1	NC	1
1312			min	-.097	11	-.081	2	-.059	13	-1.253e-03	19	NC	1	NC	1
1313		2	max	.072	17	.059	19	.032	19	2.316e-03	37	NC	1	NC	1
1314			min	-.097	11	-.084	13	-.055	37	-1.253e-03	19	NC	1	NC	1
1315		3	max	.072	17	.059	19	.025	19	2.316e-03	37	NC	1	NC	1
1316			min	-.097	11	-.087	13	-.056	37	-1.253e-03	19	NC	1	NC	1
1317		4	max	.072	17	.058	19	.019	20	2.316e-03	37	NC	1	NC	1
1318			min	-.097	11	-.091	13	-.057	26	-1.253e-03	19	NC	1	NC	1
1319		5	max	.072	17	.058	19	.015	20	2.316e-03	37	NC	1	NC	1
1320			min	-.097	11	-.095	13	-.058	26	-1.253e-03	19	NC	1	NC	1
1321	M133	1	max	.023	14	-.004	20	.161	11	3.318e-03	47	NC	1	NC	1
1322			min	-.026	8	-.032	26	-.156	17	-2.918e-03	17	NC	1	NC	1
1323		2	max	.023	14	-.003	20	.159	11	3.318e-03	47	NC	1	NC	1
1324			min	-.026	8	-.035	26	-.153	17	-2.918e-03	17	NC	1	NC	1
1325		3	max	.023	14	-.002	20	.156	11	3.318e-03	47	NC	1	NC	1
1326			min	-.026	8	-.038	26	-.151	17	-2.918e-03	17	NC	1	NC	1
1327		4	max	.023	14	0	20	.153	11	3.318e-03	47	NC	1	NC	1
1328			min	-.026	8	-.041	26	-.148	17	-2.918e-03	17	NC	1	NC	1
1329		5	max	.023	14	0	20	.15	11	3.318e-03	47	NC	1	NC	1
1330			min	-.026	8	-.044	26	-.146	17	-2.918e-03	17	NC	1	NC	1
1331	M134	1	max	.023	18	-.004	23	.176	3	3.312e-03	3	NC	1	NC	1
1332			min	-.026	12	-.032	30	-.171	21	-3.148e-03	21	NC	1	NC	1
1333		2	max	.023	18	-.003	24	.173	3	3.312e-03	3	NC	1	NC	1
1334			min	-.026	12	-.035	30	-.168	21	-3.148e-03	21	NC	1	NC	1
1335		3	max	.023	18	-.002	24	.17	3	3.312e-03	3	NC	1	NC	1
1336			min	-.026	12	-.038	30	-.165	21	-3.148e-03	21	NC	1	NC	1
1337		4	max	.023	18	-.001	24	.167	3	3.312e-03	3	NC	1	NC	1
1338			min	-.026	12	-.041	30	-.162	21	-3.148e-03	21	NC	1	NC	1
1339		5	max	.023	18	0	24	.164	3	3.312e-03	3	NC	1	NC	1
1340			min	-.026	12	-.044	30	-.159	21	-3.148e-03	21	NC	1	NC	1
1341	M135	1	max	.021	22	-.004	16	.167	7	3.153e-03	7	NC	1	NC	1
1342			min	-.024	4	-.032	34	-.162	25	-2.992e-03	25	NC	1	NC	1
1343		2	max	.021	22	-.003	16	.164	7	3.153e-03	7	NC	1	NC	1
1344			min	-.024	4	-.035	34	-.159	25	-2.992e-03	25	NC	1	NC	1
1345		3	max	.021	22	-.002	16	.161	7	3.153e-03	7	NC	1	NC	1
1346			min	-.024	4	-.038	34	-.156	25	-2.992e-03	25	NC	1	NC	1
1347		4	max	.021	22	-.001	16	.159	7	3.153e-03	7	NC	1	NC	1
1348			min	-.024	4	-.041	34	-.154	25	-2.992e-03	25	NC	1	NC	1
1349		5	max	.021	22	0	16	.156	7	3.153e-03	7	NC	1	NC	1
1350			min	-.024	4	-.044	34	-.151	25	-2.992e-03	25	NC	1	NC	1

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M31	PIPE_3.0	.277	3.927	47	.081	3.927		49	52.006	65.205	5.749	5.749	3...	H1-1b
2	M155	PIPE_2.0	.276	5	3	.046	5		3	14.916	32.13	1.872	1.872	2...	H1-1b
3	M67	HSS4x4x3	.263	4.521	27	.199	4.521	z	3	95.934	106.812	12.662	12.662	4...	H1-1b
4	M161B	PIPE_2.0	.262	5	7	.043	5		7	14.916	32.13	1.872	1.872	3...	H1-1b
5	M116	HSS4x4x3	.261	4.521	31	.191	4.521	z	7	95.934	106.812	12.662	12.662	4...	H1-1b
6	M32	HSS4x4x3	.261	4.521	35	.241	4.521	y	47	95.934	106.812	12.662	12.662	4...	H1-1b
7	M117A	PIPE_2.0	.254	5	11	.043	5		11	14.916	32.13	1.872	1.872	3...	H1-1b
8	M107A	PIPE_2.0	.240	5	33	.094	2.25		2	14.916	32.13	1.872	1.872	2...	H1-1b
9	M121	PIPE_2.0	.240	5	36	.103	2.25		6	14.916	32.13	1.872	1.872	2...	H1-1b
10	M25	PIPE_2.0	.239	5	28	.100	2.25		10	14.916	32.13	1.872	1.872	2...	H1-1b
11	M127	PIPE_3.0	.237	3.927	27	.079	3.927		29	52.006	65.205	5.749	5.749	2...	H1-1b
12	M128	PIPE_3.0	.237	3.927	31	.078	3.927		33	52.006	65.205	5.749	5.749	2...	H1-1b
13	M111	PIPE_2.0	.232	5	28	.107	2.25		9	14.916	32.13	1.872	1.872	2...	H1-1b
14	M125	PIPE_2.0	.232	5	32	.103	2.25		2	14.916	32.13	1.872	1.872	2...	H1-1b
15	M21	PIPE_2.0	.232	5	36	.114	2.25		6	14.916	32.13	1.872	1.872	2...	H1-1b
16	M109A	PIPE_2.0	.181	5.958	9	.089	6.297		6	19.36	32.13	1.872	1.872	1...	H1-1b
17	M111A	PIPE_2.0	.178	5.958	13	.087	6.297		10	19.36	32.13	1.872	1.872	1...	H1-1b
18	M42	PIPE_2.0	.168	5.958	5	.093	6.297		2	19.36	32.13	1.872	1.872	1...	H1-1b
19	M48	L2.5x2.5x3	.160	3.225	37	.011	0	y	5	7.891	29.192	.873	1.542	1...	H2-1
20	M146	L2.5x2.5x3	.159	3.225	33	.011	6.451	y	12	7.891	29.192	.873	1.542	1...	H2-1
21	M97	L2.5x2.5x3	.159	3.225	29	.012	0	y	8	7.891	29.192	.873	1.542	1...	H2-1
22	M49	L2.5x2.5x3	.159	3.225	27	.011	0	z	11	7.891	29.192	.873	1.542	1...	H2-1
23	M147	L2.5x2.5x3	.158	3.225	35	.012	6.451	z	8	7.891	29.192	.873	1.542	1...	H2-1
24	M98	L2.5x2.5x3	.157	3.225	31	.011	6.451	z	4	7.891	29.192	.873	1.542	1...	H2-1
25	M50	L5x3x6	.140	.625	4	.041	.625	z	28	88.58	92.664	2.821	9.875	1...	H2-1
26	M1	L5x3x6	.128	.625	48	.041	.625	z	36	88.58	92.664	2.821	9.875	1...	H2-1
27	M59	L5x3x6	.124	.625	27	.039	0	z	28	88.58	92.664	2.821	9.875	1...	H2-1
28	M10	L5x3x6	.122	.625	35	.039	0	z	37	88.58	92.664	2.821	9.875	1...	H2-1
29	M108	L5x3x6	.122	.625	31	.039	0	z	34	88.58	92.664	2.821	9.875	1...	H2-1
30	M99	L5x3x6	.121	.625	12	.040	.625	z	32	88.58	92.664	2.821	9.875	1...	H2-1
31	M12	PIPE_4.0	.111	.75	47	.119	.75		11	92.571	93.24	10.631	10.631	1...	H1-1b
32	M61	PIPE_4.0	.086	.75	3	.133	.75		3	92.571	93.24	10.631	10.631	1...	H1-1b
33	M110	PIPE_4.0	.083	.75	7	.124	.75		7	92.571	93.24	10.631	10.631	1...	H1-1b
34	M114A	LL2.5x2.5x...	.076	3.01	23	.006	0	y	28	36.392	58.32	3.954	1.593	1...	H1-1b
35	M113A	LL2.5x2.5x...	.076	3.01	17	.006	6.021	y	36	36.392	58.32	3.954	1.593	1...	H1-1b
36	M112A	LL2.5x2.5x...	.061	3.01	31	.006	6.021	y	32	36.392	58.32	3.954	2.55	1...	H1-1b
37	M160A	PIPE_2.0	.000	2.5	1	.000	2.5		37	23.809	32.13	1.872	1.872	1	H1-1b
38	M156A	PIPE_2.0	.000	2.5	1	.000	2.5		33	23.809	32.13	1.872	1.872	1	H1-1b
39	M152	PIPE_2.0	.000	2.448	1	.000	2.5		35	23.809	32.13	1.872	1.872	1	H1-1b

EBI Consulting
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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

SPRINT Existing Facility

Site ID: CT33XC104

Sharon
477 Route 7
Sharon, CT 06069

March 17, 2018

EBI Project Number: 6218001941

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	10.94 %

EBI Consulting
environmental | engineering | due diligence

March 17, 2018

SPRINT
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT33XC104 – Sharon**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **477 Route 7, Sharon, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 850 MHz Band is approximately 567 $\mu W/cm^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **477 Route 7, Sharon, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

7) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **RFS APXVSPP18-C-A20 and the Commscope DT465B-2XR** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **118 feet** above ground level (AGL) for **Sector A**, **118 feet** above ground level (AGL) for **Sector B** and **118 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general population threshold limits.

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20
Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd
Height (AGL):	**118 feet**	Height (AGL):	**118 feet**	Height (AGL):	**118 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	6,662.27	ERP (W):	6,662.27	ERP (W):	6,662.27
Antenna A1 MPE%	**2.01 %**	Antenna B1 MPE%	**2.01 %**	Antenna C1 MPE%	**2.01 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Commscope DT465B-2XR	Make / Model:	Commscope DT465B-2XR	Make / Model:	Commscope DT465B-2XR
Gain:	15.05 / 13.35 dBd	Gain:	15.05 / 13.35 dBd	Gain:	15.05 / 13.35 dBd
Height (AGL):	**118 feet**	Height (AGL):	**118 feet**	Height (AGL):	**118 feet**
Frequency Bands	2500 MHz (BRS) / 850 MHz	Frequency Bands	2500 MHz (BRS) / 850 MHz	Frequency Bands	2500 MHz (BRS) / 850 MHz
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	200 Watts	Total TX Power(W):	200 Watts	Total TX Power(W):	200 Watts
ERP (W):	5,983.32	ERP (W):	5,983.32	ERP (W):	5,983.32
Antenna A2 MPE%	**1.90 %**	Antenna B2 MPE%	**1.90 %**	Antenna C2 MPE%	**1.90 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**3.91 %**
Nextel	0.55 %
AT&T	3.64 %
Verizon Wireless	2.84 %
Site Total MPE %:	**10.94 %**

SPRINT Sector A Total:	3.91 %
SPRINT Sector B Total:	3.91 %
SPRINT Sector C Total:	3.91 %
Site Total:	10.94 %

SPRINT _ Frequency Band / Technology Max Power Values (All Sectors)	**# Channels**	**Watts ERP (Per Channel)**	**Height (feet)**	**Total Power Density ($\mu W/cm^2$)**	**Frequency (MHz)**	**Allowable MPE ($\mu W/cm^2$)**	**Calculated % MPE**
Sprint 850 MHz CDMA	1	437.55	118	1.25	850 MHz	567	0.22%
Sprint 1900 MHz (PCS) CDMA	5	622.47	118	8.92	1900 MHz (PCS)	1000	0.89%
Sprint 1900 MHz (PCS) LTE	2	1,556.18	118	8.92	1900 MHz (PCS)	1000	0.89%
Sprint 2500 MHz (BRS) LTE	8	639.78	118	14.67	2500 MHz (BRS)	1000	1.47%
Sprint 850 MHz LTE	2	432.54	118	2.48	850 MHz	567	0.44%
						Total:	**3.91%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the SPRINT facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

SPRINT Sector	Power Density Value (%)
Sector A:	3.91 %
Sector B:	3.91 %
Sector C:	3.91 %
SPRINT Maximum Total (per sector):	3.91 %
Site Total:	10.94 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **10.94 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

SPECIAL CONSTRUCTION NOTE:
SPRINT WORK IS CONTINGENT ON THE FOLLOWING:
* COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS.
* COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT.
* GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS AND STRUCTURAL MODIFICATIONS AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS). SCHEMATIC DESIGNS DEPICTED IN MAGENTA ARE PRELIMINARY ONLY AND ARE NOT FOR FINAL CONSTRUCTION.

Sprint

PROGRAM: DO MACRO UPGRADE EQUIPMENT DEPLOYMENT

SITE NUMBER: CT33XC104

SITE ADDRESS: 477 ROUTE 7
SHARON, CT 06069

SITE TYPE: MONOPINE

PROJECT INFORMATION

SITE INFORMATION:

LATITUDE: 41° 54' 34.04" N
(PER SBA RECORDS) 41.909456°

LONGITUDE: -73° 21' 57.71" W
(PER SBA RECORDS) -73.366031°

STRUCTURE HEIGHT: 132'±

STRUCTURE TYPE: MONOPOLE TREE

APPLICANT:

SPRINT
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495

TOWER OWNER:

SBA TOWERS LLC.
8501 CONGRESS AVENUE
BOCA RATON, FL 33487

SBA SITE ID: CT02408-S

SBA SITE NAME: SHARON 3 CT

SBA CONTACT: STEPHEN ROTH
(800) 539-4920
sroth@sbasite.com

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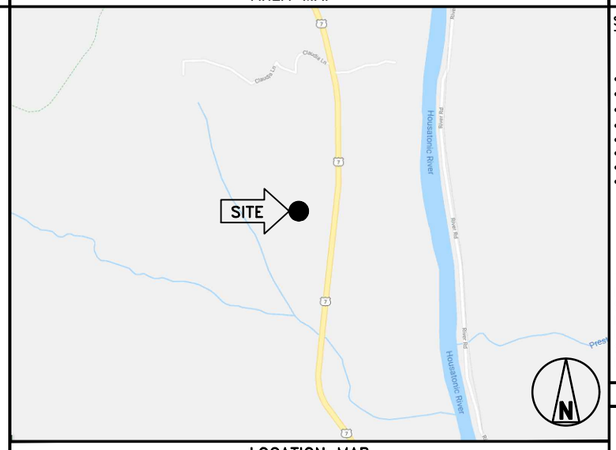
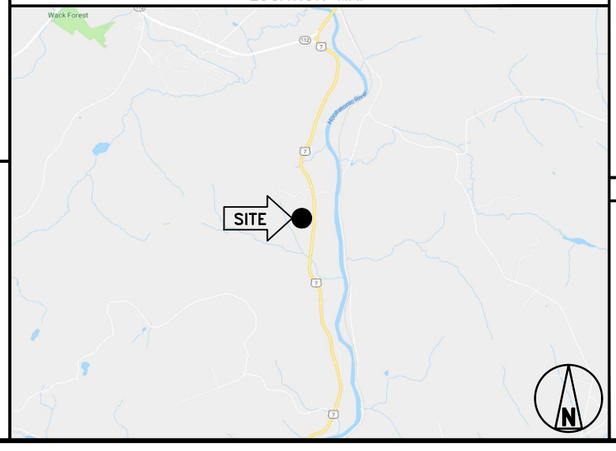
AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- INSTALL (2) PANEL ANTENNAS
- INSTALL (2) 2.5 GHz RRH'S ON PROPOSED PIPE MOUNT
- INSTALL (2) 800 MHz RRH'S ON PROPOSED PIPE MOUNT
- INSTALL (1) HYBRID CABLES
- INSTALL RAN EQUIPMENT INSIDE EXISTING MMBTS CABINET
- INSTALL PLATFORM REINFORCEMENT KIT
- INSTALL V-BRACE KIT
- INSTALL HANDRAIL KIT

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALL IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (2012 IBC)
2. TIA-222-G OR LATEST EDITION
3. NFPA 780 – LIGHTNING PROTECTION CODE
4. 2014 NATIONAL ELECTRIC CODE OR LATEST EDITION
5. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
6. CT BUILDING CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

DRAWING INDEX

SHEET NO.	SHEET TITLE	REV.
T-1	TITLE SHEET & PROJECT DATA	0
SP-1	OUTLINE SPECIFICATIONS	0
SP-2	OUTLINE SPECIFICATIONS	0
SP-3	OUTLINE SPECIFICATIONS	0
A-1	SITE PLAN	0
A-2	TOWER ELEVATION	0
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	0
A-4	EQUIPMENT & MOUNTING DETAILS	0
A-5	DETAILS	0
E-1	ELECTRICAL & GROUNDING DETAILS & NOTES	0
RF-1	RF DATA SHEET	0
RF-2	PLUMBING DIAGRAM	0

APPROVALS

TITLE	SIGNATURE	DATE
PROJECT MANAGER:		
CONSTRUCTION:		
RF ENGINEER:		
ZONING/SITE ACQ:		
OPERATIONS:		
TOWER OWNER:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

PLANS PREPARED FOR:
Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

PLANS PREPARED BY:
INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
03-05-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	03/02/18	RCD	0
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:
CT33XC104

SITE ADDRESS:
477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:
TITLE SHEET
& PROJECT DATA

SHEET NUMBER:
T-1

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 – SCOPE OF WORK

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:

A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY –GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC") AND NFPA 101 (LIFE SAFETY CODE).
5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
7. AMERICAN CONCRETE INSTITUTE (ACI)
8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
11. PORTLAND CEMENT ASSOCIATION (PCA)
12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
13. BRICK INDUSTRY ASSOCIATION (BIA)
14. AMERICAN WELDING SOCIETY (AWS)
15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
17. DOOR AND HARDWARE INSTITUTE (DHI)
18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.

B. COMPANY: SPRINT CORPORATION

C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.

D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.

E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.

G. CONSTRUCTION MANAGER – ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

1.8 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.

C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:

A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

1 ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.

2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.

3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.

4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.

5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.

6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

3.2 DELIVERABLES:

A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.

B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 NOTICE TO PROCEED

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.

B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 FUNCTIONAL REQUIREMENTS:

A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.

B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.

C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES

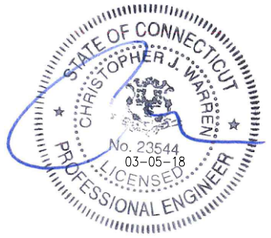
D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:
Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

PLANS PREPARED BY:
INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:



CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	03/02/18	RCD	0
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:
CT33XC104

SITE ADDRESS:
477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:
OUTLINE SPECIFICATIONS

SHEET NUMBER:
SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNAL AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION

E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER

B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.

1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
2. PROJECT PROGRESS REPORTS.
3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 SUBMITTALS:

A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.

B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.

1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
5. CHEMICAL GROUNDING DESIGN

D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING;

1. AZIMUTH, DOWNTILT, AGL – UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
3. ALL AVAILABLE JURISDICTIONAL INFORMATION
4. PDF SCAN OF REDLINES PRODUCED IN FIELD
5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPs

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH , DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS – ANTENNALIGN ALIGNMENT TOOL (AAT)

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PROJECT MANAGER:
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SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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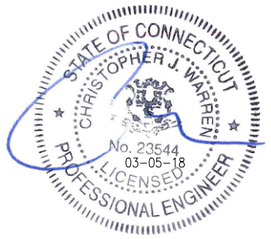
ENGINEERING LICENSE:



CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	03/02/18	RCD	0
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SITE NUMBER:
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SITE ADDRESS:
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SHARON, CT 06069

SHEET DESCRIPTION:
OUTLINE SPECIFICATIONS

SHEET NUMBER:
SP-2

CONTINUE FROM SP-2

7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.

8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC.). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.

9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.

10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT

11. ALL AVAILABLE JURISDICTIONAL INFORMATION

12. PDF SCAN OF REDLINES PRODUCED IN FIELD

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.

3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.

A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.

1. CONCRETE MIX AND CYLINDER BREAK REPORTS.

2. STRUCTURAL BACKFILL COMPACTION REPORTS.

3. SITE RESISTANCE TO EARTH TEST.

4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION

5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.

6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".

B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;

1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.

2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;

3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS – PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.

4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING – TOP AND BOTTOM; PHOTOS OF COAX GROUNDING--TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.

5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;

6. SITE LAYOUT – PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.

7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.

8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.

9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 WEEKLY REPORTS:

A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.

B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

3.2 PROJECT CONFERENCE CALLS:

A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

3.3 PROJECT TRACKING IN SMS:

A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.

3.4 ADDITIONAL REPORTING:

A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.

3.5 PROJECT PHOTOGRAPHS:

A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:

1. 1SHELTER AND TOWER OVERVIEW.

2. TOWER FOUNDATION(S) – FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).

3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).

4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).

5. PHOTOS OF TOWER SECTION STACKING.

6. CONCRETE TESTING / SAMPLES.

7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.

8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.

9. SHELTER FOUNDATION--FORMS AND STEEL BEFORE POURING.

10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.

11. COAX CABLE ENTRY INTO SHELTER.

12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.

13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.

14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.

15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.

16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.

17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.

18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.

19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.

20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.

21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.

22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

25. ALL BTS GROUND CONNECTIONS.

26. ALL GROUND TEST WELLS.

27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.

28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.

29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.

30. GPS ANTENNAS.

31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.

32. DOGHOUSE/CABLE EXIT FROM ROOF.

33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.

34. MASTER BUS BAR.

35. TELCO BOARD AND NIU.

36. ELECTRICAL DISTRIBUTION WALL.

37. CABLE ENTRY WITH SURGE SUPPRESSION.

38. ENTRANCE TO EQUIPMENT ROOM.

39. COAX WEATHERPROOFING--TOP AND BOTTOM OF TOWER.

40. COAX GROUNDING –TOP AND BOTTOM OF TOWER.

41. ANTENNA AND MAST GROUNDING.

42. LANDSCAPING – WHERE APPLICABLE.

3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

PLANS PREPARED FOR:

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MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:

SBA

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PLANS PREPARED BY:

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www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
03-05-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	03/02/18	RCD	0
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CT33XC104

SITE ADDRESS:

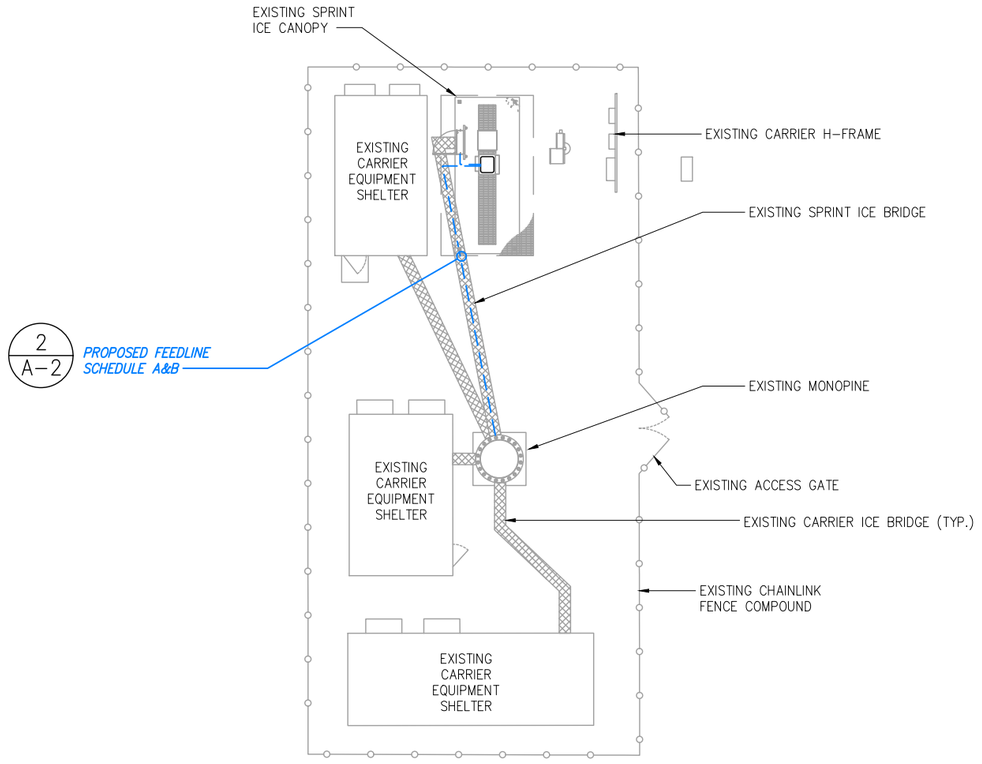
477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:

OUTLINE SPECIFICATIONS

SHEET NUMBER:

SP-3



INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.

GRAPHIC SCALE:

20' 10' 0 10' 20'

SCALE (11x17): 1" = 20'-0"
SCALE (22x34): 1" = 10'-0"

OVERALL SITE PLAN | SCALE: AS NOTED | 1

SOURCE: WESTCHESTER SERVICES 11/15/17

SPRINT EQUIPMENT PHOTO DETAIL | SCALE: AS NOTED | 2

PLANS PREPARED FOR:

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TEL: (800) 357-7641

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477 ROUTE 7
SHARON, CT 06069

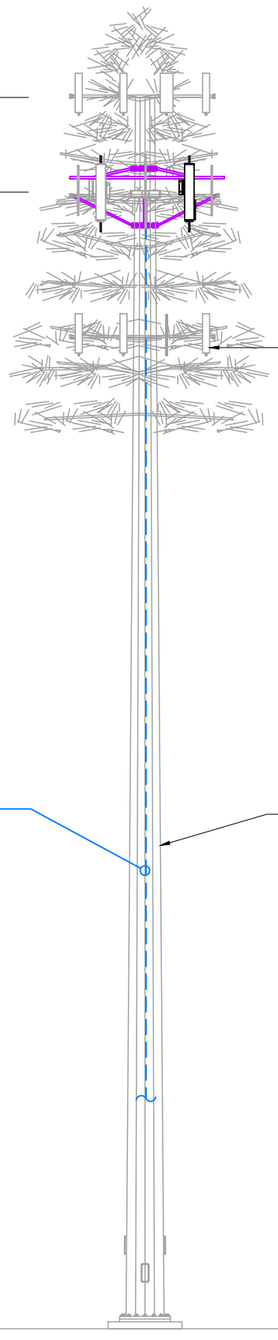
SHEET DESCRIPTION:

SITE PLAN

SHEET NUMBER:

A-1

NOTE:
SEE DETAIL 2 ON A-3
FOR ANTENNA LAYOUT



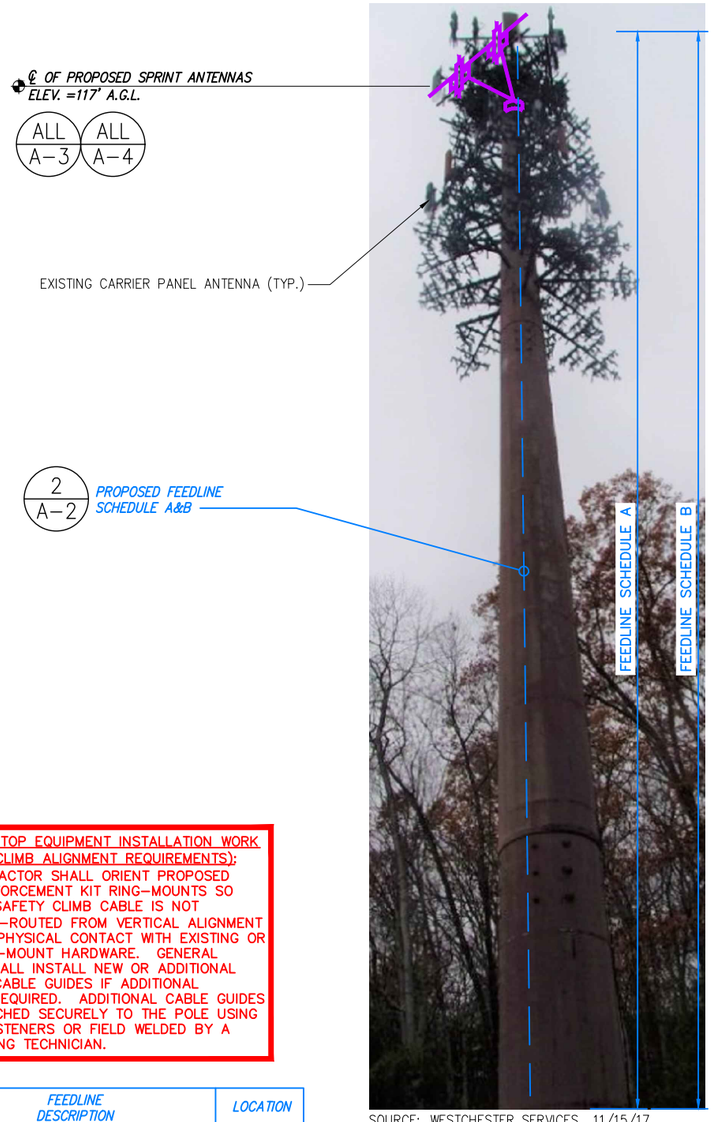
NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

TOWER ELEVATION | NO SCALE | 1

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS AND STRUCTURAL MODIFICATIONS AT THE SPRINT'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS). SCHEMATIC DESIGNS DEPICTED IN MAGENTA ARE PRELIMINARY ONLY AND ARE NOT FOR FINAL CONSTRUCTION.



SOURCE: WESTCHESTER SERVICES 11/15/17

SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):
GENERAL CONTRACTOR SHALL ORIENT PROPOSED PLATFORM REINFORCEMENT KIT RING-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH EXISTING OR PROPOSED RING-MOUNT HARDWARE. GENERAL CONTRACTOR SHALL INSTALL NEW OR ADDITIONAL SAFETY-CLIMB CABLE GUIDES IF ADDITIONAL CLEARANCE IS REQUIRED. ADDITIONAL CABLE GUIDES SHALL BE ATTACHED SECURELY TO THE POLE USING MECHANICAL FASTENERS OR FIELD WELDED BY A CERTIFIED WELDING TECHNICIAN.

FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	EXISTING TO REMAIN: (2) HYBRID	UP INSIDE MONOPOLE TO RAD
B	PROPOSED: (3) HYBRID TO 117' RAD	UP INSIDE MONOPOLE TO RAD

NOTE:
EXISTING SPRINT EQUIPMENT FEEDLINE INVENTORY BASED ON COLOCATION APPLICATION AND SBA RECORD, NOT FIELD OBSERVATIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

TOWER ELEVATION PHOTO DETAIL | NO SCALE | 2

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TEL: (800) 357-7641

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TOWER ELEVATION

SHEET NUMBER:
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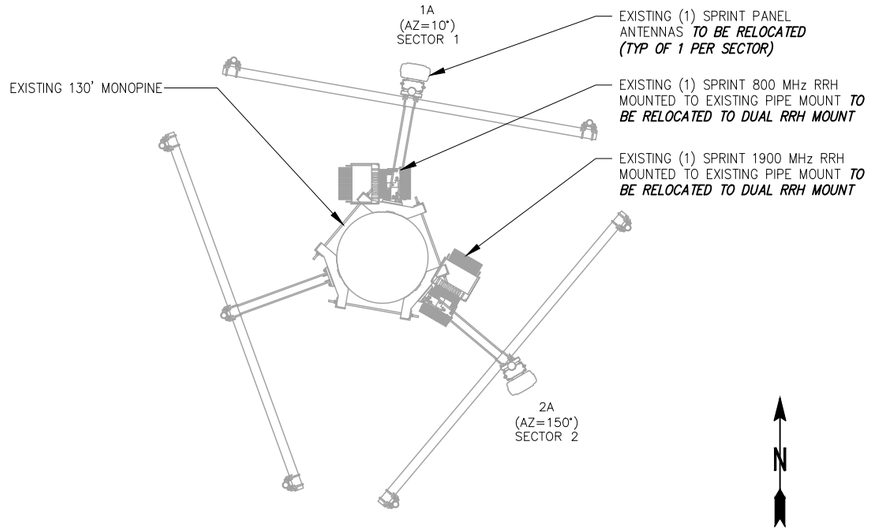
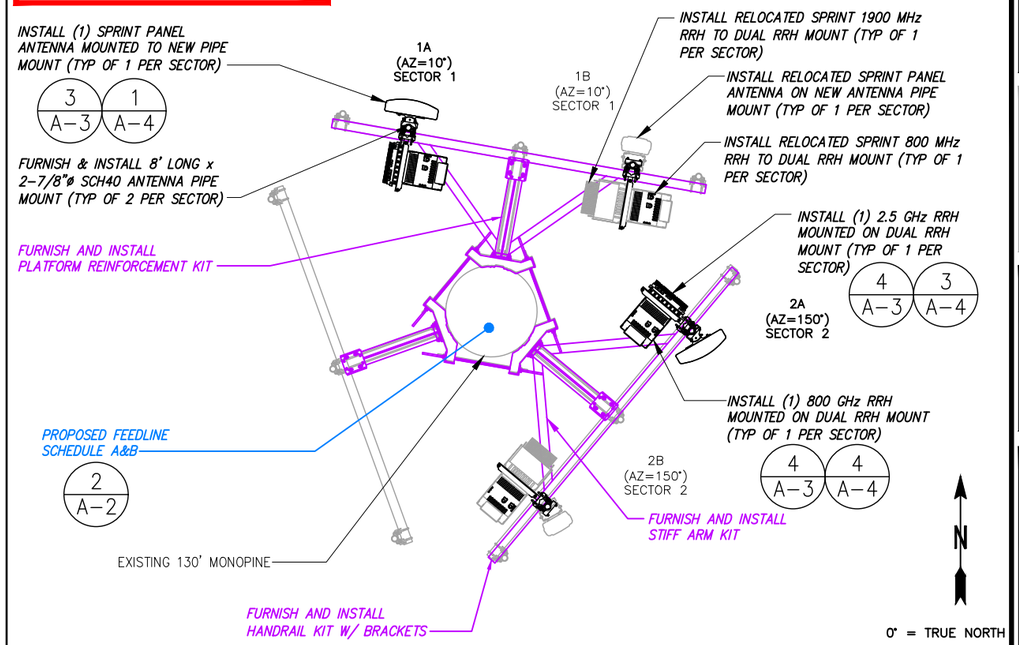


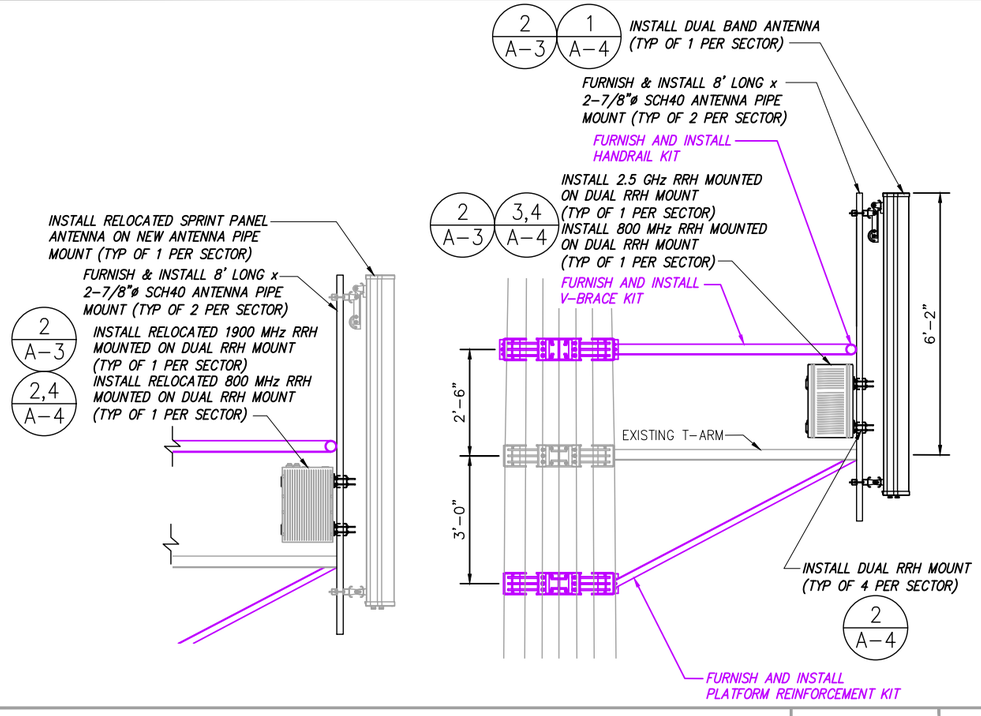
EXISTING ANTENNA & RRH LAYOUT | NO SCALE | 1

SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

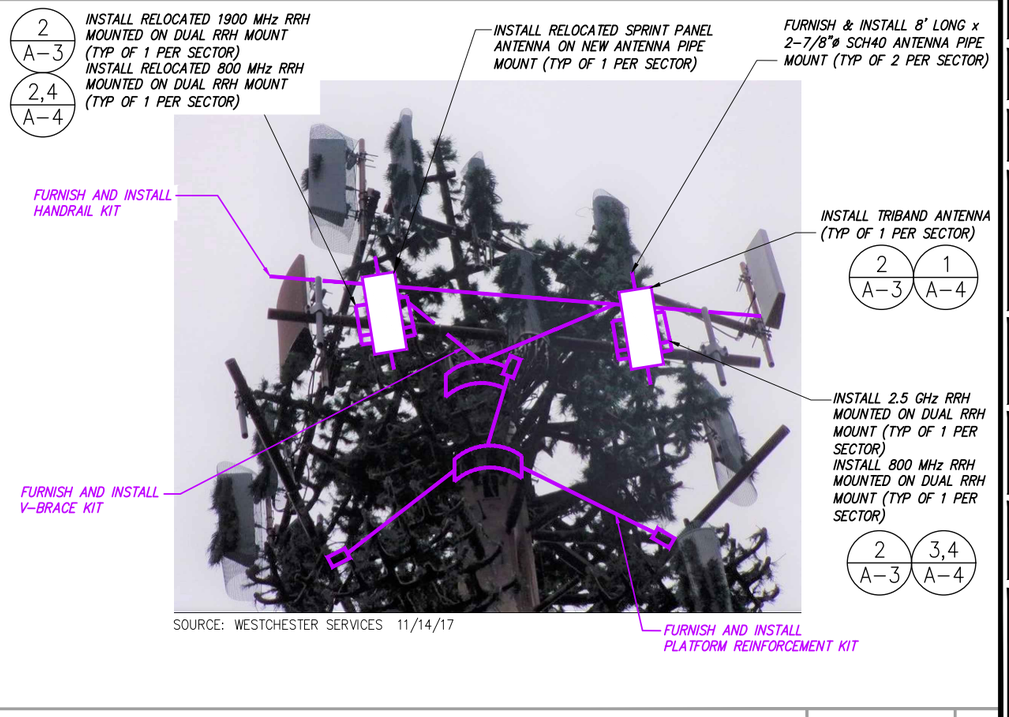
NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION



FINAL ANTENNA LAYOUT | NO SCALE | 2



TYPICAL MOUNTING DETAIL | NO SCALE | 3



SOURCE: WESTCHESTER SERVICES 11/14/17

ANTENNA & RRH MOUNT PHOTO DETAIL | NO SCALE | 4

PLANS PREPARED FOR:
Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

PLANS PREPARED BY:
INFINIGY
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the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
03-05-18
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

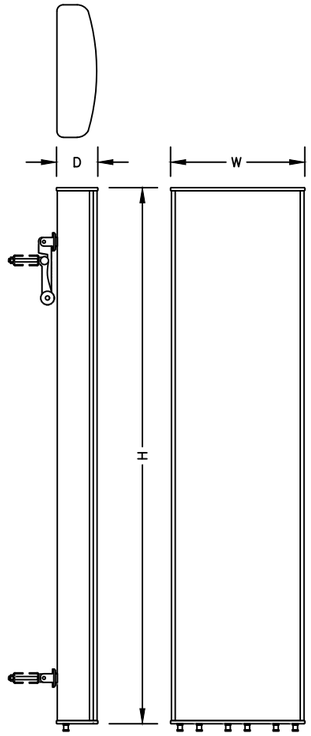
DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	03/02/18	RCD	0
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:
CT33XC104

SITE ADDRESS:
477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:
ANTENNA LAYOUT
& MOUNTING DETAILS

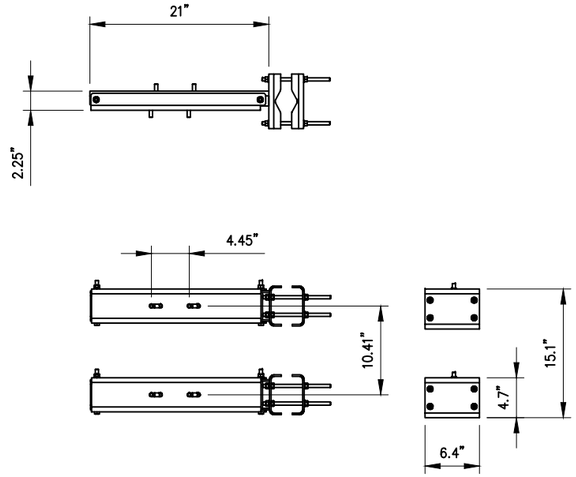
SHEET NUMBER:
A-3



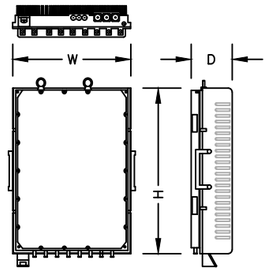
ANTENNA SPECIFICATIONS

MANUF.	COMMSCOPE
MODEL #	DT465B-2XR
HEIGHT	71.9"
WIDTH	13.8"
DEPTH	8.2"
WEIGHT	58.4± LBS.

DUAL BAND ANTENNA | NO SCALE | 1



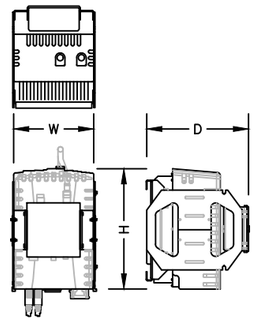
DUAL RRH MOUNT DETAIL | NO SCALE | 2



2.5 GHZ RRH SPECIFICATIONS

MANUF.	NOKIA (ALU)
MODEL #	TD-RRH8X20-25
HEIGHT	26.1"
WIDTH	18.6"
DEPTH	6.7"
WEIGHT	70± LBS

2.5 RRH | NO SCALE | 3



800 MHZ RRH SPECIFICATIONS

MANUF.	NOKIA (ALU)
MODEL #	800MHZ 2X50W
HEIGHT	19.7"
WIDTH	13"
DEPTH	10.8"
WEIGHT	53± LBS

800 MHz RRH | NO SCALE | 4

PLANS PREPARED FOR:

Sprint

1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:

SBA

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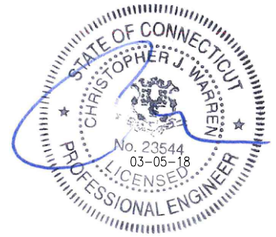

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APPROVED BY:

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477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:

EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:

A-4

RFS HYBRIFLEX RISER CABLE SCHEDULE

Fiber Only (Existing DC Power)	**Hybrid cable** MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F	175 ft
	MN: HB058-M12-200F	200 ft
8 AWG Power	**Hybrid cable** MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F	175 ft
	MN: HB114-08U3M12-200F	200 ft
6 AWG Power	**Hybrid cable** MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	**Hybrid cable** MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

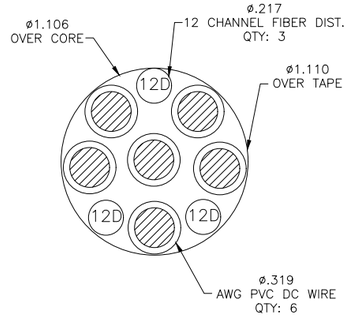
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

Fiber Only	**Hybrid Jumper cable** MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	**Hybrid Jumper cable** MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	**Hybrid Jumper cable** MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	**Hybrid Jumper cable** MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

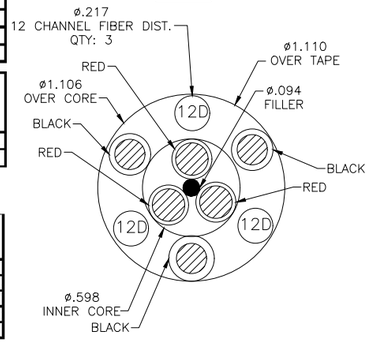
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.

* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20' BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.

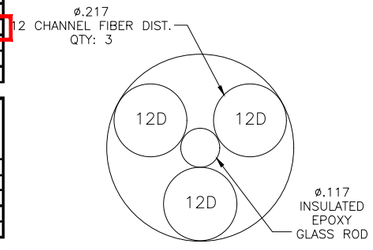
* SPRINT CM TO CONFIRM HYBRID RISER CABLE AND HYBRID JUMPER CABLE MODEL NUMBERS BEFORE PREPARING BOM.



4 AWG



8 & 6 AWG



FIBER ONLY

800/1900/2500 CROSS SECTION DATA

NO SCALE | 1

PLANS PREPARED FOR:
Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
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SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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CHECKED BY:

APPROVED BY:

REVISIONS:

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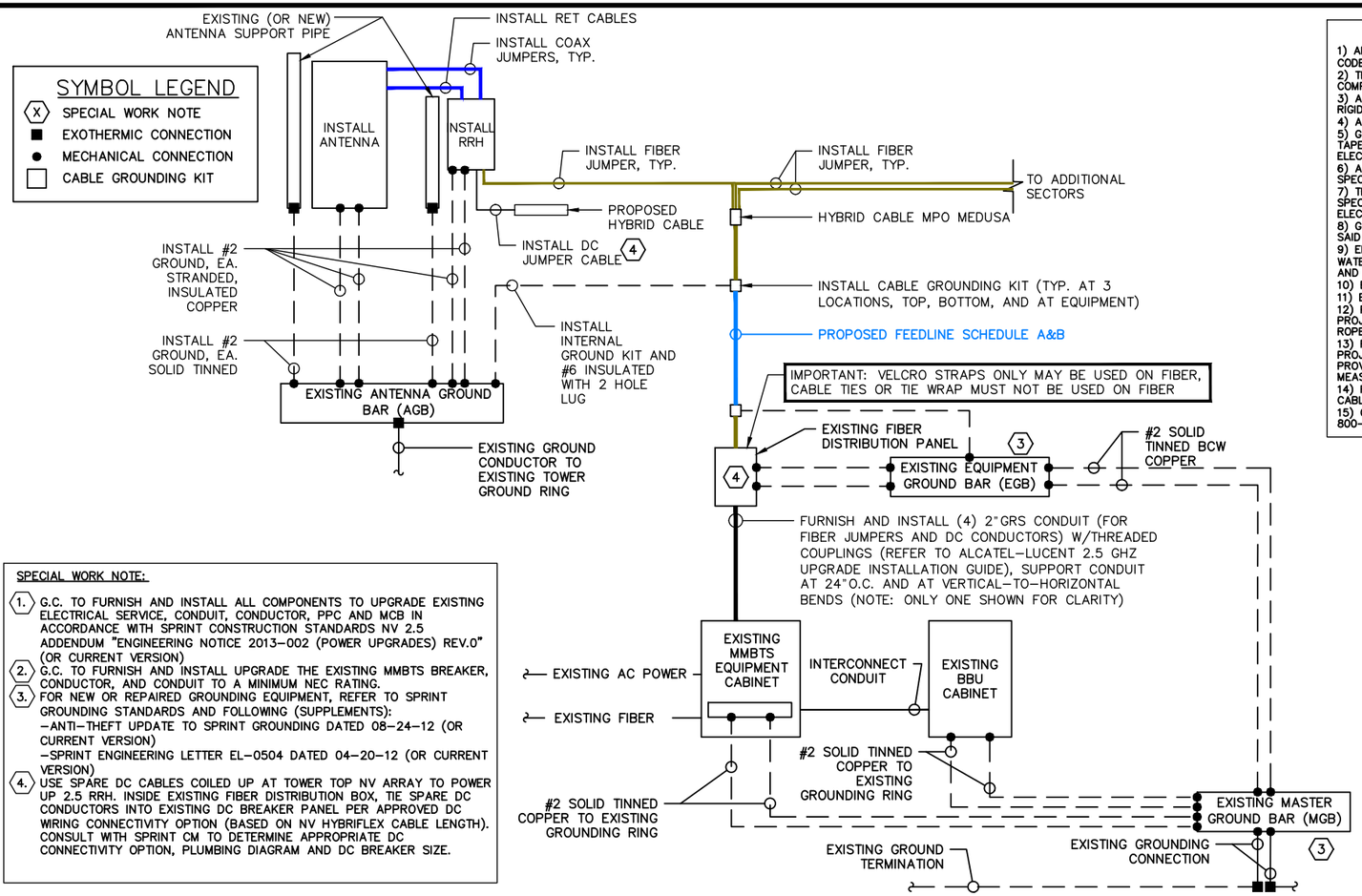
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:
CT33XC104

SITE ADDRESS:
477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:
DETAILS

SHEET NUMBER:
A-5



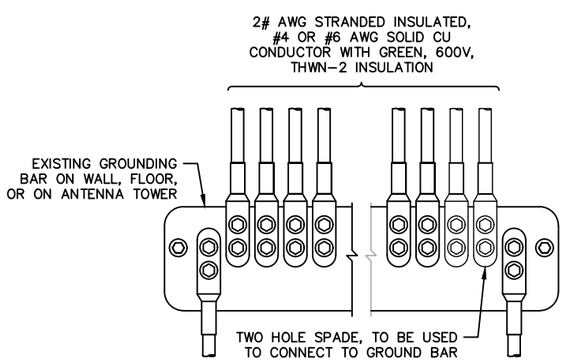
SPECIAL WORK NOTE:

1. G.C. TO FURNISH AND INSTALL ALL COMPONENTS TO UPGRADE EXISTING ELECTRICAL SERVICE, CONDUIT, CONDUCTOR, PPC AND MCB IN ACCORDANCE WITH SPRINT CONSTRUCTION STANDARDS NV 2.5 ADDENDUM "ENGINEERING NOTICE 2013-002 (POWER UPGRADES) REV.0" (OR CURRENT VERSION)
2. G.C. TO FURNISH AND INSTALL UPGRADE THE EXISTING MMBTS BREAKER, CONDUCTOR, AND CONDUIT TO A MINIMUM NEC RATING.
3. FOR NEW OR REPAIRED GROUNDING EQUIPMENT, REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
   -ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12 (OR CURRENT VERSION)
   -SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12 (OR CURRENT VERSION)
4. USE SPARE DC CABLES COILED UP AT TOWER TOP NV ARRAY TO POWER UP 2.5 RRH. INSIDE EXISTING FIBER DISTRIBUTION BOX, TIE SPARE DC CONDUCTORS INTO EXISTING DC BREAKER PANEL PER APPROVED DC WIRING CONNECTIVITY OPTION (BASED ON NV HYBRIFLEX CABLE LENGTH). CONSULT WITH SPRINT CM TO DETERMINE APPROPRIATE DC CONNECTIVITY OPTION, PLUMBING DIAGRAM AND DC BREAKER SIZE.

TYPICAL POWER AND GROUNDING ONE LINE DIAGRAMS

1 / E-1

SCALE: N.T.S.

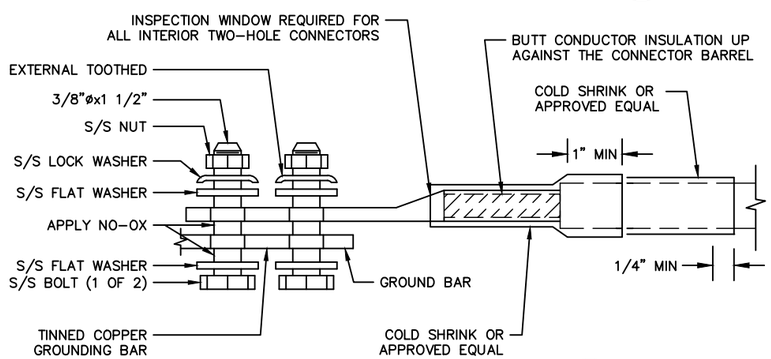


1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

2 / E-1

SCALE: N.T.S.



TWO HOLE LUG

3 / E-1

SCALE: N.T.S.

ELECTRICAL NOTES

1) ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2) THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH LOCAL UTILITY COMPANIES AND SPRINT CONSTRUCTION MANAGER.
3) ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.
4) ALL METAL CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS.
5) GENERAL CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.
6) ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
7) THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIALS DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
8) GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
9) ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
10) BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
11) ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
12) RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
13) RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
14) FIBER OPTIC CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 770-OPTICAL FIBER CABLES AND RACEWAYS.
15) COMMUNICATIONS CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 800-COMMUNICATIONS SYSTEMS.

PROTECTIVE GROUNDING SYSTEMS GENERAL NOTES:

1. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250-GROUNDING AND BONDING.
2. GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES" AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING".
3. PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
4. GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, REMOVE THE COATING, APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX" OR EQUAL.
5. ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
6. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
7. ALL GROUND WIRES SHALL BE #2 SOLID TINNED BCW UNLESS NOTED OTHERWISE.
8. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
9. GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
10. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 SOLID TINNED BCW EQUIPMENT CABINETS WALL HAVE (2) CONNECTIONS.
11. GROUND HYBRIFLEX SHIELD AT TOP, BOTTOM AND AT TRANSITION TO HYBRIFLEX JUMPER CABLES AT EQUIPMENT CABINET ENTRANCE USING MANUFACTURER'S GUIDELINES. WHEN HYBRIFLEX CABLE EXCEEDS 200', GROUND AT INTERVALS NOT EXCEEDING 100'.
12. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
13. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI-OXIDANT (THOMAS BETTS KOPR-SHILD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
14. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING. CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.
15. THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
16. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
17. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH SPRINT CONSTRUCTION MANAGER.
18. FOR NEW OR REPAIRED GROUNDING EQUIPMENT. REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
   -ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12 (OR CURRENT VERSION)
   -SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12 (OR CURRENT VERSION)

PLANS PREPARED FOR:

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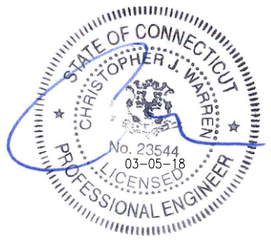

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APPROVED BY:

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SHARON, CT 06069

SHEET DESCRIPTION:

ELECTRICAL & GROUNDING DETAILS & NOTES

SHEET NUMBER:

E-1

SprintVision

RF Design Sheet

Site Identification	
Cascade	CT33XC104
SMS Schedule ID	12323234
SMS Schedule Name	DO Macro Upgrade
PID	
RRU OEM	Alcatel Lucent
Switch OEM	ALU
RFDS Issue Date	2017-08-15 00:00:00.0
RFDS Revision Date	
RFDS Revision	

Filter Analysis Complete	YES
RFDS - Issue Date	08/15/2017
Design Status	Complete
Border Analysis Complete	YES

Contact Information	
Engineer Email	Bill.M.Hastings@sprint.com
Sprint Badged RF Engineer	Bill Hastings
RF Engineer Email	Bill.M.Hastings@sprint.com
RF Engineer Phone	978-590-9700
RF Manager	Jonathan Hull
RF Manager Email	Jonathan.B.Hull@Sprint.com
RF Manager Phone	617-233-2920

Carrier Count	
2500 LTE	3
1900 LTE	1
1900 EVDO	
1900 Voice	1
800 LTE	1
800 Voice	1

Location Details	
Latitude	41.90940277
Longitude	-73.36603583
Market	Southern Connecticut
Region	Northeast
City	Sharon
State	CT
Zip Code	CT/06069
County	Litchfield

2500MHz	2
1900MHz	2
800MHz	2

Band: 2500	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Radio Model						
Model Number	TD-RRH8x20-25	TD-RRH8x20-25	N/A	N/A	N/A	N/A
Weight (lbs)	76.2	76.2	N/A	N/A	N/A	N/A
Dimensions	26 x 18.6 x 6.7	26 x 18.6 x 6.7	N/A	N/A	N/A	N/A
Manufacturer	ALU	ALU	N/A	N/A	N/A	N/A
Number of RRUs needed	1	1	0	0	0	0
Trunk Cable 1						
Model Number	Hybriflex	N/A	N/A	N/A	N/A	N/A
Weight (Lbs.)	1	N/A	N/A	N/A	N/A	N/A
Dimensions (In.)	1.54	N/A	N/A	N/A	N/A	N/A
Manufacturer	ALU	N/A	N/A	N/A	N/A	N/A
Band: 800	**Alpha**	**Beta**	**Gamma**	**Delta**	**Epsilon**	**Zeta**
Radio Model						
Model Number	RRH-2x50-800	RRH-2x50-800	N/A	N/A	N/A	N/A
Weight (lbs)	69.1	69.1	N/A	N/A	N/A	N/A
Dimensions	16 x 13 x 10	16 x 13 x 10	N/A	N/A	N/A	N/A
Manufacturer	ALU	ALU	N/A	N/A	N/A	N/A
Number of RRUs needed	1	1	0	0	0	0
Band: 2500	**Alpha**	**Beta**	**Gamma**	**Delta**	**Epsilon**	**Zeta**
Antenna1						
Model Number	DT465B-2XR	DT465B-2XR				
Weight (lbs)	58	58	N/A	N/A	N/A	N/A
Dimensions	72 x 14 x 8	72 x 14 x 8	N/A	N/A	N/A	N/A
Manufacturer	CommScope	CommScope	N/A	N/A	N/A	N/A
Ant1 Top Jumper Make/Mode/Qtyl	2.5 Jumper 8	2.5 Jumper 8	N/A 0	N/A 0	N/A 0	N/A 0
Ant 1 RF requested Diameter	1/2"	1/2"	N/A	N/A	N/A	N/A
Ant 1 RF requested Top Jumper Length(ft)	8	8	N/A	N/A	N/A	N/A
Antenna 1 Azimuth	10	150	N/A	N/A	N/A	N/A
Antenna 1 Mechanical DT	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Center Line (ft)	117.454072	117.454072	N/A	N/A	N/A	N/A
Antenna 1 Electrical DT	2	2	N/A	N/A	N/A	N/A
Antenna 1 Electrical DT 2	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Electrical DT 3	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Twist	N/A	N/A	N/A	N/A	N/A	N/A

Additional RF Notes

Keep Existing NV Antenna for 800/1900 and add 1 800/2500 antenna for LTE2.5 8T8R and enhance 2R for 800 MHz

PLANS PREPARED FOR:
Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:
SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

PLANS PREPARED BY:
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the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 526-104

ENGINEERING LICENSE:

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
03-05-18
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	03/02/18	RCD	0
ISSUED FOR REVIEW	01/18/18	RCD	A

SITE NUMBER:
CT33XC104

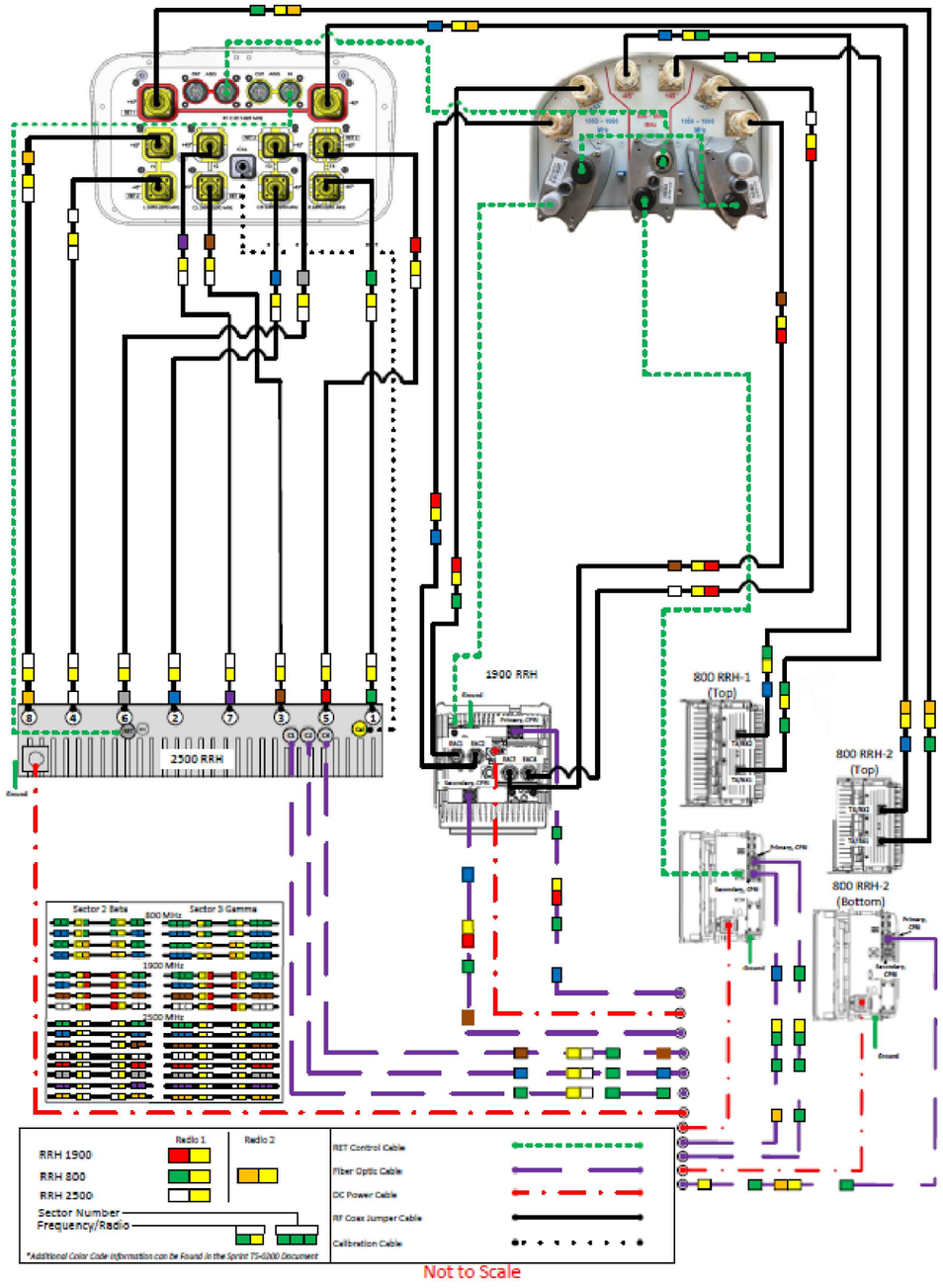
SITE ADDRESS:
477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:
RF DATA SHEET

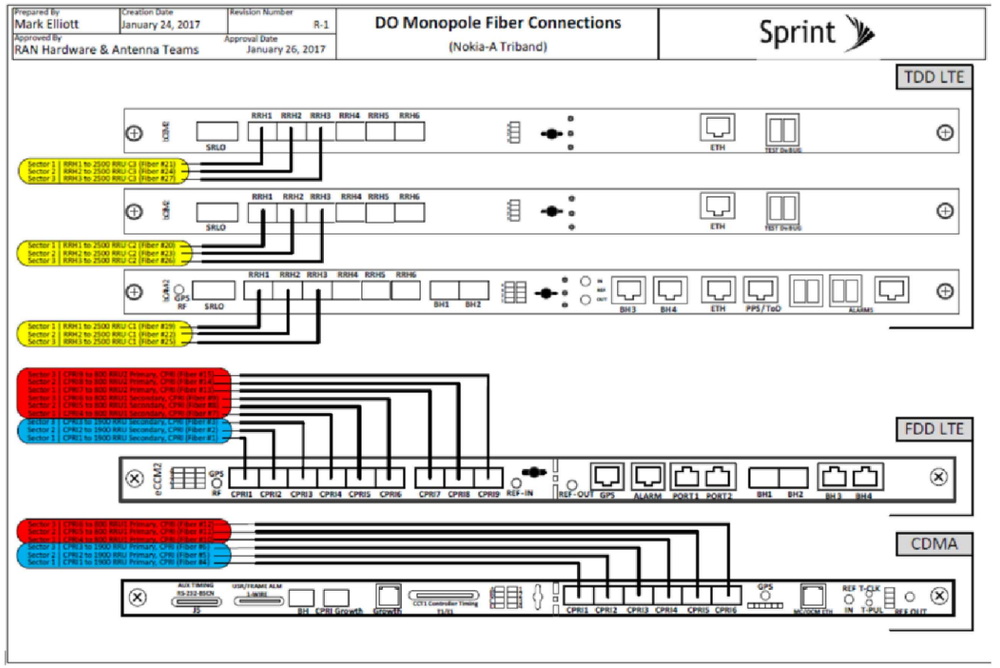
SHEET NUMBER:
RF-1

Prepared By	Revision Date	Revision Number	
Mark Elliott	October 25, 2017	R7	Sprint
Approved By	Approval Date		
RAN Hardware & Antenna Teams	Final-Macro Generated		

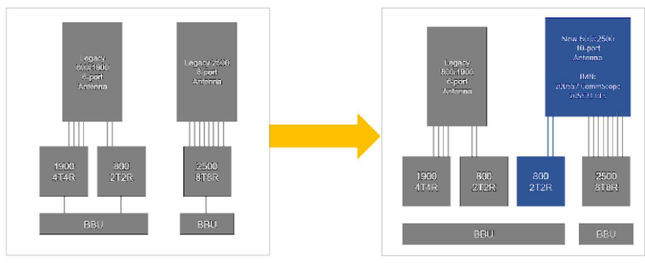
ALU 211 DT465B-2XR-V2 & APXVSPP18-C-A20 wo Filters



Prepared By	Creation Date	Revision Number	DO Monopole Fiber Connections	Sprint
Mark Elliott	January 24, 2017	R-1	(Nokia-A Triband)	
Approved By	Approval Date			
RAN Hardware & Antenna Teams	January 26, 2017			

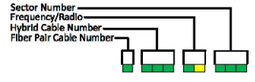


Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
1	2	Blue	No Tape	No Tape
1	3	Brown	No Tape	No Tape
1	4	White	No Tape	No Tape
1	5	Red	No Tape	No Tape
1	6	Gray	No Tape	No Tape
1	7	Purple	No Tape	No Tape
1	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
2	2	Blue	Blue	No Tape
2	3	Brown	Brown	No Tape
2	4	White	White	No Tape
2	5	Red	Red	No Tape
2	6	Gray	Gray	No Tape
2	7	Purple	Purple	No Tape
2	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
3	2	Blue	Blue	Blue
3	3	Brown	Brown	Brown
3	4	White	White	White
3	5	Red	Red	Red
3	6	Gray	Gray	Gray
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange



RRH	Radio Port #	Antenna Ports Left	Antenna Ports Right
800MHz	RRU 1-TX/RX1	L+45 (Port 1)	N/A
	RRU 1-TX/RX2	L-45 (Port 2)	
	RRU 2-TX/RX1	N/A	R+45 (Port 3)
	RRU 2-TX/RX2		R-45 (Port 4)
1900MHz	EAC1	L+45 (Port 5)	N/A
	EAC2	L-45 (Port 6)	
	EAC3	N/A	R+45 (Port 7)
	EAC4		R-45 (Port 8)
2500MHz	1	N/A	R8 -45
	2		CR6 -45
	3	CL4 -45	N/A
	4	L2 -45	
	5	N/A	R7 +45
	6		CR5 +45
	7	CL3 +45	N/A
	8	L1 +45	

Frequency/Radio	Indicator	ID
800 #1	Yellow	Green
800 #2	Yellow	Orange
1900 #1	Yellow	Red
1900 #2	Yellow	Brown
1900 #3	Yellow	Blue
1900 #4	Yellow	Grey
2500 #1	Yellow	White
2500 #2	Yellow	Purple



PLUMBING DIAGRAM | NO SCALE | 1

PLANS PREPARED FOR:

Sprint

1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

PROJECT MANAGER:

SBA

SBA COMMUNICATIONS CORP.
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SITE NUMBER:

CT33XC104

SITE ADDRESS:

477 ROUTE 7
SHARON, CT 06069

SHEET DESCRIPTION:

PLUMBING DIAGRAM

SHEET NUMBER:

RF-2

CT33XC104
DO MACRO EQUIPMENT DEPLOYMENT

MOUNT AUGMENTATION @ 117'

MONOPINE TOWER

SHARON, CT
LITCHFIELD COUNTY

SITE INFORMATION

STRUCTURE TYPE:	MONOPINE
MOUNT TYPE:	T-ARMS
LATITUDE:	41.909456 (NAD 83)
LONGITUDE:	-73.366031 (NAD 83)
CITY, STATE:	SHARON, CT
COUNTY:	LITCHFIELD
SBA SITE:	CT02408-S Sharon 3 CT

COORDINATES ARE FOR NAVIGATIONAL PURPOSES ONLY, NOT TO 1A ACCURACY.

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE LABOR & MATERIALS FOR THE DISCREPANCIES.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

BUILDING CODE AND DESIGN STANDARD: 2012 IBC / TIA-222-G

RIGGING PLAN REQUIRED

THIS SET OF PLANS DOES "NOT" CONSTITUTE A RIGGING PLAN.

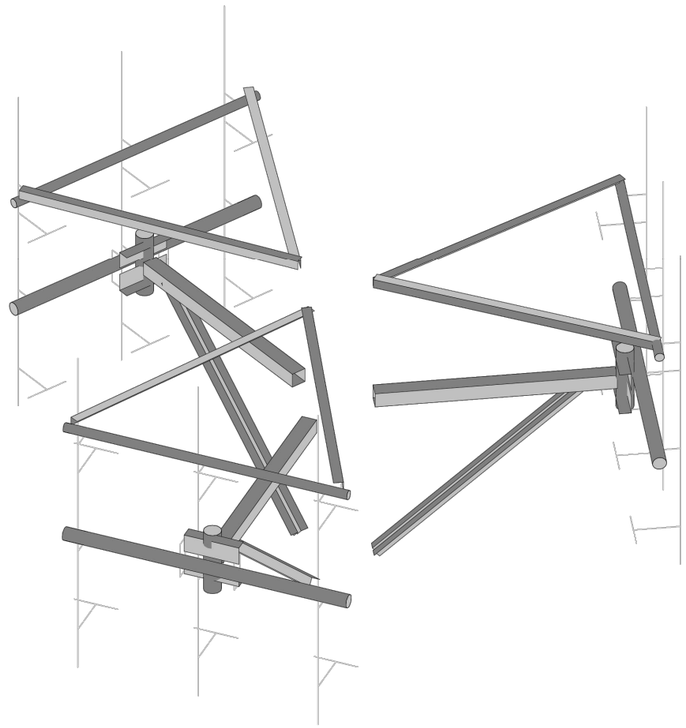
A PROPER RIGGING PLAN SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER PRIOR TO PROCEEDING ON ANY AUGMENTATIONS SHOWN HEREIN.

GENERAL DESIGN NOTES

1. THIS PLAN HAS BEEN DESIGNED UTILIZING THE CORRESPONDING MOUNT STRUCTURAL ANALYSIS.
2. THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222, ASCE 7, AWS, ACI, AND AISC. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE-MENTIONED CODES AND THE CONTRACT SPECIFICATIONS.
3. ALL STRUCTURE INFORMATION OBTAINED IN THE FORM OF FROM INFORMATION PROVIDED BY THE CLIENT. CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH THE REFERENCED DOCUMENTS. CONTRACTOR SHALL ISSUE A REQUEST FOR INFORMATION (RFI) IN THE EVENT ANY DISCREPANCIES ARE DISCOVERED BETWEEN THESE DOCUMENTS AND THE AS-BUILT CONDITIONS IN THE FIELD IN A SITE VISIT THAT SHALL BE PERFORMED PRIOR TO STARTING FABRICATION OR CONSTRUCTION.
4. ALL MATERIALS UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS.
5. ALL PRODUCT OR MATERIAL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER SUITABLE TO DETERMINE IF SUBSTITUTE IS ACCEPTABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
6. PROVIDE STRUCTURAL STEEL SHOP DRAWING(S) TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION (ONLY IF SPECIFICALLY REQUESTED BY ENGINEER).
7. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS AND REINFORCING SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
8. ANY CONTRACTOR-CAUSED DAMAGE TO PROPERTY OF THE LAND OWNER, PROPERTY OF THE STRUCTURE OWNER, PROPERTY OF THE CUSTOMER, SITE FENCING OR GATES, ANY AND ALL UTILITY AND/OR SERVICE LINES, SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE REPAIRED OR REPLACED AT THE SOLE COST OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED BY THE CONTRACTOR OR SUBCONTRACTOR AS APPROVED BY THE ENGINEER OF RECORD AND LAND OWNER. DAMAGE TO EQUIPMENT OR PROPERTY OF ANY KIND BELONGING TO OTHER COMPANIES (BESIDES THE INDICATED CUSTOMER) SHALL BE ADDRESSED BY THE CONTRACTOR WITH THE COMPANIES THAT OWN THE DAMAGED ITEMS.

SHEET INDEX

MOUNT AUGMENTATION CONFIGURATION



AUGMENTATION SCOPE

AUGMENT ALL SECTORS OF CARRIER'S EXISTING MOUNT INSTALLATION AS REQUIRED (UNLESS NOTED OTHERWISE)

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
P: 800.357.7641

SBA
134 FLANDERS RD., SUITE 125
WESTBOROUGH, MA 01581
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GEOSTRUCTURAL
PO BOX 2621, BOISE, ID 83701
P: 530.539.4787
E: CONTACT@GEOSTRUCTURAL.COM
WWW.GEOSTRUCTURAL.COM

REVISIONS:

0	03/13/18	ISSUE FOR CONSTRUCTION	JAD

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32156
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

CT33XC104

SHARON, CT

LATITUDE: 41.909456
LONGITUDE: -73.366031

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

S1

CONTRACTOR NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, ALL CONTRACTORS AND SUBCONTRACTORS MUST ACKNOWLEDGE IN WRITING TO TOWER OWNER THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW STRUCTURE OWNER STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND STRUCTURE/TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED AUGMENTATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGEMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR STRUCTURE OWNER ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM ANY SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO THE STRUCTURE OWNER.
2. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE AUGMENTATIONS, THE ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY TO EVALUATE THE SIGNIFICANCE OF THE DEVIATION.
3. THE CONTRACTOR SHALL SOLICIT AND HIRE THE SERVICES OF A QUALIFIED AUGMENTATION INSPECTOR PRIOR TO BEGINNING CONSTRUCTION. THE AUGMENTATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION AS REQUIRED ON THE "AUGMENTATION INSPECTION NOTES" SHEET.
4. THE CONTRACTOR SHALL NOTIFY THE TOWER OWNER OF THE PLANNED CONSTRUCTION & INSPECTION SCHEDULE, AS WELL AS ANY CHANGES TO THE SCHEDULE, WITHIN TWO BUSINESS DAYS OF THE COMPLETION OF THE SCHEDULE OR SCHEDULE REVISION BOTH PRIOR TO BEGINNING CONSTRUCTION AND DURING CONSTRUCTION AS THE SCHEDULE CHANGES. THE STRUCTURE OWNER WHEN THE WORK HAS BEEN COMPLETED WITHIN 2 BUSINESS DAYS OF THE COMPLETION OF THE WORK AND ASSOCIATED AUGMENTATION INSPECTIONS & TESTING (WHEN APPLICABLE).
5. IT IS ASSUMED THAT ANY STRUCTURAL AUGMENTATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE STRUCTURE OWNER AND ENGINEER INCLUDING BUT NOT LIMITED TO TOWER CLIMBER AND RESCUE CLIMBER CERTIFICATIONS, ET CETERA.
6. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
7. CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE STRUCTURE OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

1. THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED.
2. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING AS REQUIRED DURING CONSTRUCTION TO ENSURE STABILITY. DESIGN AND SEQUENCING OF CONSTRUCTION SHORING AND BRACING IS OUTSIDE THE SCOPE OF THIS WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, GUYING, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.

BOLTS

1. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED GALVANIZED HIGH STRENGTH ASTM A325 OR A490 BOLTS WITH THREADS EXCLUDED FROM SHEAR PLANE.
2. FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES, WITH BOLT HEADS FACING DOWN WHERE APPLICABLE.
3. ALL BOLTS AT EVERY CONNECTION SHALL BE INSTALLED SNUG-TIGHT UNTIL THE SECTION IS FULLY COMPACTED AND ALL PLIES ARE JOINED, AND THEN TIGHTENED FURTHER BY AISC - "TURN OF THE NUT" METHOD. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.
4. BOLT LENGTHS UP TO AND INCLUDING 4 DIAMETERS SHALL BE TENSIONED 1/3 TURN BEYOND SNUG-TIGHT. BOLT LENGTHS OVER 4 DIAMETERS SHALL BE 1½ TURNS BEYOND SNUG-TIGHT.
5. ALL BOLTED CONNECTIONS SHALL USE LOCK WASHERS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC STEEL CONSTRUCTION MANUAL AND SECTION 4 OF THE TIA CODE.
2. PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MINIMUM GRADES UNLESS OTHERWISE NOTED:
   - CHANNELS & ANGLES ..... ASTM A36, (Fy = 36 KSI)
   - PLATES ..... ASTM A36, (Fy = 36 KSI)
   - PIPES ..... ASTM A53 GR.B, (Fy = 35 KSI)
   - HSS ROUND ..... ASTM A500 GR.B, (Fy = 42 KSI)
   - HSS RECTANGULAR ..... ASTM A500 GR.B, (Fy = 46 KSI)
   - STRUCTURAL BOLTS ..... ASTM A325
   - U-BOLTS ..... ASTM A307 GR.A
   - NUTS FOR BOLTS ..... ASTM A563 (THREADING TO MATCH BOLT)
   - WASHERS FOR BOLTS ..... ASTM F436
   - SEE TABLE 5-1 OF THE TIA CODE FOR ADDITIONAL SHAPES AND STANDARDS THAT ARE NOT LISTED ABOVE.
3. NON PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS PER THE TIA CODE:
   - THE CARBON EQUIVALENT OF STEEL SHALL NOT EXCEED 0.65 PER SECTION 5.4.2 OF THE TIA CODE
   - ELONGATION OF STEEL SHALL NOT BE LESS THAN 18%
   - TEST REPORTS SHALL BE IN ACCORDANCE WITH ASTM A6 OR A568
   - TOLERANCES SHALL BE IN ACCORDANCE WITH ASTM A6
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH AND COLD GALVANIZED.
5. ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 STRUCTURAL WELDING CODE. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. WELDING ELECTRODES SHALL BE E70XX.
6. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECS AND CODES, LATEST EDITION.
7. UPON REQUEST, THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER OF RECORD TO REVIEW FOR COMPLIANCE WITH DESIGN INTENT PRIOR TO THE START OF FABRICATION AND/OR ERECTION.
8. TORCH-CUTTING OF ANY KIND SHALL NOT BE PERMITTED.
9. ALL BOLT HOLES SHALL BE STANDARD SIZE BOLT HOLES PER AISC 360, UNLESS OTHERWISE NOTED. ALL HOLES SHALL BE SHOP DRILLED OR SUB-PUNCHED AND REAMED. BURNING OF HOLES IS NOT PERMITTED. WHERE SLOTTED OR OVERSIZE HOLES ARE SPECIFIED ON THE DRAWINGS, EXTRA-THICK ASTM F436 PLATE WASHERS SHALL BE USED (3/16" MINIMUM THICKNESS) WITH A DIAMETER SUITABLE TO COVER THE EXTENTS OF THE SLOT OR HOLE. BOLTS SHALL BE HEAVY-HEX WHERE AVAILABLE IN THE SIZE AND GRADE SPECIFIED, OTHERWISE BOLTS SHALL BE HEX HEAD CAP SCREWS.
10. ALL STEEL HARDWARE, INCLUDING ADHESIVE OR EMBEDDED ANCHOR BOLTS AND THEIR ACCESSORIES, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 (EXCEPT BOLTS SMALLER THAN ½" SHALL CONFORM TO FE/ZN 3 AT PER ASTM F1941 WHERE HOT-DIP GALVANIZED BOLTS ARE NOT AVAILABLE). ALL STEEL MEMBERS, INCLUDING WELDMENTS, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. REPAIR DAMAGE TO GALVANIZED COATINGS USING ASTM A780 PROCEDURES WITH A ZINC RICH PAINT (SUCH AS ZINC GALVILITE) FOR GALVANIZING DAMAGED BY HANDLING, TRANSPORTING, CUTTING, WELDING, OR BOLTING. DO NOT HEAT SURFACES TO WHICH REPAIR PAINT HAS BEEN APPLIED. CALL OUT HOLES REQUIRED FOR HOT-DIP GALVANIZING ON SHOP DRAWINGS.
11. MEMBERS SHALL BE SHOP-FABRICATED AND WELDED TO THE EXTENT PRACTICABLE IN ORDER TO REDUCE FIELD INSTALLATION COSTS.

CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	CONSTRUCTION INSPECTIONS
	THIRD-PARTY CERTIFIED WELD INSPECTION (INCLUDING IBC SPECIAL INSPECTIONS)
√	GALVANIZING REPAIR MATERIAL PREPARATION, INSPECTION, & PAINT APPLICATION
√	PRIME CONTRACTOR'S AS-BUILT DOCUMENTS (SIGNED & DATED)
√	FABRICATION INSPECTION
√	MATERIAL TEST REPORT(S) / MILL CERTIFICATE(S)
√	PACKING SLIPS FOR STRUCTURAL MATERIALS

NOMINAL HOLE DIMENSIONS

BOLT Ø	STANDARD HOLE Ø
1/2"Ø	9/16"Ø
5/8"Ø	11/16"Ø
3/4"Ø	13/16"Ø
7/8"Ø	15/16"Ø
1"Ø	1 1/16"Ø

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REVISIONS:

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CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
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SITE INFORMATION:

MOUNT AUGMENTATION

CT33XC104

SHARON, CT

LATITUDE: 41.909456
LONGITUDE: -73.366031

SHEET TITLE:

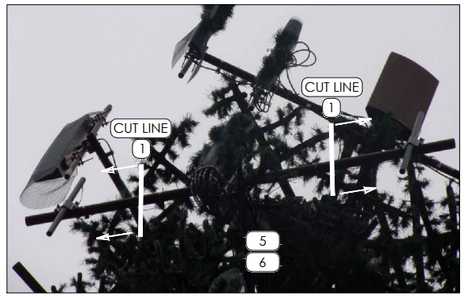
NOTES AND SPECIFICATIONS

SHEET NUMBER:

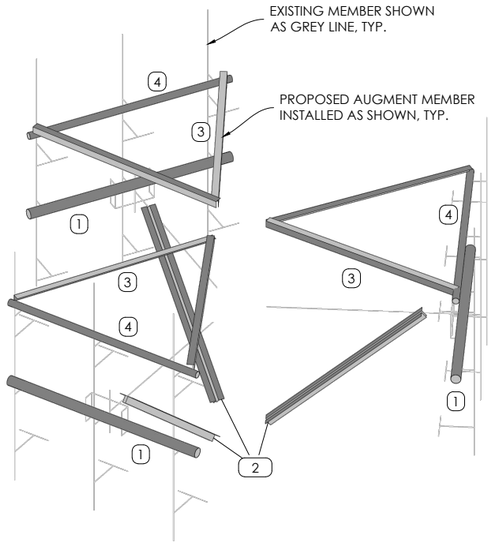
S2

NEW MOUNT AUGMENTATIONS

1	CONTRACTOR TO MODIFY STEEL PIPE FACE WIDTH OF EXISTING T-ARM BOOM TO 6.5' WIDE. APPLY (2) COATS OF COLD-GALV. COMPOUND TO CUT MEMBER ENDS. [TYP. (3) SECTORS]
2	PLATFORM REINFORCEMENT KIT SITEPRO1 PART# PRK-1245L. ATTACH PRK COLLAR TO MONOPOLE SHAFT ~4.0' BELOW EXISTING STANDOFF CENTERLINE AND DOUBLE ANGLE KICKER BRACKET TO STANDOFF MEMBER END NEAR THE FACE RAIL OF THE MOUNT AS SHOWN PER MANUF. SPECS. [(1) KIT TOTAL]
3	HANDRAIL COMPONENTS - V-BRACE KIT SITEPRO1 PART# PRK-SFS-L. ATTACH COLLAR MOUNT TO MONOPOLE SHAFT ~3.0' ABOVE EXISTING STANDOFF CENTERLINE. NOTE: IF THE PRK-SFS-L KIT IS NOT AVAILABLE, PROVIDE (6) TOTAL L2 1/2 x2½x3/16 x ~9' LONG REPLACEMENT ANGLES, FIELD-CUT AND DRILL TO SUIT. [(1) KIT TOTAL]
4	HANDRAIL COMPONENTS ▪ PIPE2.0STD X 6.5' HORIZ. RAIL. [(3) TOTAL]. ATTACH SFS-L KIT ANGLES TO NEW HORIZ. RAIL. ▪ SITEPRO1 SCX**x**-K, [(12) TOTAL] CROSS-OVER PLATES. ATTACH ALL MOUNT PIPES TO NEW & EXISTING HORIZ. RAIL. ▪ PIPE2.0STD X 8' MOUNT PIPES, [(6) TOTAL].
5	· PANEL ANTENNAS TO BE INSTALLED IN POSITIONS 2 AND 3 WITH A HORIZONTAL SEPARATION NOT TO EXCEED 4.5'. RRH UNITS TO BE INSTALLED ON DUAL RRH SWIVEL BRACKETS BEHIND ANTENNAS ON ANTENNA MOUNT PIPES.
6	· IN ORDER FOR THE SPECIFIED MODIFICATIONS TO PERFORM AS DESIGNED AND TO "FIT-UP" THE EXISTING T-ARM MOUNTS MUST BE APPROPRIATELY ROTATED ON STANDOFF MEMBER SUCH THAT THEY ARE PERPENDICULAR TO THE FACE OF THE. PANEL ANTENNA AZIMUTHS WILL NEED TO BE ADJUSTED TO OBTAIN DESIRED AZIMUTHS.
AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.	



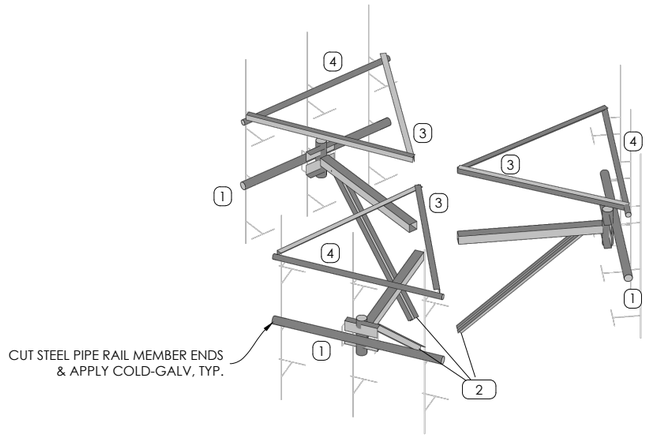
T-ARMS @ 117' AUGMENTATION



MOUNT AUGMENTATION ISOLATION
SCALE: N.T.S.

CONSTRUCTION NOTES

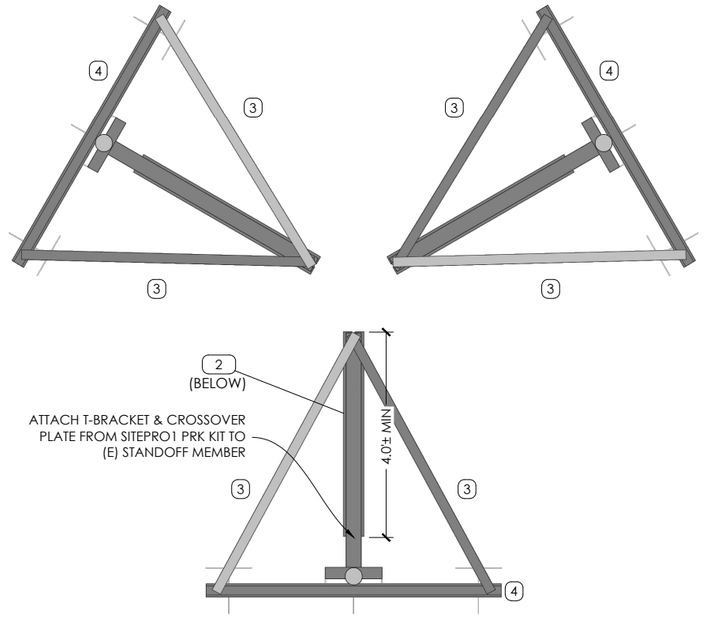
1. SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.
2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHOULD FIELD-VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
3. CONTRACTOR TO COORDINATE THE TEMPORARY REMOVAL/RELOCATION/REPLACEMENT OF ELEMENTS (E.G. COAX, CLIPS, TMAs, ETC.) CONNECTED TO, OR IN THE DIRECT PATH, OF NEW AUGMENTATION MEMBERS.



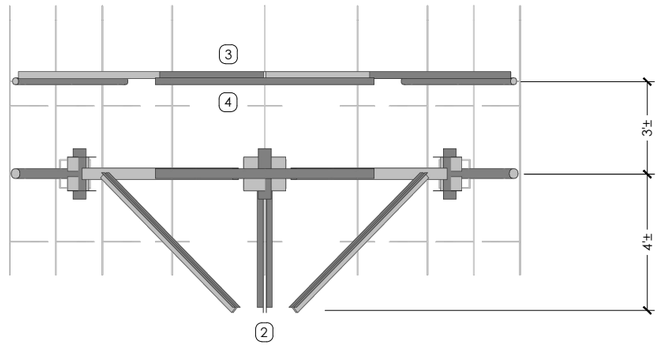
AUGMENTED MOUNT ISOMETRIC
SCALE: N.T.S.

INSTALLATION NOTES

1. AUGMENT MEMBER(S) MAY NEED TO BE FIELD-CUT TO LENGTH TO ACCOMMODATE THIS INSTALLATION. CONTRACTOR TO CUT AND DRILL TO SUIT AS REQUIRED AND APPLY (2) COATS OF COLD-GALV. COMPOUND TO CUT MEMBER ENDS.
2. CONTRACTOR TO CHECK ALL EXISTING MEMBER CONNECTION BOLTS, PARTICULARLY STANDOFF TO TOWER BOLTS, FOR PROPER INSTALLATION AND TIGHTNESS.
3. COORDINATE PLACEMENT OF NEW AUGMENT MEMBERS WITH EXISTING TOWER AND CLIMBING FACILITY ELEMENTS (E.G. STEP PEGS, COAX PORTS, ETC.)
4. REFER TO CONSTRUCTION DRAWINGS (BY OTHERS) AND MOUNT STRUCTURAL ANALYSIS FOR APPROVED INSTALLATION LOCATIONS AND QUANTITIES OF APPURTENANCES.



AUGMENTED MOUNT PLAN
SCALE: N.T.S.



AUGMENTED MOUNT FRONT ELEVATION
SCALE: N.T.S.

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REVISIONS:

0	03/13/18	ISSUE FOR CONSTRUCTION	JAD

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

CT33XC104

SHARON, CT

LATITUDE: 41.909456
LONGITUDE: -73.366031

SHEET TITLE:

AUGMENTATIONS, SECTIONS & DETAILS

SHEET NUMBER:

S3